

College doesn't teach real-world skills

CASEY ARK
SPECIAL TO THE WASHINGTON POST

HARRISBURG, Pa.—When I graduated from Penn State a year ago, I thought I was perfectly prepared to succeed in the business world. I'd worked hard, graduated at the top of my class in computer science and managed to acquire lots of experience with the sorts of industry software that I was sure hiring managers were looking for. I'd even chosen a STEM degree, which—according to just about everyone—is the smartest choice to plan for the future (eight out of the 10 fastest-growing job occupations in the U.S. are STEM jobs).

I felt like the job market was mine for the taking. I was wrong. Despite diligent studying, the only real-world business skills I'd learned at college were how to write a résumé and operate three-fifths of the Microsoft Office suite. My college education left me totally unprepared to enter the real work force. My degree was supposed to make me qualified as a programmer, but by the time I left school, all of the software and programming languages I'd learned had been obsolete for years.

To find real work, I had to teach myself new technologies and skills outside of class, and it wasn't easy.

My experience is not unique. Despite rising tuition rates, graduates are finding it increasingly difficult to land jobs (53 percent of college grads under 25 are unemployed or underemployed). More and more graduates are finding that their conceptually based college educations leave them ill-equipped to handle "real-world" jobs, so much so that, according to some experts, most companies no



longer care what their recruits majored in, since they know they'll have to extensively train them regardless. This is even more poignant in the tech sector. In fact, 47 percent of the technology jobs in New York City no longer require any college education at all. Across the country, only half of high-tech workers have graduated from college.

Businesses aren't looking for college grads. They're looking for employees who can actually do things like build iPhone apps, manage ad campaigns and write convincing marketing copy. I wish I'd been taught how to do those things in school, but my college had something different in mind.

At least 90 percent of my college education (and that of so many others) boiled down to pure terminology, or analysis of terminology. My success in any given class was almost wholly based on how well I could renege the definitions of countless terms like the precise meaning of "computer science" or how to explain "project management" in paragraph form, or the all-too-subtle differences between marketing and advertising.

Our future marketers don't need to know the differences between advertising and marketing. They need to know how to sell things. Our future programmers don't need to be able to define computer science. They need to know how to program computers.

Those are the skills that are most important, and they're precisely the things that aren't being taught, in large part because schools don't hire professors who know how to teach them. There are plenty of requirements for the average professorship, but job experience generally isn't high up on the list. In fact, a 2006 study of college professors in STEM fields showed that 59.8 percent hadn't had any job experience in their industry. That means that a large portion of the professors who are supposed to be teaching college grads how to become marketers, managers and salespeople have never marketed anything, managed anyone or sold anything. Our professors teach what they know, and after years spent steeping in theory, it's no wonder that they put such an emphasis on conceptual learning.

To me, this is the root of our college problem: The average college student is paying \$30,000 a year for the chance to learn valuable skills from professors who haven't had the opportunity to learn those skills themselves. Maybe it's a crazy idea, but if you're going to spend all that money for a college education, shouldn't you expect to learn real-world skills from people who know what they're doing?

In our current framework, that idea sounds like fantasy. But what if we tried something different? What if we came up with a new way of hiring teachers, and a new outlook on how to develop college courses?

In an ideal world, business students would learn how to succeed in business by actually running their own businesses. Cedarville University in Cedarville, Ohio, is allowing them to do just that. Each fall, the school issues a challenge to its junior classes: Come up with a viable idea for a business and make it a reality.

Unlike most college business simulations, Cedarville's program has students develop business ideas on their own, acquire real funding from local banks and use real money and manpower to run the business over

the course of the semester. Every business major gets involved. Marketers run legitimate ad campaigns, accountants keep track of income, and student managers are elected to oversee the project. The result is a concrete learning experience that allows students to try their hand at their field of study, and actually apply some of the concepts they've learned.

Programs like Cedarville's (along with existing college internship programs) are smart ways to impart real-world knowledge while in school. If colleges spent more time on this sort of practicum and less time on rote terminology, we might see more well-rounded graduates.

