

Libertyville Review

Lake County teachers: Don't blame fear for STEM lag

BY ANNA TARKOV | atarkov@pioneerfocal.com February 14, 2013 2:42PM

As educators and even President Obama push for renewed interest in science, technology, engineering and math — or STEM — careers, a new survey shows one reason students might be shying away.

The American Society for Quality Control, or ASQ, conducted a study this year exploring whether a fear of failure discourages teens from pursuing STEM paths. ASQ is a global organization of quality-control engineers and other professionals.

The study found that 95 percent of teens surveyed agreed that risk-taking is required in order to be successful in STEM careers, but 46 percent of them said they are uncomfortable with failure and taking risks. More than 500 teens ages 12-17 were surveyed across the country.

ASQ officials say this suggests a correlation, and some Lake County educators agree — but only to a certain point.

"I do think that the fear of failure is definitely a concern that kids are dealing with," said John Langelund, a social worker at Middle School South in Hawthorn School District 73. "For many of our students, they definitely would shy away from any endeavor that they don't feel they would be successful in."

Langelund added, however, that students struggle with this across all disciplines. This sentiment was echoed by several educators, including Jasper Liu, an eighth-grade math teacher at Highland Middle School in Libertyville School District 70.

"I do see it as somewhat a concern, but to me it doesn't seem like it's any worse than other [subject] areas," Liu said.

Meanwhile, Tim Roegner, head of the math department at Libertyville High School, questioned whether it's fair to say that a fear of failure is only a problem for teenagers.

"I think this is not just an issue for kids, but for all people," Roegner said.

Indeed, the survey suggests that parents may be partially to blame for students feeling like failure is not an option. Tim Kuehl, an eighth-grade math teacher at Hawthorn Middle School South, agrees this is likely.

"Parents are competitive when it comes to their kids," Kuehl said. "We're raising kids to fear failure, because we don't want them to fail. This is a societal problem."

Given their agreement on the problem, teachers said they actively work to instill in students the idea that making mistakes is a vital part of the learning process. Karen Branding, a seventh and eighth-grade math teacher at Libertyville's Highland Middle School, said she always stresses this to students.

"If you're not making mistakes, you're really not growing," Branding said. "Mistakes aren't just okay, they are necessary."

Branding said she encourages a positive outlook to problem solving and teaches her kids that the greater the struggle, the bigger the reward.

A focus on personal growth is also key, Branding said. At the beginning of the year her students take a "pre-test" covering material they have yet to learn and most don't do very well. But when the same test is given at the end of the year, the children see how much they've accomplished.

Branding's colleague at Highland Middle School, Liu, also said he teaches his students that they will not always succeed on their first try and that this is okay.

"A lot of our projects are about building things and most often the first iteration fails," Liu said. "I try to incorporate that into the lesson."

The important part, Liu noted, is learning from a failure and trying again. In fact, he said the word "failure" probably isn't a good one and went on to give a real-life example that he would be likely to relay to his students.

"There have been many versions of the Toyota Camry," Liu said. "I doubt any of them were considered failures; they are continually made better."

Teachers said collaborative learning, often used in math and science classes, also helps ease students' anxieties. Branding agreed that working in teams or with a partner can take the pressure off individual students.

"They don't feel so alone and isolated," she said.

Roegner added that group work has another benefit, too.

"In the career world, you have to collaborate all the time," he said. "This prepares kids for that."

