

# Online classes bring higher education to all corners of the world

By Amanda Ripley, Time

On Sept. 17, the Pakistani government shut down access to YouTube. The purported reason was to block the anti-Muslim film trailer that was inciting protests around the world.

One little-noticed consequence of this decision was that 215 people in Pakistan suddenly lost their seats in a massive, open online physics course. The free college-level class, created by a Silicon Valley start-up called Udacity, included hundreds of short YouTube videos embedded on its website. Some 23,000 students worldwide had enrolled, including Khadijah Niazi, a pigtailed 11-year-old in Lahore. She was on question six of the final exam when she encountered a curt message saying “this site is unavailable.”

Niazi was devastated. She’d worked hard to master this physics class before her 12th birthday, just one week away. Now what? Niazi posted a lament on the class discussion board: “I am very angry, but I will not quit.”

In every country, education changes so slowly that it can be hard to detect progress. But what happened next was truly different. Within an hour, Maziar Kosarifar, a young man taking the class in Malaysia, began posting detailed descriptions for Niazi of the test questions in each video. Rosa Brigída, a novice physics professor taking the class from Portugal, tried to create a workaround so Niazi could bypass YouTube; it didn’t work. From England, William, 12, promised to help and warned Niazi not to write anything too negative about her government online.

None of these students had met one another in person. The class directory included people from 125 countries. But after weeks in the class, helping one another with Newton's laws, friction and simple harmonic motion, they'd started to feel as if they shared the same carrel in the library. Together, they'd found a passageway into a rigorous, free, college-level class, and they weren't about to let anyone lock it up.

By late that night, the Portuguese professor had successfully downloaded all the videos and then uploaded them to an uncensored photo-sharing site. It took her four hours, but it worked. The next day, Niazi passed the final exam with the highest distinction. "Yayyyyyyy," she wrote in a new post. (Actually, she used 43 y's, but you get the idea.) She was the youngest girl ever to complete Udacity's Physics 100 class, a challenging course for the average college freshman.

That same day, Niazi signed up for Computer Science 101 along with her twin brother Muhammad. In England, William began downloading the videos for them.

### **High-end learning on the cheap**

The hype about online learning is older than Niazi. In the late 1990s, Cisco CEO John Chambers predicted that "education over the Internet is going to be so big, it is going to make email usage look like a rounding error." There was just one problem: online classes were not, generally speaking, very good. To this day, most are dry, uninspired affairs, consisting of a patchwork of online readings, written Q&As and low-budget lecture videos. Many students nevertheless pay hundreds of dollars for these classes – 3 in 10 college students report taking at least one online course, up from 1 in 10 in 2003 – but afterward, most are no better off than they would have been at their local community college.

Now, several forces have aligned to revive the hope that the Internet (or rather, humans using the Internet from Lahore to

Palo Alto, Calif.) may finally disrupt higher education – not by simply replacing the distribution method but by reinventing the actual product. New technology, from cloud computing to social media, has dramatically lowered the costs and increased the odds of creating a decent online education platform. In the past year alone, start-ups like Udacity, Coursera and edX – each with an elite-university imprimatur – have put 219 college-level courses online, free of charge. Many traditional colleges are offering classes and even entire degree programs online. Demand for new skills has reached an all-time high. People on every continent have realized that to thrive in the modern economy, they need to be able to think, reason, code and calculate at higher levels than before.

At the same time, the country that led the world in higher education is now leading its youngest generation into a deep hole. According to the Federal Reserve Bank of New York, Americans owe some \$914 billion in student loans; other estimates say the total tops \$1 trillion. That's more than the nation's entire credit-card debt. On average, a college degree still pays for itself (and then some) over the course of a career. But about 40% of students at four-year colleges do not manage to get that degree within six years. Regardless, student loans have to be repaid; unlike other kinds of debt, they generally cannot be shed in bankruptcy. The government can withhold tax refunds and garnish paychecks until it gets its money back – stifling young people's options and their spending power.

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