



Future Trends in Technology and Education June 2014

*A monthly futures report
for higher education,
compiled by Bryan Alexander.*

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Editorial notes: several new trends are named under Technology. Thanks to FTTE readers, including James Schulman, for the suggestions.

I. Education and contexts

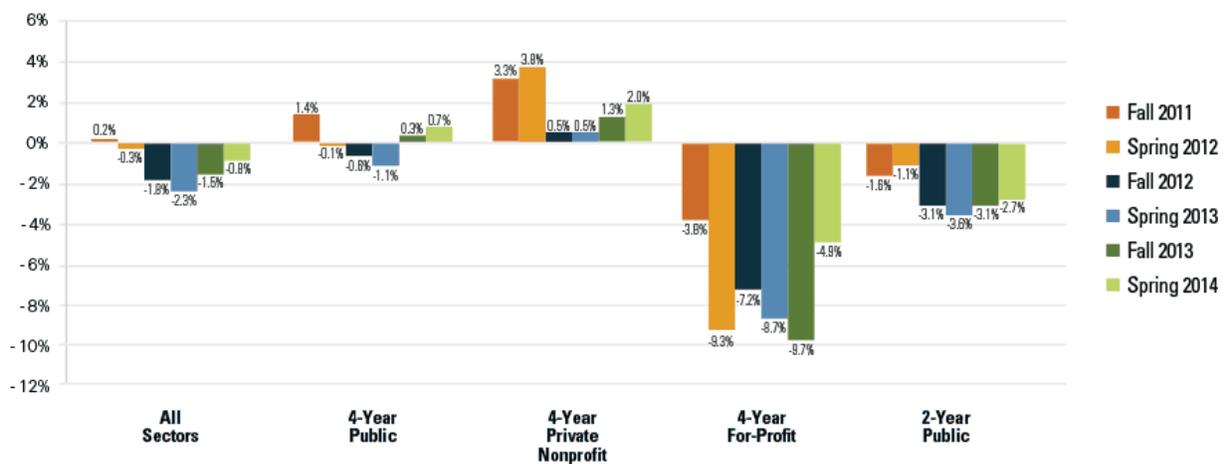
Demographics. American childbirth is apparently growing slightly this year, raising the possibility of increased traditional-age undergraduate population starting in 19 years.ⁱ The total expenditure on U.S. K-12 education has declined for the past three years.ⁱⁱ

Changes in international education. University of Chicago faculty organized to end that school's relationship with an institute sponsored by the Chinese government.ⁱⁱⁱ New York University apologized for mistreatment of workers who built NYU's Abu Dhabi campus.^{iv}

K-12 and higher education. High schools are offering more early college classes, especially in STEM and medical fields.^v

Adjunctification. Mills College adjunct faculty voted to unionize.^{vi} The Modern Language Association issued a report urging universities to maintain the current level of PhD production.^{vii}

Enrollment decline continues. College and university enrollments dropped 0.8% in spring 2014, with for-profits and community colleges seeing the largest losses:



^{viii}

Campuses and sexual assault controversy. The White House announced steps to improve college and university responses to rape cases.^{ix} It also publicized the names of 55 institutions being sued.^x

Athletic budgets doing well. In a potential reversal of this trend, two campuses reduced athletics in order to cut costs.^{xi}

II. Technology

3d printing continues to innovate and grow. Cambridge scientists demonstrated printing fruit from food materials, “combin[ing] individual liquid droplets with different flavours into a fruit shape”.^{xii}

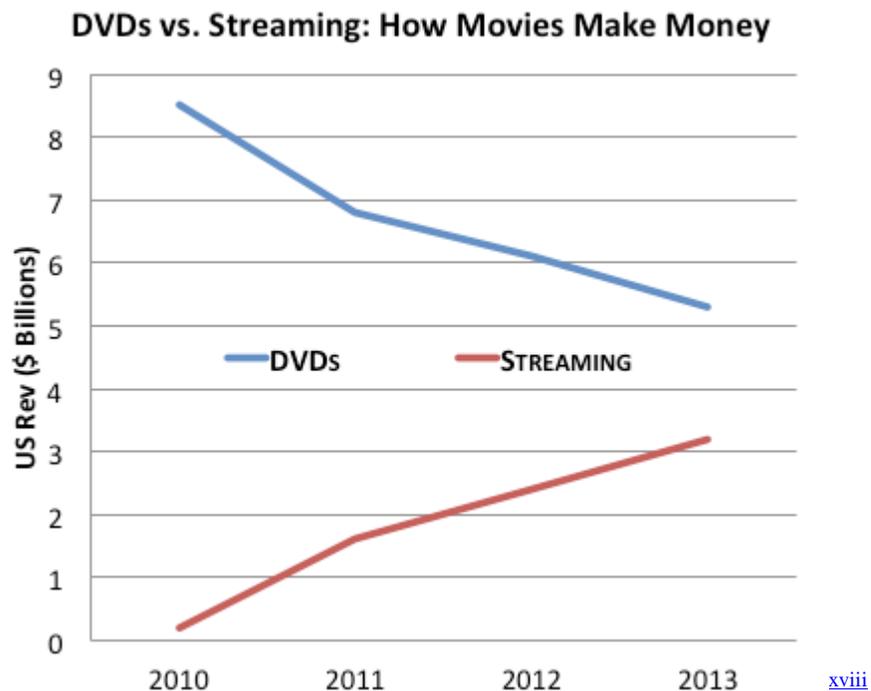
Device ecosystem keeps growing.