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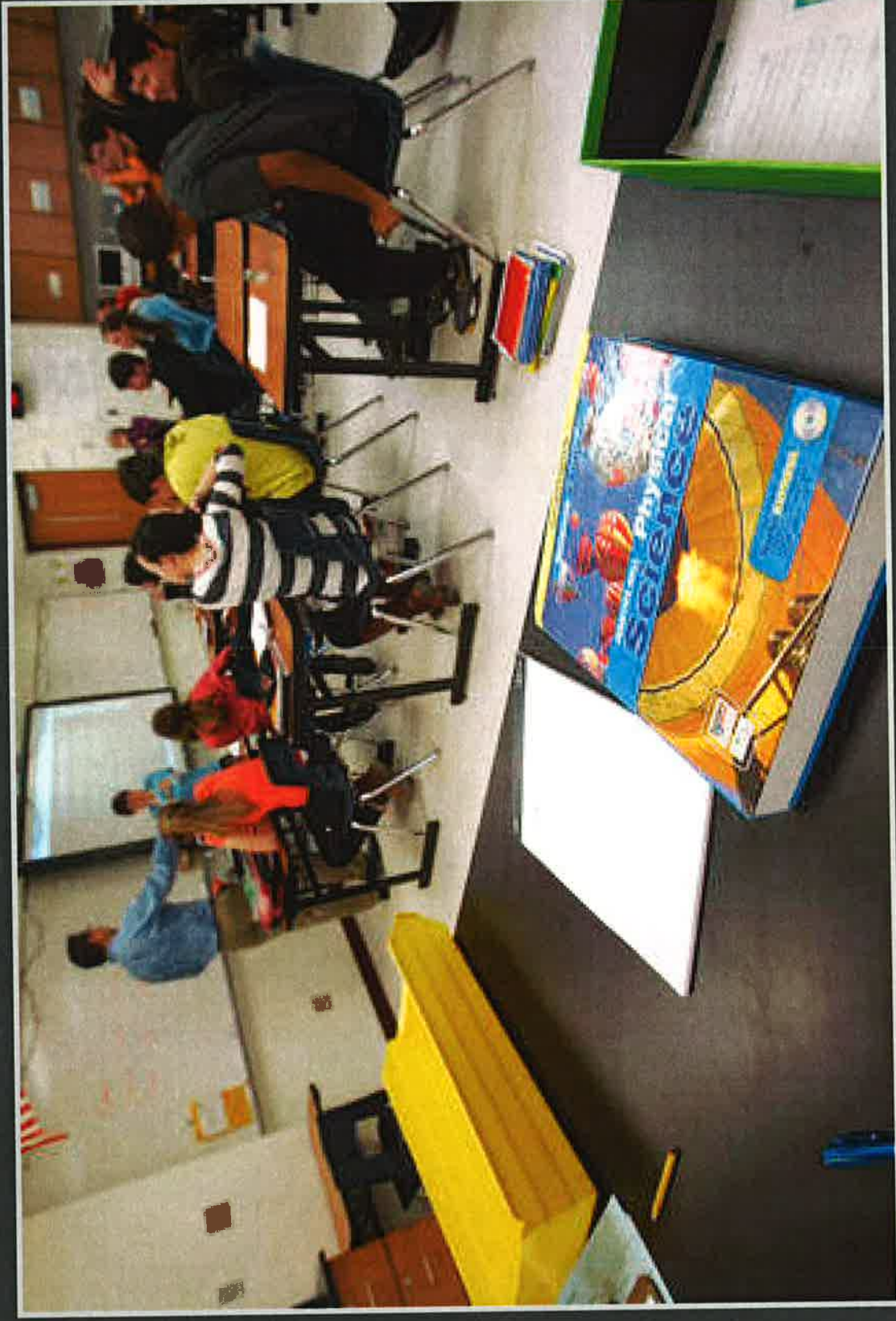
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Jasper Liu encourages his eighth-grade science students not to think of it as a failure when something doesn't work; it's just the first try. | Joe Cyganowski-For Sun-Times Media



