

Assessment for Learning

By Alan November

What if we could empower our teachers to turn assessment into a process of learning instead of a focus on measurement? Further, what if this mindset change led to an increase in student achievement on tests? That's exactly what is happening at Trailside Middle School in Loudoun County, Virginia, at high schools in Gaston County Schools, North Carolina and a few other pioneering classrooms around the country where I have had the opportunity to work with innovative educators. Depending on how you view the purpose and management of tests this innovative process may seem counterintuitive at first—but it has led to *dramatic* gains in their students' understanding.

The technique involves testing students twice: once individually and once in groups. It's something I first saw practiced by Harvard physics professor Eric Mazur, who has redesigned the culture of his classroom to have students own their learning.

By making the learning a socially interactive experience, where students are discussing and debating the problems with each other, Dr. Mazur has found that his Harvard students are much more engaged in the class—and they also learn more from each other than they learned from him alone. In fact, he has seen achievement gains that are *three times greater* than what he experienced when he used to lecture.

“It is an amazing experience to watch the engagement, the excitement, the energy, and the constant debate students have with one another,” [he says](#). “There is this passion that really disseminates across the whole room.”

Professor Mazur observes, “We mostly assess students on low-level skills, like remembering, and our only way of testing them on that is to cut them off from any other source of information or each other. But that's not how they will operate later in their careers,” Dr. Mazur says. “We all have access to the internet, books, and other people. That's why I think it's very important that we transition to a more authentic form of assessment, where students *do* have access to this information and to each other.”

In Professor Mazur's process, students first take an assessment alone; then, they are placed together in small groups to discuss those same questions and decide what the right answers are and why. “They essentially get three tries to get a decreasing number of points as a team for those questions,” he says. “In a sense, it makes the assessment a learning opportunity and also a feedback opportunity, which is what it should be.”

The big question is; will a process that shows improvement with highly motivated Harvard students work with high school students who are under motivated or middle school and elementary students who are struggling? The answer is a resounding YES.

[Michelle Junkin](#) is a sixth grade math teacher who has been a teacher for 17 years. By applying this group testing approach, she saw the best outcomes she has experienced in her career—and she was so excited that she contacted me to share her success. “The

benefits my students received from just this activity are more meaningful than you may realize,” she shared.

I was so impressed with her willingness to experiment with an innovative approach that I recorded an interview with Michelle and her colleagues to learn more about how they managed the details of this new assessment model. In Michelle’s case, she first tried this peer assessment model with her accelerated students. She approached it a little differently than professor Mazur: She had her students take the test together in small groups first, then had them take the same test individually later. When they took it individually, they were much better prepared—and their understanding was reflected in their performance on the exam.

“They were giving me feedback about how much they liked it,” she said. “They were able to hear things from their classmates that they didn’t think about themselves, or to see (the problems) done in a different way. I thought that was so powerful.”

The process went so well that she has tried it with her math 6 students, too. Again, the level of understanding that students exhibited was well beyond what she had experienced on similar tests. “They did much better than I normally would have expected,” she noted.

[Felix Colaciello](#) is a seventh grade math teacher at the same school, and he also tried this new approach with his own adaption. He spent two days on a unit test in algebra. On the first day, students completed eight word problems by themselves, and during the second half of class, they got into groups and discussed those eight questions. On the second day, Felix gave them a different set of problems with the same level of difficulty, and students completed those problems individually.

And like Michelle, Felix also saw impressive results. “We told (students): Make sure the things you heard from your group mates will help you prepare for the second test,” he said. “Giving them that experience and having a chance to go home and study, and come into class the next day ready for the test, the kids did really, really well on that second part.”

When I asked them whether they thought it was cheating to let students discuss the answers with their classmates, their responses were insightful.

“The whole point of the assessment is to see whether they’ve learned the material or not,” Michelle said. “I don’t think it matters (how) it’s presented to them, as long as they *learn* it. I mean, I could give them a study guide that looks exactly the same as the test, and it doesn’t matter if they do it individually or together. The only thing I changed is that they did it together, and they talked about the answers (with each other).”

As Felix observed, if you’re asking questions where students have to show their thinking, instead of regurgitating a memorized response, the question of cheating becomes irrelevant.

“You still have to show your work,” he said. “You have to show how you got the answer. So, you’re thinking at least. If you know the answers, that’s great—but if you don’t know

how to do the problem, that's not really what we're looking for. We're looking for your thinking."

There is this idea called the "curse of knowledge," where teachers know so much about their subject that they sometimes fail to appreciate the misconceptions a first-time learner might experience. Having students help each other learn addresses this problem. And in the process, *everyone* understands the material more deeply, because those who are explaining it to their classmates have to conceptualize the idea at a very deep level in order to do so. When I visited Gastonia County, North Carolina I asked high school students why they find it so helpful to work with their peers. The answer was, "My friends speak the way I understand. Sometimes they can explain things in a way my teachers do not."

Michelle said her students tend to "listen more intently to their peers that they would have for me," and she said it would have taken her longer to explain a concept in a way they would understand. She thought she would have to play a more active role in guiding their conversations, but that wasn't the case. "I was pleasantly surprised that I really didn't have to do that at all. They were very self-directed and self-motivated," she said.

Students who never really talked in class were much more willing to share within their group than with the class as a whole, Felix said—especially if they noticed that a classmate didn't fully understand a concept. "They were trying to explain it in different ways," he said, "sort of like what you do as a teacher. But they were doing it for their friends, because they wanted to make sure their friends understood."

What about parents, I asked: Did you get any pushback from parents who were concerned about this new approach to testing?

"I was proactive," Felix said. "I send parents a weekly email, and I told them, 'Here's what we're going to do this week, we're trying something new.' And I told them the reason behind it. I told them the benefits: getting to hear kids talk, getting to learn their thinking. If I heard anything where I needed to step in (and correct a false assumption), I would. I didn't have any parents say anything back negatively. A lot of them said, 'This is a cool idea; let us know how it goes.'"

"I actually just got an email from a parent last night, saying how their daughter is not very math inclined—and she came home and was talking at the dinner table about how great it was," Michelle said. "She felt so much better prepared for the test. She got ideas that she wouldn't have thought about on her own. That feedback I got just yesterday was very positive."

A key reason that Michelle and Felix were willing to try this strategy in their classrooms is because the school's principal, Bridget Beichler, has established a culture of innovation that encourages risk-taking. In fact, Bridget said this new process for managing assessment has been adopted by much of the school's staff as word quickly spread about the success that teachers have experienced.

“Yesterday, we were doing division-level learning walks, and I walked into a sixth grade teacher’s science class and he was introducing this group test to his students for the first time,” Bridget said. “My staff is very willing to take risks. It’s like a ping pong ball: They play off each other. It’s amazing to watch.”

She concluded: “Assessment is really about moving forward in your learning, and not about the grade.” And that’s what this strategy does: It advances students’ understanding in very powerful ways.

Alan November is the founder of edtech consulting firm [November Learning](#). Join Alan in Boston July 26-28 for his 2017 [Building Learning Communities](#), where hundreds of educators from around the globe will gather to discuss the world’s most successful [innovations in education](#).