- A slowdown in tablet sales growth suggests that hardware platform may plateau later this year; on contrast, smartphone sales growth continues.^{xiii}

- Wearable computing: more medical practitioners are experimenting with Google Glass.^{xiv} Another startup offers a head mount for smartphone display, Durovis Dive.^{xv}
- Creative devices: Google's Project Tango is rumored to release a tablet computer with advanced 3d capture capabilities.^{xvi}

Internet of things. One in five Americans currently connects at least one feature of their home to the internet, according to a Forrester poll.^{xvii}

Digitization shifts from physical media to streaming. Americans are increasingly experiencing media (especially movies and music) through streaming services, rather than owning or borrowing physical media. For example, in movies:



Automation's promise. IBM launched a Watson spinoff which constructs pro/con arguments on controversial topics.^{xix}

A fragmented internet? The FCC's intention to end net neutrality has elicited protests, including some from academics involved in computation.^{xx}

Copyright battles continue. A recent court ruling allowed American intellectual property holders to sue over API code (which allows two programs to work together) for the first time.^{xxi} Alternative Web video service Vimeo agreed to run anti-infringement software on the content they host.^{xxii}

Crowdsourcing. A distributed group of citizen space enthusiasts successfully took remote command of an abandoned NASA space probe, crowdfunding the effort.^{xxiii}

III. Education and Technology

More MOOCs and online learning. Despite a major negative shift in media reception, MOOCs seem to be continuing to grow in practice. The New York Public Library partnered with Course Hero to provide face-to-face, on-site MOOC learner support.^{[xxiv](#)} MOOC provider Udacity received \$32 million in further venture capital funding.^{[xxv](#)}

Internationally, Coursera launched a global MOOC translation network,^{[xxvi](#)} while reporting that China is its largest growth market after the United States.^{[xxvii](#)} The nations of Trinidad and Tobago contracted with Coursera to build a national learning network.^{[xxviii](#)}

Several colleges are piloting online units to grow enrollment.^{[xxix](#)}

(See also “The LMS world”, below)

Flipped classroom/blended learning. A meta-analysis found that students in lecture-driven STEM classes fared significantly worse on assessments than those in active learning classes.^{[xxx](#)}

The LMS world. Google announced a class content management system, which performs some learning management system functions.^{[xxxi](#)} A group of American universities is apparently developing a group LMS project called Unizin, although details are scarce.^{[xxxii](#)}

Gaming in education. One library recreated a historical map in the Minecraft gaming world.^{[xxxiii](#)}

Social media in education. The Kansas Board of Regents revised its public campus social media policy to include language supporting faculty freedom of expression, while retaining a series of reasons to discipline instructors.^{[xxxiv](#)} New York University is similarly considering an appropriate behavior policy for social media.^{[xxxv](#)}