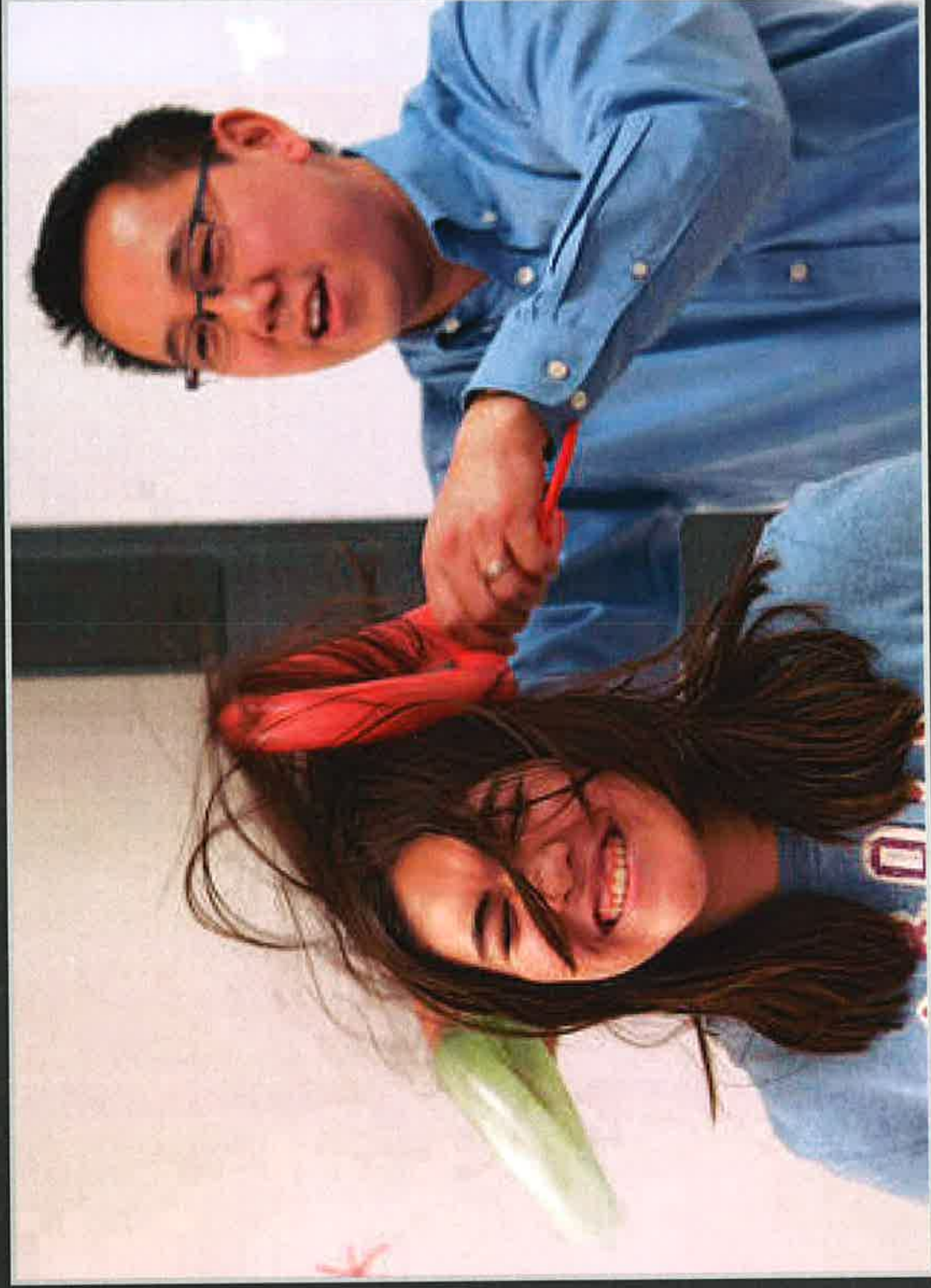
Science teacher Jasper Liu demonstrates static electricity on student Isabel Ferriera. Making science engaging and fun encourages kids not to fear it, he says. | Joe Cyganowski-For Sun-Times Media



