

Bringing the College Laboratory into Students' Homes

ENGLEWOOD - Taking an online college course doesn't mean students have to give up the valuable lessons learned in science.

Thanks to an invention created by this week's Colorado Company to Watch, students are able to do their experiments--including everything from mixing chemicals to dissection-- from the comfort of their home.



"I never pictured myself setting up an incubation center and growing microorganisms on my Saturdays," Front Range Community College sophomore Cara Young said, while tending to her assignments at her home in Fort Collins.

Young, who works full time for an oral surgeon, does not have time to use the on-campus laboratories offered by the college. Instead, her online course

allows her to do those same experiments at home using LabPaqs, science kits created by Englewood-based Hands-On Labs.

"You also open up these LabPaqs and do experiments that really make you think," Young said.

Materials for different labs throughout the semester are carefully packed into the LabPaq boxes and then shipped to students by the beginning of the semester.

"I'm not going to lie. I was excited to get the pig fetus in the mail," Young confessed.

She has set up her laboratory, complete with a microscope and computer and every week she dissects a different organ from the pig, as part of her anatomy course.

"I talk to my family and friends and they ask me what am I doing and I say, 'I'm dissecting a pig fetus.' Everyone seems a little shocked by that," Young said.



While the dissection is pretty typical for the course, most students don't have to save their experiment in their refrigerator for the entire semester or conduct the dissections in their own homes. Still, Young says she loves the freedom the courses provide.

"I don't think I could go back to attending traditional classes and doing the traditional labs," Young said.

The only drawback may be the cost.

"They are very expensive. Each and every LabPaq costs \$250 plus," Young said.

For some classes, students are also expected to purchase microscopes and other equipment not included in the LabPaqs.

"For students who are paying for college out of pocket, that's a big chunk of change," she added.

The company says it is always looking for ways to cut costs, even devising inexpensive substitutes for tried and true laboratory equipment.

"To send them a real laboratory would be outrageously expensive. We work really hard to keep the costs of these reasonable," Linda Jeschofnig, the president of Hands-On Labs.



Her husband, former Colorado College professor Peter Jeschofnig came up with the idea years ago, looking for a way to make laboratory work easier for his students.

"These students had lives," explained Linda Jeschofnig.

"They couldn't get across the paths to be on campus at two o'clock on Wednesdays for their chemistry labs."

Peter Jeschofnig figured the micro-scale chemistry experiments being used at some colleges might offer an answer.

"I'm not the first one. The concept of micro-scale chemistry goes back probably back to the 70's or 80's," he explained.

The couple says small portions are safe and provide ample opportunity for students to learn.

"Really, you don't need big beakers of chemicals to perform experiments. It's the reaction not the size of the reaction," Linda Jeschofnig explained. "You don't have to have a giant kaboom to learn gas law. You just need a poof."

The couple began producing small-scale experiments and then boxed them up for students.

"It grew by word of mouth," she said.

The couple saw a business opportunity with the idea and founded Hands On Labs. The popularity of online courses, however, brought the company to even greater heights.

"We grew from the garage to this 20,000 square foot warehouse," Linda Jeschofnig said.

While some professors question whether high level, rigorous academic work can be done at home, the Jeschofnigs say LabPaqs actually ensure each student is responsible for their own learning. Plus, they are perfect for today's multi-tasking students.



"If our objective is teaching students, then we should be teaching students the way they learn, not the way we old fogies learned," Linda Jeschofnig said.

The LabPaqs are now shipped to students around the world.

"We even have students in Iraq and Afghanistan that are taking their courses while they're in the military. We ship their LabPaqs overseas to them. I think we've had LabPaqs on every continent now," Linda Jeschofnig said.

Hands-On Labs was recently selected as one of the 50 Colorado Companies to Watch by the Colorado Office of Economic Development and International Trade. Every Thursday 9NEWS reports about another company, highlighting its success in this difficult economy.

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