IV. The higher education bubble, continued.

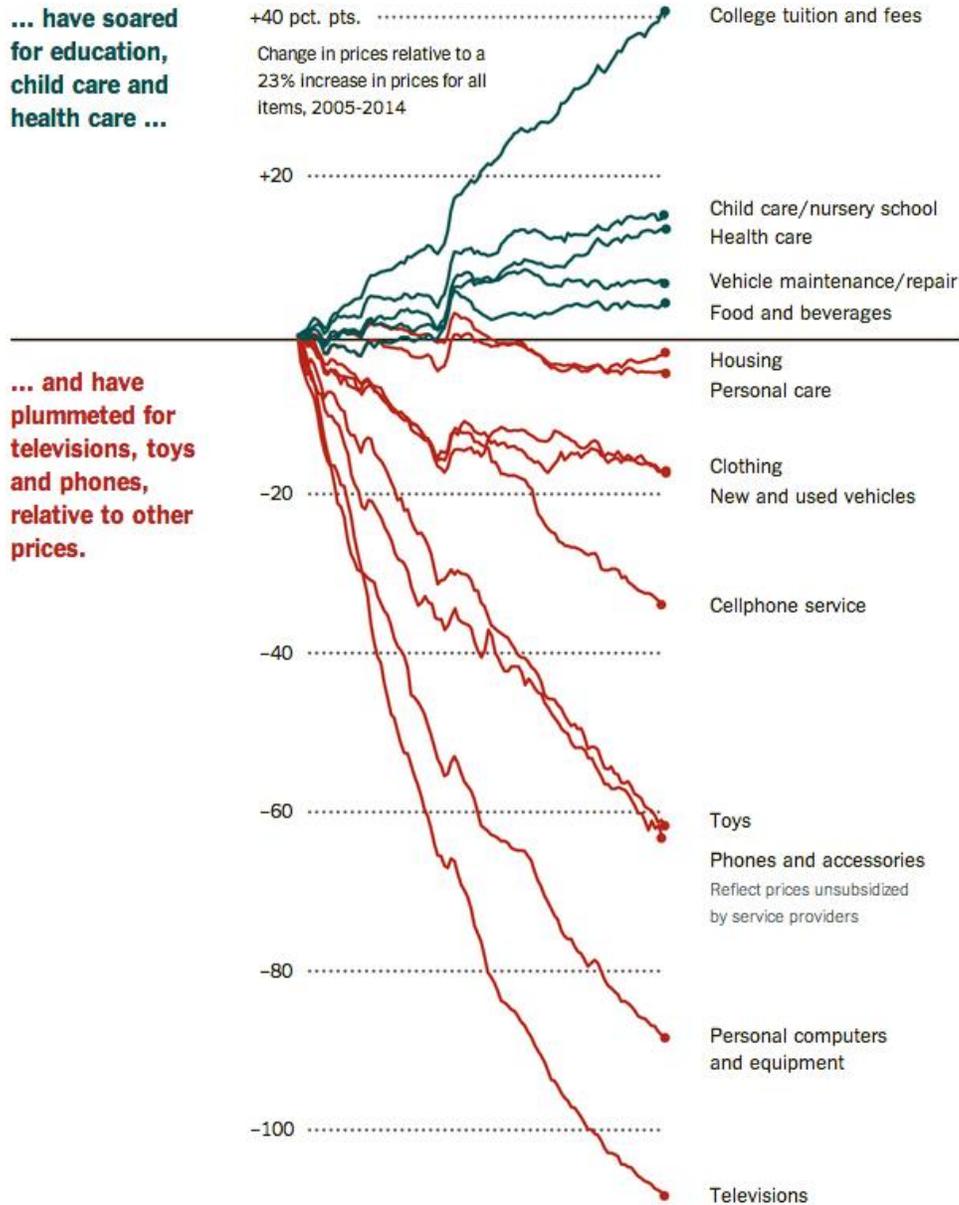
"We might begin by understanding college less as a mystical place of romance and achievement and more as a cartel or a predator, only a couple of removes from a company like Enron or a pharmaceutical firm that charges sick people \$1,000 per pill."

Thomas Frank, Salon.com^{[xxxvi](#)}

This concept, which we began to track in early 2012, continues to build across multiple fronts. It holds that colleges are overpriced, that student demand is questionable, and both could drop together:

- American college and university fees increased far beyond most other family costs over the past decade:

Costs for Americans ...



