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## Find and Foster Innovation

What's the Best Way to Promote and Teach It?

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### About the Author



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If you were anywhere near me in October and November, you would've heard little else besides talk of fourth graders preparing for [FIRST Lego League](#) (FLL) competition. They competed at [Indiana University Northwest](#) in mid-November, and did pretty well for a group of first-timers with first-time coaches.

Key to the competition was innovative thinking. They had to develop an innovative idea related to food safety, this year's theme. They also had to come up with innovative ways to capture points on the playing field with their robot. But what exactly qualifies as "innovative" and, more importantly, how should we — whether FLL coaches or engineering leaders — promote and foster innovation?

We hear a lot about [innovation](#). There seemed to be no end to the discussion when Apple founder Steve Jobs died in October. In his State of the Union address last month, U.S. President Barack Obama mentioned innovation repeatedly, even saying, "Innovation is what America has always been about."

But what's the best way to "promote" innovation? Working with the 9- and 10-year-olds to come up with innovative ideas, I and the other coaches struggled with the best way to help the kids move in the right ("right") direction without simply coming up with the ideas ourselves.

My feeling at the time was that it was hard to keep the young kids on task. One or two of the youngsters had a tendency to come up with ideas that were so far in left field, they could never be achieved. Our one fifth grader was quick to shoot down any idea that anyone else had, arguing that it wouldn't work or that's not how it had been done in the past. Neither scenario got us headed in the right direction.

I chalked it up to the hazards of working with such a young group of kids, but the innovation process isn't so different for machine builders in the real world, according to Hendrik Stoltz, director of [Elopak Equipment Supply](#) in New Hudson, Mich. Elopak makes equipment to package yogurt and other liquid foods, so I got in touch with Stoltz to run our innovation project by him (which used temperature-sensitive ink to show whether packaged yogurt had been compromised by rising above refrigeration temperatures while in transit).

Not only did Stoltz say that his company had considered a similar solution themselves for measuring whether the "cold chain" had been broken, but he said that any innovation team typically faces similar problems, depending on the personalities involved. Elopak's innovation group focuses on new developments based primarily on driving efficiencies, reducing costs or managing risks. But not everybody is a good fit for an innovation group. "Sometimes you have people who say, 'It won't work. It won't work.' But on the other side, somebody might come up with 10 different solutions, and never get anything to work," Stoltz says. "You get all sorts of things that you need to deal with. There are cultural differences. Some people speak up, and some are more aggressive. But that doesn't mean that one's more innovative than another. You have to get all things out in the air. All ideas are okay without judgment or exclusions. You have to be able to shield the innovative people."

Promoting innovation within a group has a lot to do with choosing the right combination of people, but Stoltz says a lot has to do with the company culture, too. "Whether the company believes in standardization, keeping things the same, or there's an openness from management to try new things and sometimes fail — the effect of innovation or not is very strongly linked to company culture."

[PopTech](#) is a non-profit organization that tries to promote innovation by bringing innovators together from many different fields in a network that complements the "silos of excellence." One recent find came from 13-year-old New Yorker Aidan Dwyer, who won a national science competition for his research showing that solar panels arranged like leaves on a tree collect sunlight 20-50% more efficiently than traditional solar arrays. Dwyer spoke at PopTech's recent gathering of innovators.

What struck me most about the young Dwyer was his determination to continue to innovate and improve on his design despite those who seemed to want to squash his spirit. "The lesson that I learned is that sometimes the Internet is not a substitute for peer review," Dwyer quipped in his PopTech presentation.

### *(Striking Ideas)*

Dwyer is continuing his research. "I've been asked to work at the [Resilience Research Center](#) in Madison, Wis., to design Fibonacci arrays that middle school students can use for research," he said. "I'm also collaborating with a professor of design at [Purdue University](#) to create a Fibonacci array that combines technology with functional art. My goal is to get people thinking about new ways to improve solar technology. My research is just beginning, and there are many challenges ahead. My experiences have taught me to never give up."

What's the best way to teach people, young and old, how to keep moving ahead with their ideas — or,

conversely, when it's time to give up and move on to the next idea? How do you teach innovation?

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