Solving the issue of inexperienced teachers may be even simpler: have schools relax academic requirements for professors and focus far more on hiring effective business people. With a little more leeway, academically minded candidates will have more freedom to gain job experience, and schools may even attract more talent directly from the business world. Success in business and success in the classroom are certainly different things, but I'd wager that it's a lot easier to show an accomplished business person how to teach than it is to show a teacher how to be an accomplished business person.

Admittedly, these are simple ideas and represent only a small portion of the problem, but they're a start. With better teachers and more hands-on material, I like to think that our graduates would be better equipped to succeed in the work force, and that earning a bachelor's degree might someday hold the same status that it used to. But what would I know? I'm just a college grad.

Tech

Too Cool for School Disruptive tech is changing how kids learn

BY VICTOR LUCKERSON

IN A FEW WEEKS, THE HALLS OF A school in Nanuet, N.Y., will teem with mini race cars. The vehicles will sport custom-designed wheels, each set carefully tuned in diameter and thickness to achieve maximum speed.

But the cars' makers aren't college-level engineers; they're middle-school students attempting to learn about physics and technology by using a device that combines both—the school's 3-D printer. "It's rewriting what's possible" in education, says Vinny Garrison, the teacher who organizes the races.

It's not the only innovation doing so. Nearly three-fourths of U.S. teachers use technology to motivate students to learn, according to a survey by PBS LearningMedia. And that tech is getting smarter: students can now virtually tour ancient worlds to learn history, take quizzes via smartphone and more.

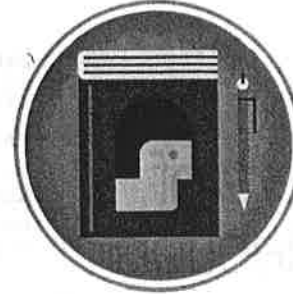
Most of the changes are designed to better prepare U.S. students for careers in fast-growing fields like science and engineering. But they can come at a cost—and not just financially. A \$500 million plan to supply Los Angeles students with iPads was recently suspended after students bypassed content filters and some parents complained that the initiative was pulling focus from much needed building repairs.

So far, however, research shows that using next-gen tech in the right ways can make students smarter, more engaged and more creative. Here is a look at six new technologies that are shaping the classrooms of the future.



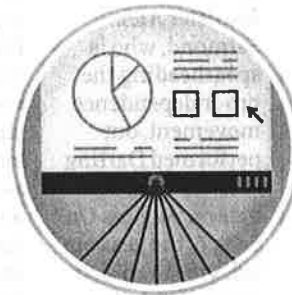
PRINTERS THAT REDEFINE HANDS-ON LEARNING

MakerBot has already placed more than 5,000 3-D printers in U.S. schools that are designed to help students create model cars (to learn about physics), model frogs (to learn about biology) and more.



TEXTBOOKS THAT LEARN ABOUT STUDENTS

Publishing giant McGraw-Hill's line of digital SmartBooks quizzes students after every chapter and highlights the material they need to review; teachers can mine that data for classwide insights.



TOUCHSCREEN CHALKBOARDS THAT BEAM NOTES

The futuristic displays that Hewlett-Packard is testing in a model classroom in Taipei are synched with students' individual computers, allowing them to copy notes and view multimedia.



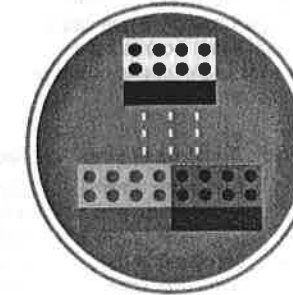
DESKS THAT FOSTER COLLABORATION

Some classrooms at the University of North Carolina feature rolling desks, which allow students to easily switch from listening to a teacher to organizing into small groups.



CELL PHONES THAT TEACHERS ASK KIDS TO TURN ON

Instead of purchasing pricey new tech, schools in Katy, Texas, ask kids to bring their own smartphones—so they can conduct research, answer quizzes via text and more. (There are myriad restrictions on the wi-fi network.)



TOYS THAT TEACH EMPATHY

In order to help kids understand teamwork and trust, the Kickstarter-funded Empathy Toy—already used in roughly 400 schools globally—requires them to collaborate on assembling a Lego-like structure of blocks while they are blindfolded.

ILLUSTRATIONS BY STUDIO MULTI FOR TIME

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