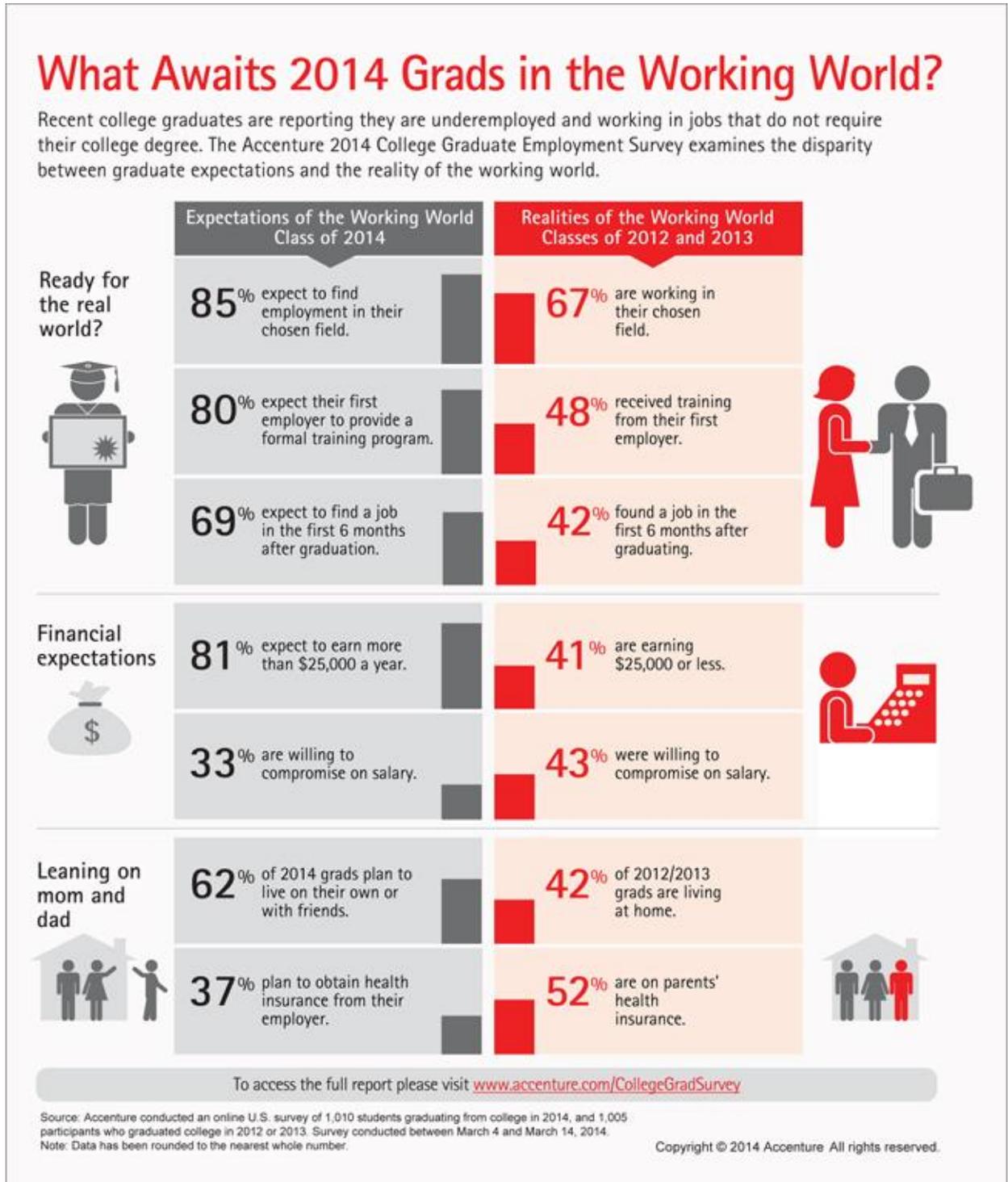
BY LARRY BUCHANAN and ALICIA PARLAPIANO

Source: Bureau of Labor Statistics

[xxxvii](#)

- Quinnipiac University announced the laying off 15 professors from programs enrolling few students, while adding a dozen positions in more promising fields. [xxxviii](#) The National Hispanic University announced its closure. [xxxix](#)
- One Michigan college successfully won alumni donations to pay down its outstanding debt. [xl](#)

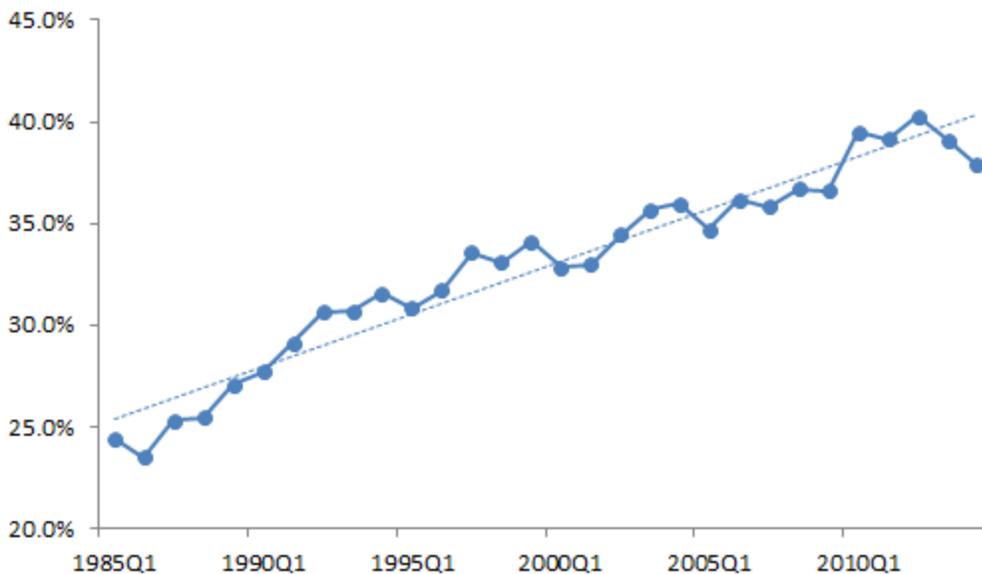
- Grad school crisis: the Albany Law School is working to encourage a group of tenured faculty to accept buyouts in exchange for leaving.^{xli}
- BA graduates in their 20s continue to face a difficult job market.^{xlii} An Accenture report finds that population experiencing a shock to their expectations upon graduating:



