Table of Contents: International education - Demographic trends - More MOOCs and online learning – Social media – Crowdfunding - eBooks continue to grow and develop –Device ecosystem growing - 3d printing innovates, grows - Automation’s promise - Adjunctification continues - Academic unions criticizing deployment of technology - The higher education bubble, continued – Countervailing trends – Other trends – About Future Trends – Endnotes

Editorial note: this is the first issue of FTTE, after nearly two years as NITLE’s Future Trends report. Welcome to new readers! Information about this newsletter can be found below.

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International education. An increasing number of American students are attending Canadian universities, citing preferable tuition prices and concomitant debt.¹

Demographic trends. Northeastern and upper Midwestern states contain America’s leading proportion of student debt holders, while those regions also hold a declining number of pre-college children.² This adds to the difficulty of using alumni networks to recruit new students in the south and west.

More MOOCs and online learning. The California state system is considering shifting some science lab time to online versions, in order to free up room for more students.³

Liberal arts campuses currently show three different responses, based on a sample of three schools: teaching MOOCs, rejecting them, and offering small versions.⁴

MIT offered one MOOC for professional development credit, and for a fee.⁵ Yale joined Coursera, offering four initial classes.⁶

Georgia Tech announced a partnership with MOOC provider Udacity and AT&T, aimed at supporting a wholly online masters degree in computer science at 1/6th of normal tuition.⁷

MOOCs about teaching online began to appear, as HP announced a set of summer MOOCs in how to teach various disciplines online.⁸ A Wisconsin school offered a kind of meta-MOOC, concerning cheating in online classes.⁹

A European effort, the MOOC Production Fellowship, launched to raise money for crowdsourced class topics.¹⁰

Social media. One liberal arts university’s fraternity house sparked campus outrage and investigations after posting offensive comments on social media. Interestingly, the original content appeared on a closed Facebook group, but was aired via an open WordPress blog.¹¹
The number of Facebook users continued to grow, but the rate of increase was lower than ever before, suggesting a plateau ahead:12

Pinterest continues to grow, referring users to more sites than Twitter does.13 Yahoo! purchased independent blog platform Tumblr, which is popular with younger people and hosts more than one hundred million sites.14

Crowdfunding grows. (See “MOOCs” above, re: MOOC Production Fellowship)
eBooks continue to grow and develop. The number of ebooks and their monetary value grew significantly in 2012, according to recent surveys.\textsuperscript{15} Trend to watch: ebooks cannibalizing hardcover books.

Open access possibilities. A group of scholarly publishers proposed a partnership to ease creation of open scholarship for federal requirement, to be called Chorus (Clearinghouse for the Open Research of the United States).\textsuperscript{16}

Device ecosystem keeps growing.

- Microsoft demoed its new Xbox One gaming plus other media console.\textsuperscript{17} This continues the trend of development for the living room space, plus the development of gesture-based computing through its associated Kinect platform.
- Voice interfaces grew, as Google announced speech-activated search for more devices, including laptops.\textsuperscript{18}
- The amount of text messages actually declined last year, probably as smartphone users shifted to other communication channels.\textsuperscript{19}
- Tablet ownership grew significantly over the past year, doing especially well among those with higher incomes, college graduates, and adults in their 30s and 40s.\textsuperscript{20}

3d printing continues to innovate and grow. A 3d-printed gun was successfully test-fired.\textsuperscript{21} The creator took its designs offline, following a munitions-export control request from the US State Department; however, the plans are already widely available online through the Pirate Bay and elsewhere.\textsuperscript{22}

Medical doctors designed and printed a tracheal splint to save a baby’s life.\textsuperscript{23}

Automation’s promise. IBM is developing mobile device connections to Watson-driven applications.\textsuperscript{24} The VGo device lets home- or hospital-bound students participate in classes via a mobile, telepresence-equipped robot.\textsuperscript{25}

Cloud computing grows. Adobe announced it would no longer make disk copies of its popular Creative Suite tools (Flash, Dreamweaver, etc); instead, they can only be subscribed to online.\textsuperscript{26}

