

College and Closing the Skills Gap

University Ventures

October 2018

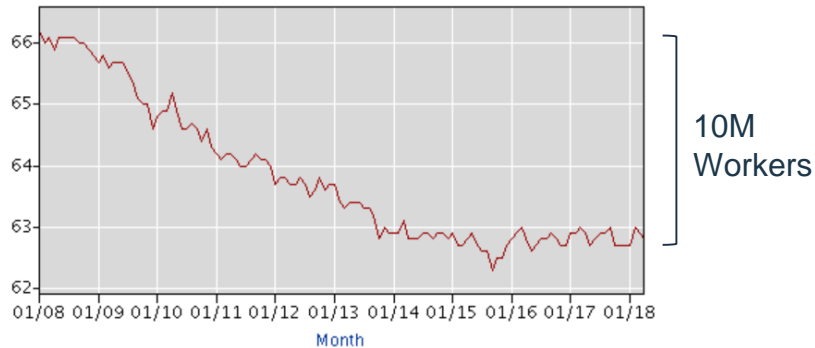


THIS PRESENTATION IS INTENDED TO PROVIDE A SUMMARY DESCRIPTION OF POTENTIAL INVESTMENT STRATEGIES AND OPPORTUNITIES AVAILABLE TO THE PROSPECTIVE FUND AND ITS PARTICIPANTS AND MANAGERS AND DOES NOT CONSTITUTE AN OFFER TO SELL OR A SOLICITATION OF AN OFFER TO BUY ANY INTERESTS IN THE FUND. ANY SUCH OFFER OR SOLICITATION WILL BE MADE ONLY BY MEANS OF THE FUND'S OFFERING MEMORANDUM, SUBSCRIPTION AGREEMENT AND OTHER CONFIDENTIAL DOCUMENTATION PERTAINING TO THE FUND (THE "FUND DOCUMENTS"), WHICH SHOULD BE READ IN THEIR ENTIRETY, INCLUDING THE RISK FACTORS AND POTENTIAL CONFLICTS OF INTEREST DESCRIBED THEREIN, BEFORE MAKING ANY INVESTMENT DECISIONS. NO OFFER TO PURCHASE INTERESTS IN THE FUND WILL BE ACCEPTED PRIOR TO RECEIPT BY THE OFFEREE OF THE FUND DOCUMENTS AND THE COMPLETION OF ALL APPROPRIATE DOCUMENTATION. ANY INVESTMENT IN THE FUND INVOLVES A HIGH DEGREE OF RISK AND IS SUITABLE ONLY FOR SOPHISTICATED AND QUALIFIED INVESTORS. NO ASSURANCES CAN BE GIVEN THAT THE INVESTMENT OBJECTIVES OF THE FUND OR ITS PORTFOLIO ASSETS AND INVESTMENTS WILL BE ACHIEVED, AND INVESTMENT RESULTS MAY VARY SUBSTANTIALLY ON A QUARTERLY OR ANNUAL BASIS. THE INVESTMENT PHILOSOPHIES AND METHODS SUMMARIZED IN THIS PRESENTATION REPRESENT THE FUND'S CURRENT INTENTIONS. DEPENDING ON CONDITIONS AND TRENDS IN SECURITIES MARKETS AND THE ECONOMY GENERALLY, THE FUND MAY PURSUE ANY OBJECTIVES, EMPLOY ANY TECHNIQUES OR PURCHASE ANY TYPE OF INSTRUMENT THAT IT CONSIDERS APPROPRIATE AND IN THE BEST INTEREST OF THE FUND OR ITS PORTFOLIO ASSETS OR INVESTMENTS. NONE OF THE INTERESTS IN THE FUND HAVE BEEN OR WILL BE REGISTERED UNDER THE UNITED STATES SECURITIES ACT OF 1933, AS AMENDED. THE FUND HAS NOT BEEN, AND WILL NOT BE, REGISTERED UNDER THE UNITED STATES INVESTMENT COMPANY ACT OF 1940, AS AMENDED. NEITHER THE U.S. SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES ADMINISTRATOR HAS PASSED ON, OR ENDORSED, THE MERITS OF THE PROSPECTIVE INTERESTS IN THE FUND. THIS PRESENTATION IS BEING PROVIDED TO YOU ON A CONFIDENTIAL BASIS AND IS INTENDED SOLELY FOR THE INFORMATION OF THE PEOPLE TO WHOM IT IS BEING PRESENTED. ACCORDINGLY, THIS PRESENTATION MAY NOT BE REPRODUCED IN WHOLE OR IN PART AND MAY NOT BE DELIVERED TO ANY PERSON OUTSIDE THE RECIPIENT'S ORGANIZATION WITHOUT THE CONSENT OF THE FUND.

