



Future Trends in Technology and Education July 2017

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

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About FTTE – endnotes

This FTTE report is generously sponsored by TurnItIn, NYSERNet, and our kind supporters on Patreon.

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Editorial notes: my summer travel schedule is cooling off. Coming up over the next month are a measly two trips:

July 17-20 – presenting to and hosting Future Trends Forum sessions at Campus Technology’s annual conference, Chicago, Illinois.

August 7-9 – presenting to online learning meetings in Washington, D.C.

I’ve enjoyed meeting with FTTE readers recently, and hope to meet up with more of you. Ping me if you’re interested.

Our online book club is turning its eyes to a science fiction reading, to help us think about the futures education might inhabit. Check the site for the next title, about to be announced:

<https://bryanalexander.org/book-club/>

Once more I remind readers to consider supporting me on Patreon. Producing FTTE is a continuous and time-consuming effort, and I can’t do it without your help.

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Thank you all for your feedback and recommendations. As ever, contact me with more thoughts at bryan.alexander@gmail.com.

I. Education and contexts

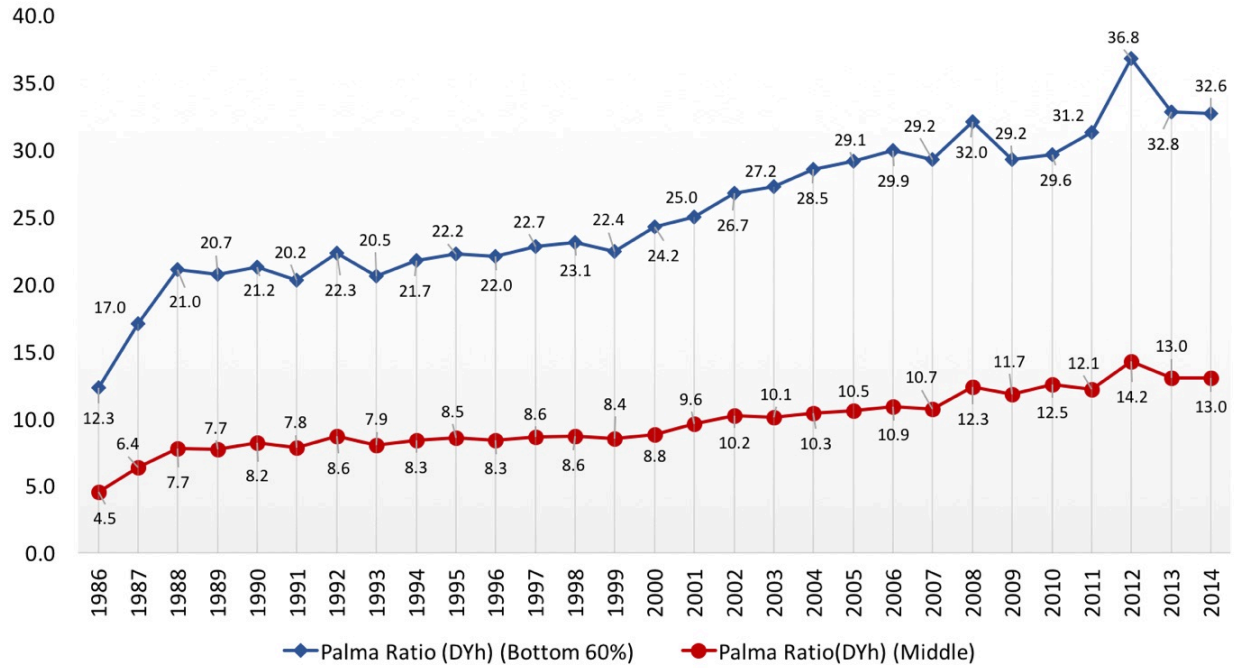
Changes in international education. Latin American universities have greatly expanded student numbers over recent years.¹ Canadian universities continue to attract international students.² A European conference explored creating a continental student campus card.³

Recent surveys suggest a significant number of international students are considering avoiding the United States due to perceptions of the Trump administration's policies.⁴ Another American-supported university in Hungary has run afoul of local conservative politics.⁵

Racial inequality in/and education. Faculty of color have been especially targeted for criticism during the recent wave of social media posting outrage.⁶