^{xliii}

- Traditional-age undergraduate enrollment has declined since 2014:

Enrollment rate of people age 20-24, 1985Q1-2014Q1



Source: Author's analysis of Current Employment Statistics public data series

[xliv](#)

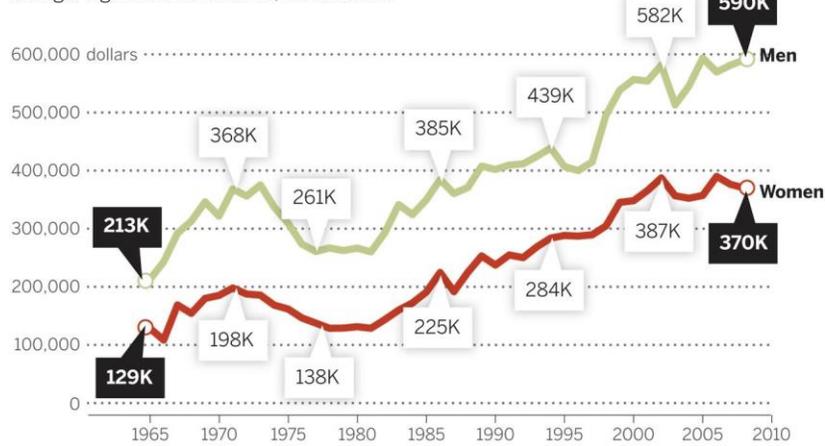
- Politics, bipartisan: (See “Campuses and sexual assault controversy”, above)
- Politics, partisan: the South Carolina legislature intervened in one university’s curriculum and programming, cutting funds for an LGBT center, then restoring the funds contingent upon the school teaching more content about American Constitutional history. [xlv](#) House Republicans successfully passed a symbolic slap at social sciences in a funding bill. [xlvi](#)

Countervailing trends:

- The United States government announced a new \$75 million education innovation fund. [xlvii](#)
- MIT research indicates the college premium, or the lifetime earnings boost after college graduation, has deep and growing impact:

Present discounted value of college relative to high school degree net of tuition, 1965–2008

College/high school difference, 2009 dollars



[xlvi](#)

Other trends. We have been tracking the following additional trends since early 2012, but found no new developments during this month. Possible explanations: one or more are fading as future trends; some may be building slowly over time; some stories were underreported.

Those trends include:

Education: alternative certification; possible intergenerational tension; executive compensation controversy; library changes; open education.

Technology: new forms of creativity; augmented reality's steady march; cloud computing; social media; digital security threats expanding.

Education and technology: open education possibilities; rise of the net.generation; ebooks in higher education; mobile devices in education; badges; educational entrepreneurship; big data and data analytics develop; the Maker movement.

About Future Trends in Technology and Education

Future Trends in Technology and Education (FTTE) is a monthly report. It surveys recent developments in how education is changing, primarily under the impact of digital technologies. Its purpose is to help educators, policy-makers, and the public think about the future of teaching, learning, research, and institutions.

Every month FTTE aggregates recent developments, checking them against previously-identified trend lines. As certain trends build in support and significance, the report recommends watching them for future impact. FTTE also notes trends which appear to be declining in significance. Every single item is backed up by footnoted research, often accessible through the open Web.

Trends are also aired for feedback and development via the author's Twitter (<https://twitter.com/bryanalexander>) and blog (<http://bryanalexander.org/>).

Subscriptions are free, and open to any interested person or institution.

For more information, see <http://bryanalexander.org/future-trends-in-technology-and-education/> or <http://bryanalexanderconsulting.com/ftte-report/>.

Endnotes

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