Skills Gap

Labor Market Not as Healthy as You Think

1. Decline in labor market participation



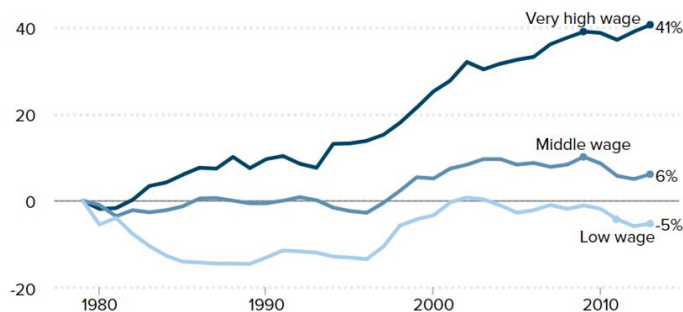
3. Employers unable to fill open jobs

6.7M job openings, nearly 3/4 middle or high skill



2. Wage stagnation

Cumulative change in real hourly wages of all workers, by wage percentile, 1979-2013



4. Diversity

- Top 75 tech firms: 2% African-American, 4% Latino, 30% women.
- Data science: 26% women

Skills Gap is Source of Major Challenges

1) "American Dream collapsing"

Rise in inequality, reduction in socioeconomic mobility.

2) "Democracy dying"

Sense that good jobs are out of reach leads to loss of hope, exacerbating opioid epidemic, rural/urban divide, and increasing political extremism.



3) "Falling behind China"

Diminished economic growth and competitiveness.

- Millions of workers needed in growing sectors like IT and healthcare.
- Technology about to make problem worse (repetitive processes that can be automated, will be automated)

Immigration Pressures Causing Gap to Grow



The H1B Visa Struggle: No Relief in Sight

Over the past 18 months, the Trump administration has been struggling with the H1B visa system. There is no relief in the vicinity.

Trump administration reconfirms intent to rescind H-4 rule on H1B visa spouses

PTI | Updated: Jun 15, 2018, 02:09 PM IST



A+



As per the notification published on Monday, the Department of Homeland Security is proposing to remove from its regulations certain H-4 spouses of H-1B nonimmigrants as a class of aliens eligible for employment authorisation.

The Trump administration has reconfirmed its intent to rescind the H-4 visa rule on employment authorisation to certain spouses of [H-1B visa](#) holders, a proposal that could hit tens of thousands of Indian women in the US.

The Trump administration is currently reviewing the H-1B visa policy that it thinks is being misused by companies to replace American workers.

The H1B visa is a non-immigrant visa that allows US companies to employ foreign workers in speciality occupations. The work visa is popular among Indian IT professionals.

services.com/pagead/acik?sa=1&ai=CakrMEI0W5m2...

Market Failure: Two Distinct Frictions

Education Friction

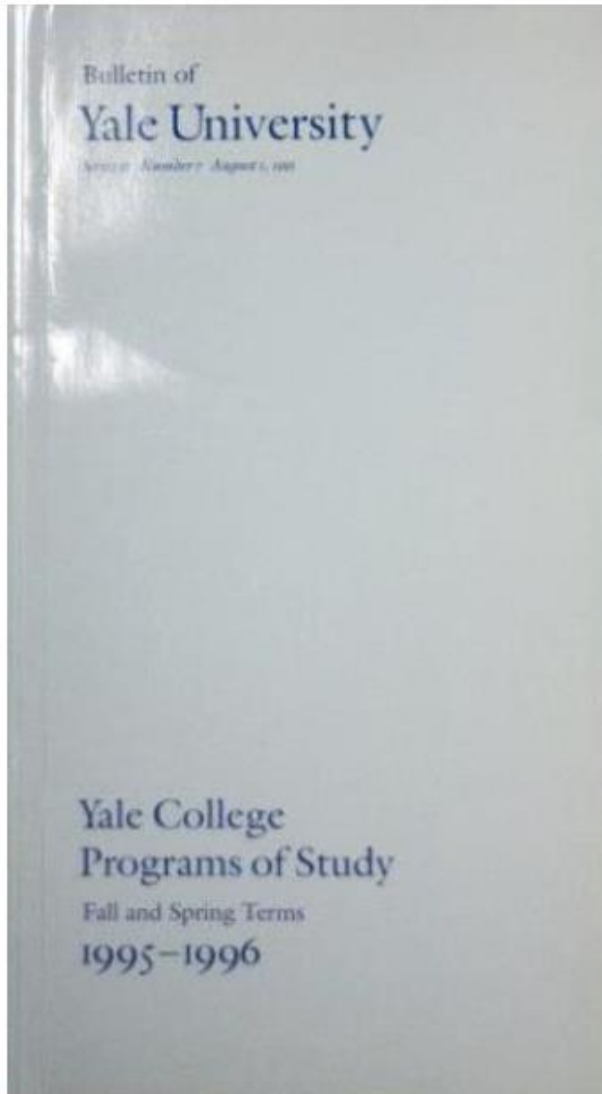
- Cost of tuition (crisis of college affordability)
- Risk of returning to classroom (older workers requiring upskilling/retraining)
- Time to completion (and risk that 'life will get in the way')
- Risk of employment outcome (crisis of employability)

Hiring Friction

- Vast majority of employers only want perfect candidates who have conclusively demonstrated they can do job (i.e., by doing it before)
- Candidates without direct experience increasingly viewed as high risk (risk of bad hire or churn)
- Made harder by increased importance of technical/digital skills, which few candidates have

America's Colleges and Universities

College: What's Not to Love?