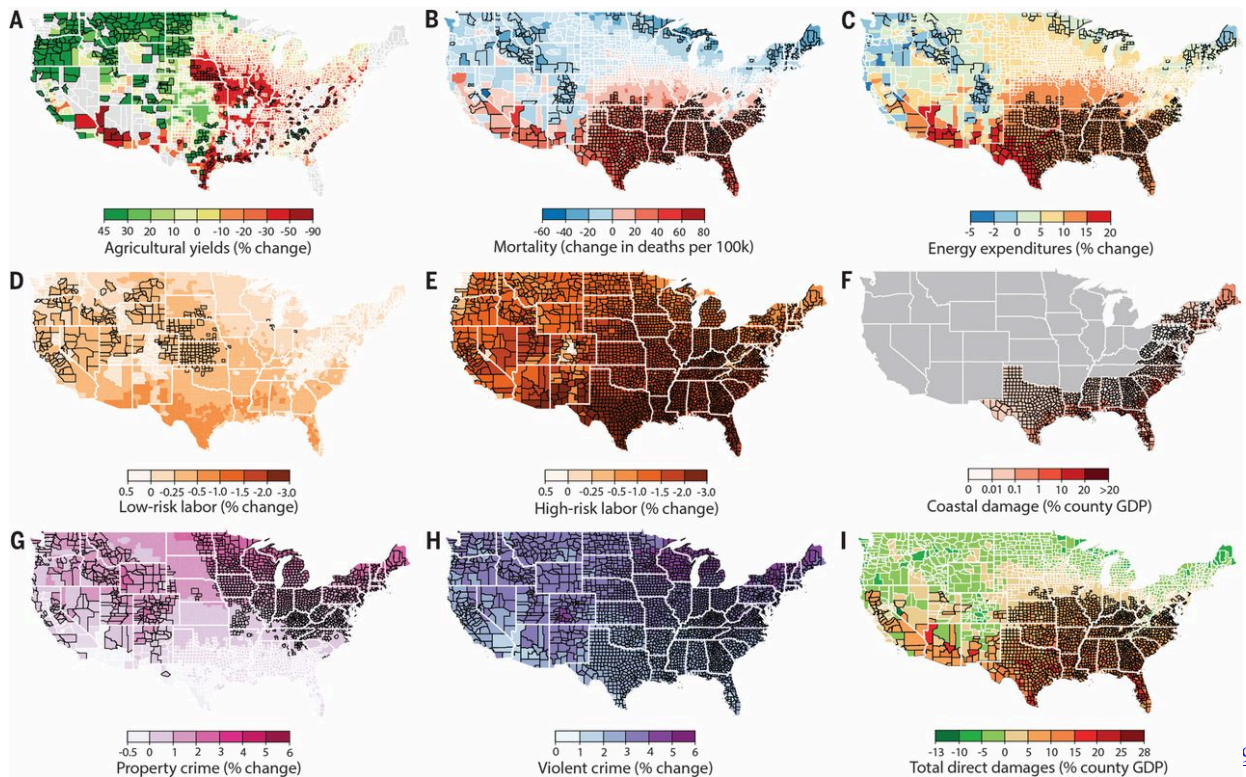
Campuses and sexual assault controversy. Two Trump administration officials (from the Departments of Justice and Education) announced that they would reduce the intensity of their offices' investigation into campus sexual assaults.⁷

Macroeconomic indicators. Another measure of income inequality showed the metric increasing as a long term trend, when comparing the income of the top 1% to the bottom 60%, and when the 1% are paired with the middle class:



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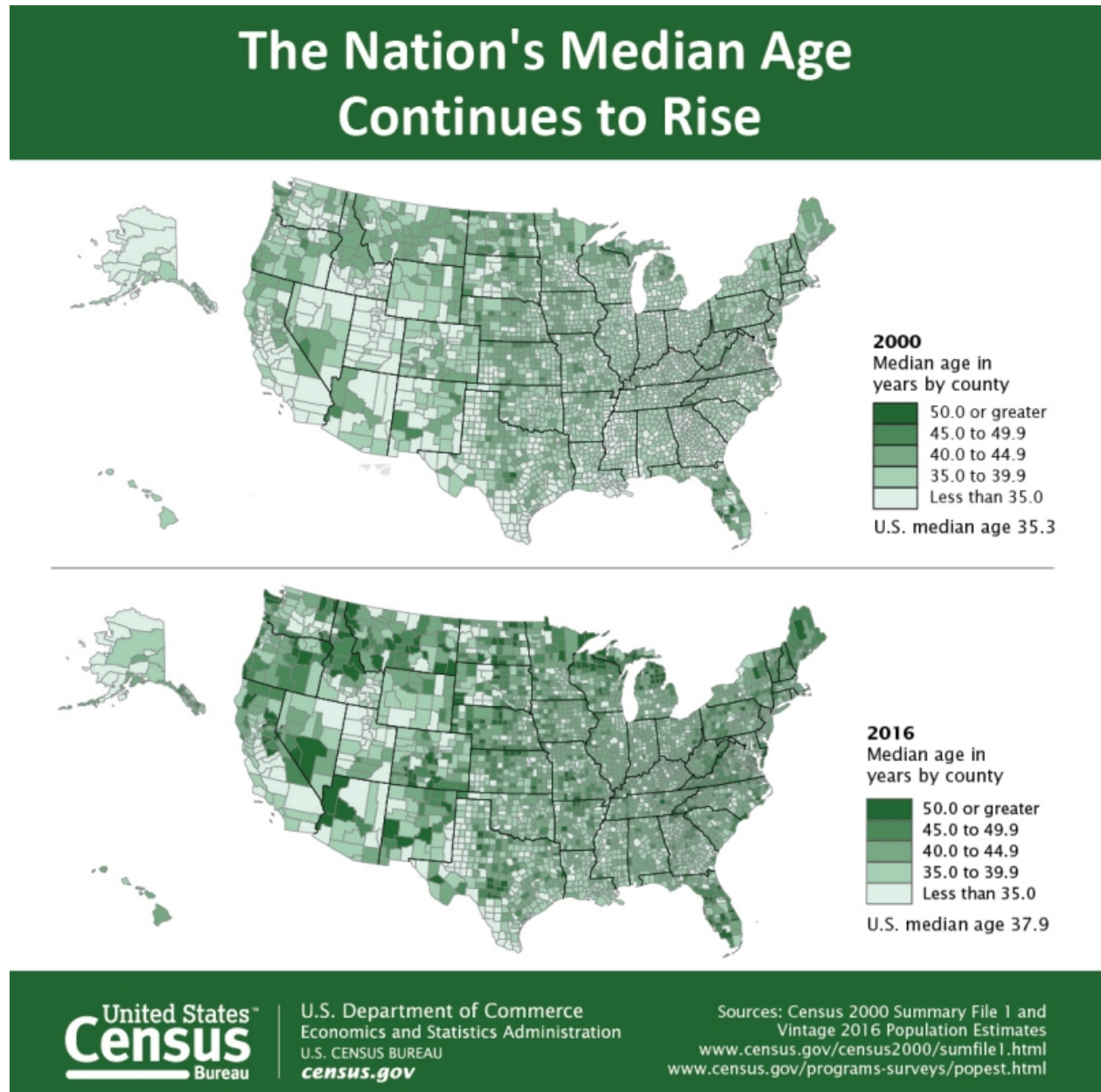
New research into likely impacts of climate change across the United States suggests the southeast will suffer the greatest amount of economic (and other) damage.



