

The power of *doing*

How middle school students in California found tech-supported project-based learning to be a whole lot more interesting—and productive—than listening to lectures

John Tiersma's middle school science students in Cerritos, Calif., were loathe to listen to lectures. They wanted to do something—anything other than sitting and listening.

So, Mr. Tiersma gave them a project like **none they'd ever had before.**

His Valley Christian Middle School students have now written and self-published two books—one on infectious diseases and one on plants and animals of southern California—and **sell them in the Apple iBookstore. They've been sold and downloaded all over the world.**

“My students love to hear updates regarding the number of downloads. The book is available in more than 50 countries and is downloaded every day somewhere in the world,” he said. He hopes these publishing experiences open students up to “our new, more connected world.”

When it comes to technology, he's always looking for ways to “do education” differently than he has before.

He says he loves finding “nuggets in education,” like interactive books, which he says are a “perfect example of doing education in a brand new way. Never before have students been able to present content with interactive media and

assessments and share them so easily.”

Tiersma doesn't publish just anything the kids turn in. He thought he would ratchet-up the quality by announcing that he'd choose only the top five projects from each of his four large science classes.

But the kids fooled him.

They amped-up the quality of their projects so much that his decision on which ones to publish was just as hard as before.

Tiersma said he had three primary learning objectives.

Critical Thinking—He wanted his students to learn how to analyze sources for **credibility because “critical thinking is an important skill for students to practice and master.”**

Creativity—“I love giving students the opportunity to be creative as they learn. Often, I will give students only a few guidelines and leave many of the details up to them. I have found that students rise to the challenge of creativity if they are given space and the freedom to create.”



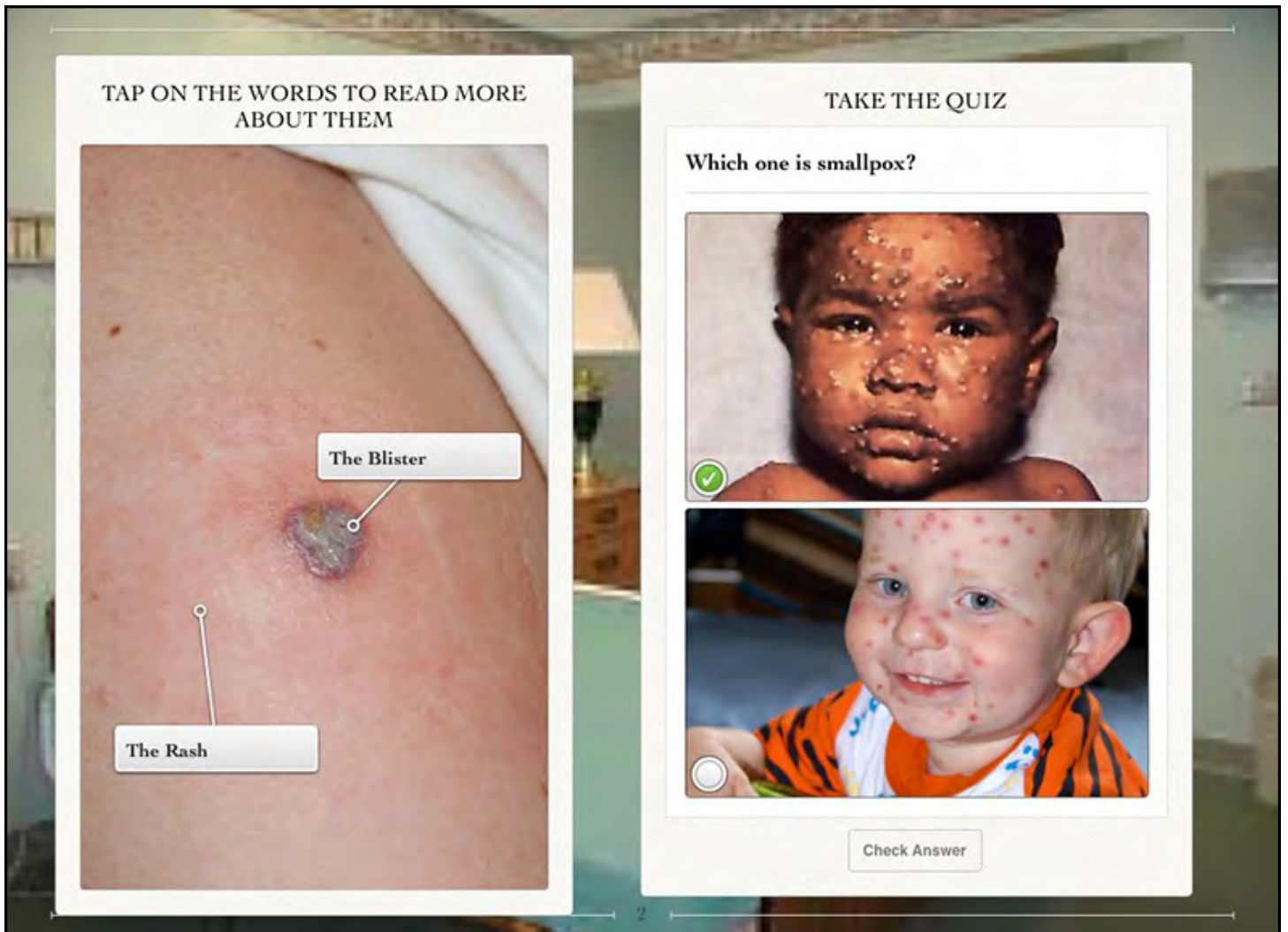
John Tiersma demonstrates to eighth-grade science students Bella and Adam how to re-size an image on an iPad. Students produced both books on iPads.

Peer Review—Knowing that students learn more deeply every time they process information, Tiersma required his **kids to evaluate each other's work.** And just as important as learning to analyze **other people's work is the value of accepting feedback from peers and sorting through those suggestions (even more analysis) and choosing which ones will improve the project most, if implemented.** Inevitably, it was a lesson in setting aside personal pride for making improvements in the class project.

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A page from the book on infectious diseases shows some of the ways Tiersma's eighth-grade students made their project interactive for readers.

Tiersma also wanted to improve student engagement, and the project paid off in spades. All students completed all facets of the project, whereas, in years past, he said, **other projects “never had 100 percent completion.** Student interest and motivation **translates into better learning,” and also into happier teachers.**

In addition to benefits to teaching and learning, the projects have had positive P.R. benefits. The mother of one of his students **wrote to proclaim how impressed she was. “I work with an infectious disease**

specialist, treating patients with Hepatitis C, and I shared your book with him today. He thought it was very cool (his exact words). He thought it would be a great teaching tool for patients. **Keep up the good work!”**

And his principal, Paul Theule, said he loved having students involved in writing, creating, **and publishing iBooks. “When they learn to write, they learn to think. When they create, they give shape to their thoughts and hearts. When they publish, they help make this world the way it’s supposed to be. To me, that’s pretty good education.”**