Educational entrepreneurship. New learning management system (LMS) Canvas won a $30 million shot of investment capital.\textsuperscript{27}

Onshoring. Google-owned Motorola will open a smartphone-manufacturing plant not in east Asia but in Texas.\textsuperscript{28}

Adjunctification continues. A group of Ohio public universities is exploring sharing information about adjuncts, in order to keep the latters’ hours down due to an interpretation of the Affordable Care Act.\textsuperscript{29} Two campuses used the lecturer category to make available to adjuncts a position with medical coverage.\textsuperscript{30}
Academic unions criticizing deployment of technology. The union of California’s public faculty issued a statement against San Jose State’s president’s embrace of MOOCs. SUNY faculty unions…

In a nonunion but related moves, a group of Harvard faculty requested more input into HarvardX MOOC work. The National Council of Teachers of English (NCTE) issued a statement objecting to the deployment of writing assessment technologies.

Athletics budgets doing well. Collegiate athletics budgets continued to grow, on average outpacing the growth of institutions’ total spending. Coach salaries grew more rapidly than faculty’s, including during the Great Recession’s depths.

The higher education bubble, continued.

"Student debt has become the defining feature of their lives—the millstone around their necks that holds them back from a full financial future”

-Richard Cordray, director of the United States Consumer Financial Protection Bureau

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

- One public liberal arts institution ran into a dangerous budget crisis as its fall class numbers fall far below expectations.
- The number of undergraduate students attending colleges and universities declined, slightly, for the third year in a row. Private institutions alone avoided a negative trajectory.

Figure 1: Percent Change from Previous Year, Enrollment by Sector (Title IV, Degree-Granting Institutions)

- Students protested Cooper Union’s decision to charge tuition, occupying that institution’s president’s office for at least one week.
- Student debt continued to loom as a major issue. The proportion of delinquent student loans increased. One poll found one-third of current undergraduates wishing they’d...
worked instead of attending school.\textsuperscript{42} Student debt is also the subject of popular culture humor, such as:

The United States Consumer Protection Agency published a report stating that student debt, especially from private financial institutions, was depressing the nation’s economic growth and harming the careers of college graduates.\textsuperscript{44} Meanwhile the total amount of student loan debt increased, even as Americans reduced their holdings of other types of debt.\textsuperscript{45}
• Law schools continue to suffer, as enrollments for fall 2013 programs dropped “down 13.4 percent from 2012.”

• Politicization, nonpartisan: Criticism of inequities in financial aid appeared. A Brookings Institute paper argued that college is not a worthwhile investment for some people and careers, casting doubt on the call for all Americans to experience higher education. A Democratic representative (and former college president) circulated a proposal for an alternative higher education accreditation system. And Congress explored a proposal to track colleges by the economic fortunes of their graduates.

Countervailing trends:

• College graduates continue to win more jobs than non-grads.
The college premium’s effects appear to be long-lasting, functioning both before and during recession.
Some campuses experiment with new measures to offset financial challenges. Reed College reached out to low-income prospective students by dropping its application fee. Georgia State trialed data-backed microgrants to support students falling just short of paying their bills.

**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: Liberal arts intervening in K-12; intergenerational tensions; the liberal arts sector shrinks or transforms; badges progressing; open access and open education growing; changes to racial and other demographics; the limits of internships; shared academics; big data; onshoring hardware production; crowdsourcing; digital video for teaching; continued development of Digital Humanities; library budget crunches; LMSs and open source; digital copyright battles; augmented reality’s steady march; Cloud computing; the durability of Moore’s Law; the limits of the Web.

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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 trendlines. 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. 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/.

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Endnotes


10 https://moocfellowship.org/info.


regular-cs-licenses-shrink-wrapped-boxes/.


raises-30-million-in-funds/44017/.


system.


ahead-new-regulations.


http://www.insidehighered.com/news/2013/05/31/amid-coordinated-effort-transform-higher-ed-coursera-

some-faculty-remained-dark.


Hurts/139141/?cid=at&utm_source=at&utm_medium=en.


43 http://i.imgur.com/Fddsg1u.jpg.