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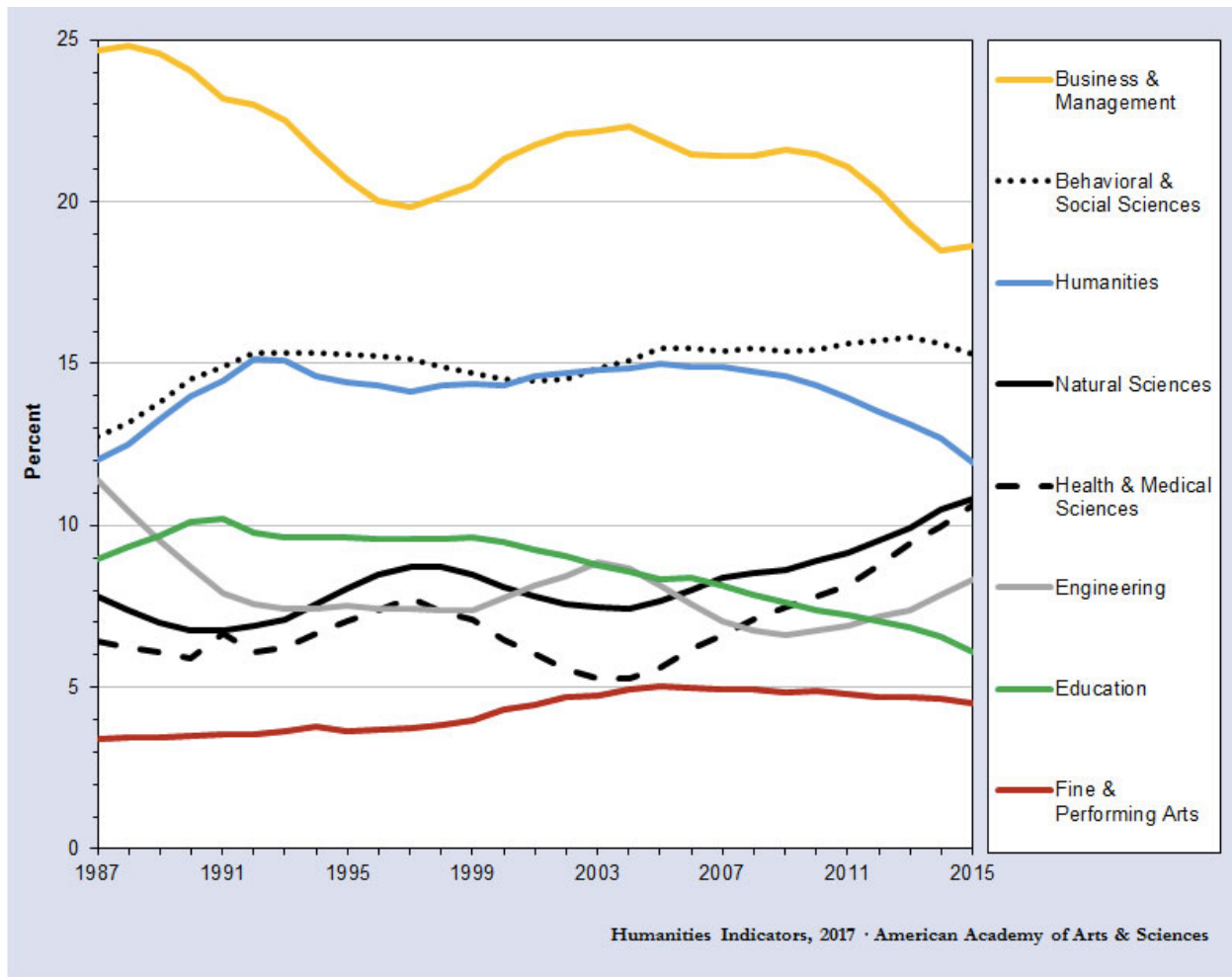
Adjunctification. The National Labor Relations Board certified Manhattan College adjuncts' union formation.¹⁰

Demographics. New census data shows Americans continuing to grow older and less white, with Latino and Asian populations growing most rapidly.



[11](#)

Enrollment changes. Recent data shows certain fields losing students (humanities, business) while others gain (STEM, health sciences).