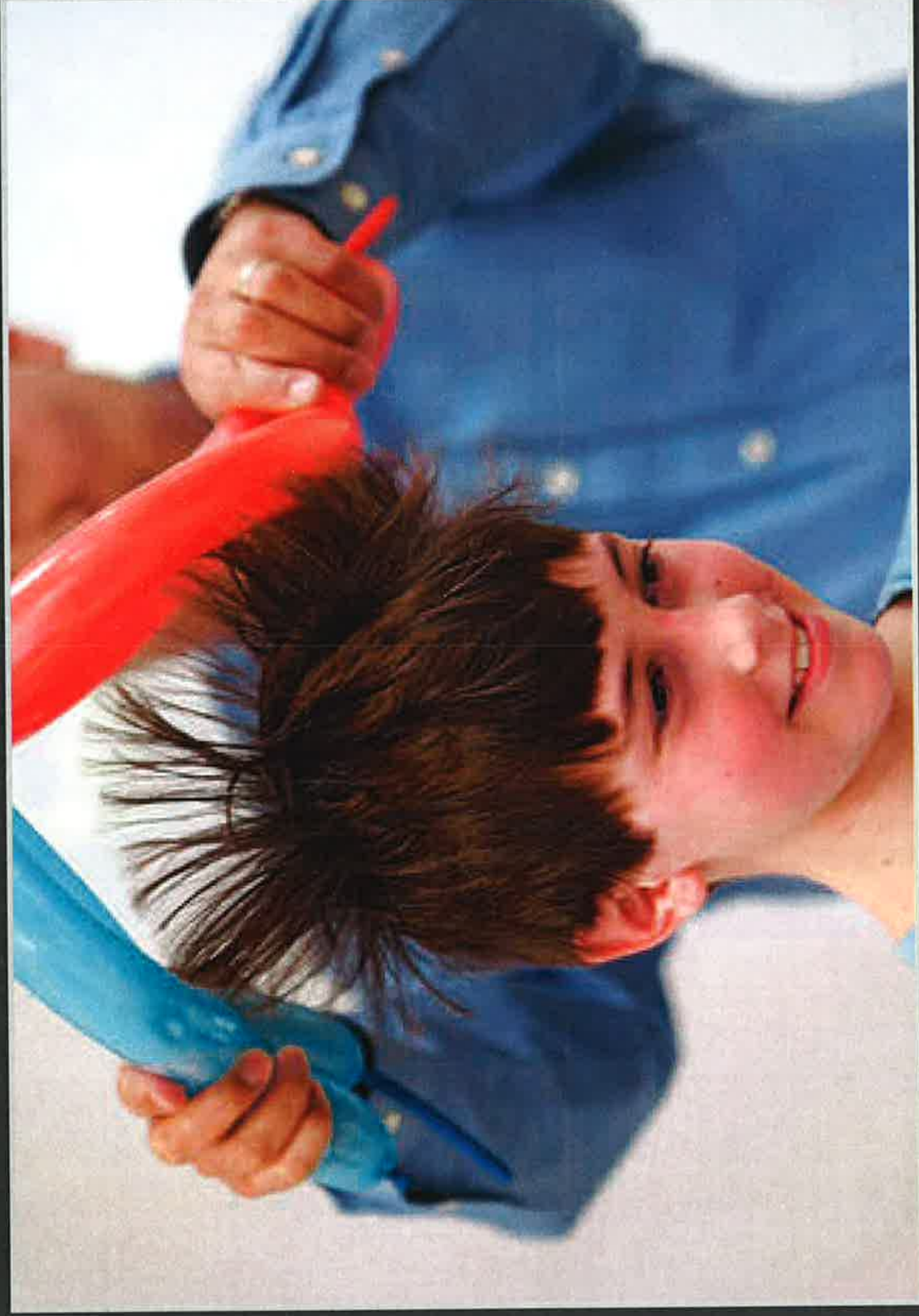
In Jasper Liu's eighth-grade science class, he encourages students not to think of it as a failure when something doesn't work; it's just the first try. | Joe Cyganowski-For Sun-Times Media



Jasper Liu keeps his eighth grade Highland Middle School science students smiling to help make the subject matter less intimidating for some students. | Joe Cyganowski~For Sun-Times Media



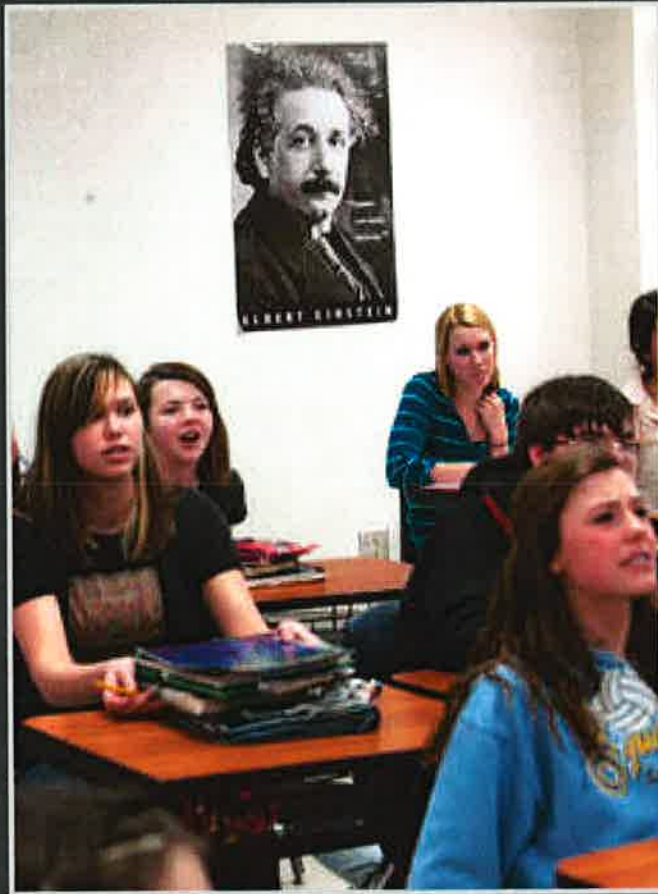
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Geoffrey Gratz gets a hair raising experience as science teacher Jasper Liu demonstrates static electricity. Making science engaging and fun encourages kids not to fear it, Liu says. | Joe Cyganowski-For Sun-Times Media



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