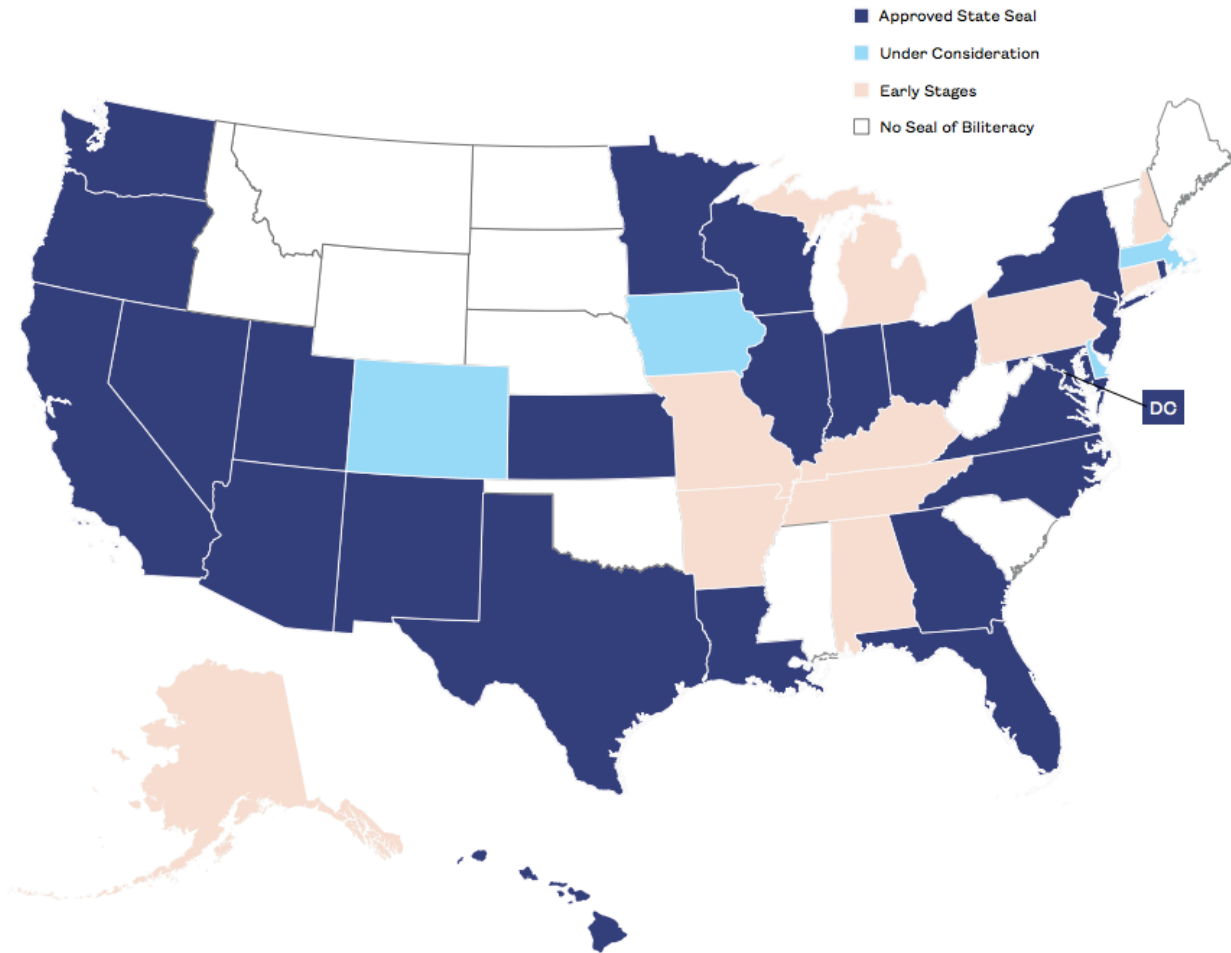
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The Trump administration issued orders intended to expand the number of American apprenticeships.^{[13](#)}

Academic responses to the Trump administration. The government is apparently going to not close the Deferred Action for Childhood Arrivals (DACA) program – a major concern for many educators - at this point.^{[14](#)} The Ohio town of Oberlin, in cooperation with the local college, decided to make itself a sanctuary site for immigrants.^{[15](#)} (See also “Campuses and sexual assault controversy” above)

Alternative certification. The number of American states supporting a biliteracy seal for high school graduates continues to grow, including, most recently, Connecticut and Maryland.^{[16](#) [17](#)}

FIGURE 2: STATE LAWS REGARDING THE SEAL OF BILITERACY



Source: TheSealofBiliteracy.org, data current as of February 27, 2017

[18](#)

A new version, 2.0, of the Open Badges standard is about to be released.^{[19](#)}

II. Technology

3d printing continues to innovate and grow. An Israeli project claims to be close to printing human organ tissue.^{[20](#)} A new project adds a conveyor belt to a static 3d printer.^{[21](#)}

Device ecosystem keeps growing.

- Wal-mart is trialing the use of virtual reality for training.^{[22](#)}
- A Canadian product uses WiFi to scan a building's interior for motion, even through walls and floors.^{[23](#)}
- Mobile device usage continues to grow on a variety of measures.^{[24](#)}
- (See also "Shopping continues to migrate online" and "New forms of creativity" below)

Social media. Facebook announced a major milestone: two billion users.²⁵ Facebook announced its intentions to use artificial intelligence to detect (presumably Islamicist) extremist content.²⁶ A recent report criticized Facebook for racial bias in content flagging.²⁷

New Oxford University research identified growing use of social media by citizens for political information-gathering, and by governments in seeking to influence or reshape public opinion.²⁸ A Harvard research team found evidence they claim shows social media use *not* being correlated with political polarization.²⁹

(See also “Digital video rising” below)

Crowdfunding growing. Anxieties over Republican efforts to overhaul the Affordable Care Act may push more people to appeal for crowdfunding assistance via sites like GoFundMe.³⁰

Digital video rising. Google announced steps to detect and remove extremist content on YouTube.³¹

Shopping continues to migrate online. Amazon began the process of purchasing Whole Foods.³² The number of people Amazon employs to serve their online ordering grew:

The company had 351,000 full and part-time employees as of March 31, more than double the number of workers the company had two years earlier. The increase is far faster than Amazon's 55 percent jump in revenue over the same period.³³

At the same time, Amazon filed a patent for technology to block shoppers from accessing competitive web sites while in their stores.³⁴

Copyright battles continue. Three major textbook publishers sued Follett, a leading campus bookstore, for allegedly abetting copyright violations of their works.³⁵ A United States federal court granted publishers damages against Sci-Hub, an online scholarly publishing sharing site, which the plaintiffs alleged facilitated massive copyright infringement.³⁶

Automation’s promise. The New York Times is applying Google artificial intelligence to moderate article comments.³⁷ Financial firms are exploring the possibilities of AIs offering financial advice to clients.³⁸ NASA has added AI software to improve its Mars rover’s ability to detect surface features.³⁹ Salesforce software has made important advances in parsing text.⁴⁰ Rumors hold that Amazon is preparing its own automated translation service.⁴¹

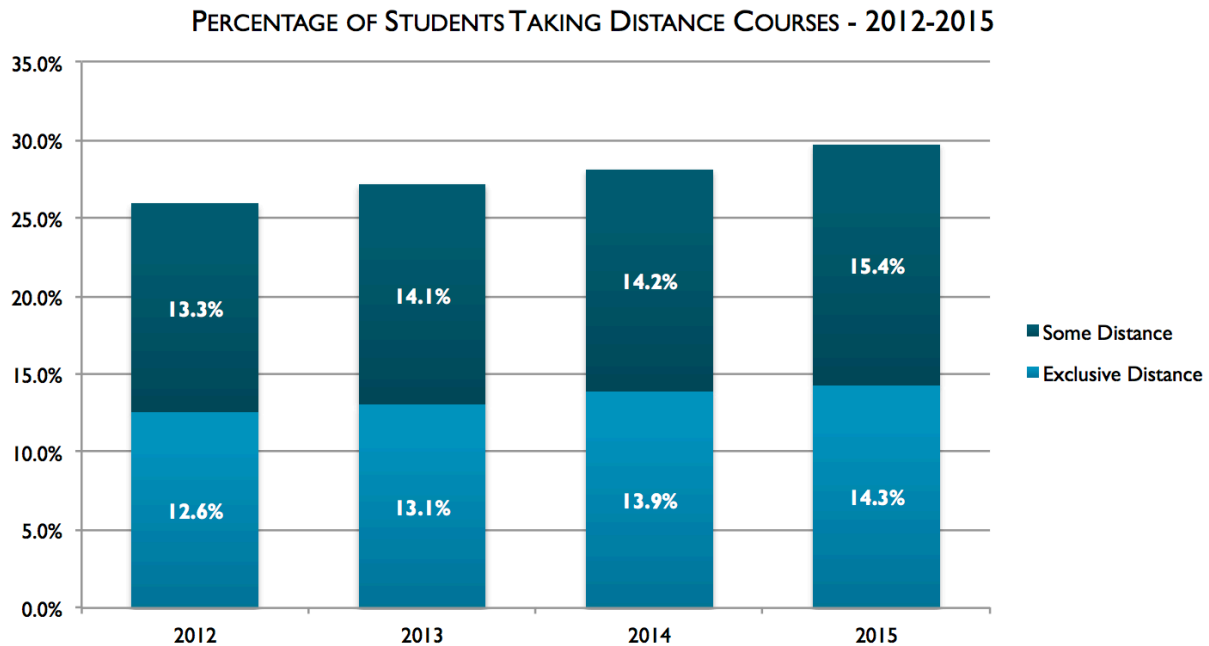
(See also “Social media” above)

New forms of creativity. An Israeli project tests claims of VR’s empathy affordance by immersing Palestinian and Israeli users in the other’s world.⁴²

III. Education and Technology

The LMS world. A leading LMS expert argued that the next big shift for that technology is to better integrate third party applications and services.⁴³

More MOOCs and online learning. Distance learning continues to grow, according to a recent study, which also found a relatively small number of large and/or public universities leading the field.



California governor Jerry Brown asked the California Community Colleges (CCC) chancellor to plan to create an entirely new, wholly online community college.⁴⁵ One observer called for the emergence of online education leaders to take their place within the broader education world.⁴⁶

Coursera has a new CEO, Jeff Maggioncalda, who comes not from academia but from the financial technology sector.⁴⁷

Countervailing trend: a leading Canadian distance learning provider is facing serious structural problems.⁴⁸

Social media in education. Harvard rescinded admission to some incoming students, after finding them posting inappropriate content on social media.⁴⁹ Social media posts brought down a storm of criticism and threats aimed at a Trinity College professor; that institution's president then placed the faculty member on paid leave.⁵⁰ Similarly, criticism and threats descended upon a Syracuse University professor for her social media activity.⁵¹

Harvard research found that enabling HTTPS for page loading helped Wikipedia escape a significant number of censorship attempts.⁵²

(See also “Racial inequality in/and education” above)

Gaming in education. Microsoft launched a global community and construction effort for Minecraft.⁵³ Google launched an internet safety game aimed at kids.⁵⁴

Automation in education. The United States Defense Advanced Research Projects Agency (DARPA) published a request for proposals, looking for projects that would apply AI to improve social science scholarship.⁵⁵ Lexis-Nexis announced adding an AI-powered natural language interface to its legal search service.⁵⁶

Educational entrepreneurship. MOOC provider Coursera raised \$64 million from venture capital.⁵⁷

Open education possibilities. The United States Department of Education.⁵⁸ A group of Finnish academics called for a boycott of leading scholarly publisher Elsevier.⁵⁹

(See also “Copyright battles continue” above)

Virtual reality in education. A Columbia University scientist is using VR to help explain challenging concepts about string theory.⁶⁰

3d printing across the curriculum. A Vermont project pairs war veterans with 3d printers for therapeutic purposes.⁶¹

Blockchain in education. Several non-profit universities and for-profit entities are offering courses about blockchain technology, both online and in person.⁶²

IV. The higher education bubble, continued.

Combined, the 20 wealthiest private universities in the United States hold about \$250 billion in assets. That accounts for a staggering 70 percent of the all the wealth of private colleges and universities, according to a new study by Moody’s Investors Services.

-Jeff Selingo, Washington Post⁶³

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:

- A federal court allowed a new institution formed from the merger of two campuses to lay off a faculty member because of newly realized redundancies.⁶⁴
- Lincoln University is preparing for another round of faculty and program cuts in the face of mountain financial problems.⁶⁵ The College of New Rochelle announced staff and faculty layoffs.⁶⁶ Wheelock College explores selling its president’s house and reducing faculty and staff.⁶⁷

- The state of Pennsylvania’s auditor criticized Penn State University for increasing tuition and accepting too many out of state students.⁶⁸
- The University of Michigan announced free tuition for that state’s low income families.⁶⁹
- Graduate school woes: North Carolina legislators called for massive cuts to the UNC School of Law.⁷⁰
- Politics, partisan: president Trump issued orders to encourage apprenticeships.⁷¹ Republican plans to reduce federal health care support could add more stress to students.⁷²

Countervailing trends:

- Pennsylvania will create a new community college for an underserved area.⁷³

V. 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 and contexts; athletic budgets doing well; K-12 and higher education; library changes; alternative degrees; shared academic services; remedial classes; challenges to internships; campuses and sustainability; executive compensation controversy; possible intergenerational tension.

Technology: Ebooks; digital security threats expanding; digitization shifts from physical media to streaming; augmented reality’s steady march; the limits of the Web; cloud computing; a shift in Moore’s Law? Open source; onshoring hardware production; Office versus Web office; new interfaces; fragmented internet; internet of things; blockchain.

Education and technology: mobile devices in education; rise of the net.generation; big data and data analytics; badges; flipped classroom/blended learning; campus digital security threats growing; video and education; crowdfunding in academia; ebooks in higher education; shared academics; crowdsourcing in academia; digital humanities develops; faculty criticizing deployment of technology; 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 available for whatever price readers would like to pay, including free, and are open to any interested person or institution.

For more information, see <http://fte.us/>.

Endnotes

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