A college education should “cultivate a broadly informed, highly disciplined intellect... [and provide] a phase of exploration, a place for the exercise of curiosity, and an opportunity for the discovery of new interests and abilities.”

Depth = Major

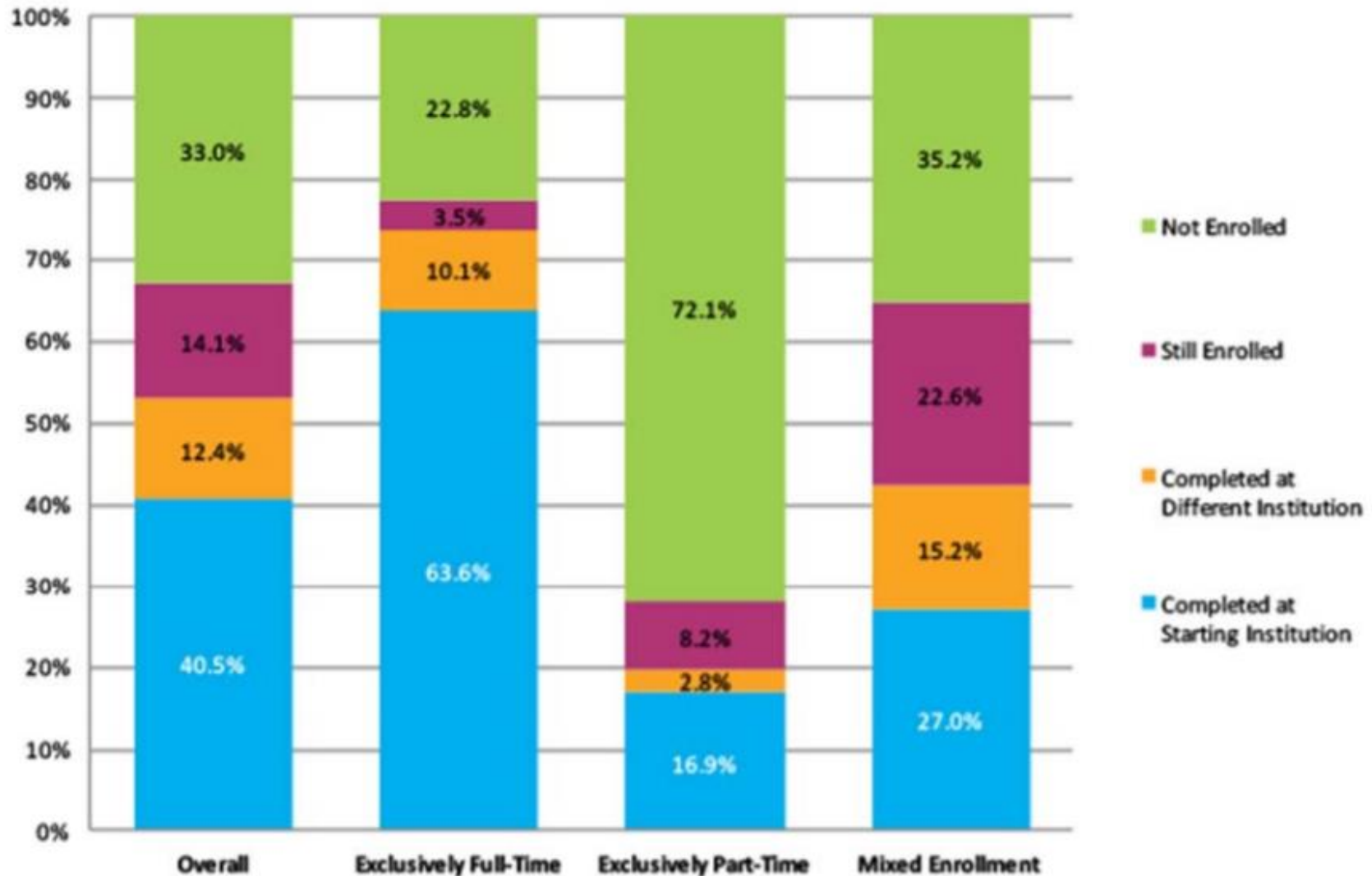
Breadth = Distributional requirements

- 1) Humanities and arts
- 2) Science
- 3) Social science
- 4) Foreign languages
- 5) Quantitative reasoning
- 6) Writing

Which Would be Fine if Students Graduated...



Six Years After Enrolling



Which Would be Fine if it Didn't Cost So Much



The New York Times

YOUR MONEY

Does God Want You to Spend \$300,000 for College?

Your Money

By RON LIEBER JUNE 23, 2017



Sobering Numbers

- Avg. \$37k per graduate who takes out loans
- Total \$1.4 trillion
- Grown over 800% per household since 1999.
- 12M borrowers in their 30s still owe avg. of \$34k.
- Nearly 1,500 colleges and universities where majority of students are making interest-only payments on their loans, or no payments at all.
- Only 57% current
- 8M of 44M in default
- 1M borrowers default for the first time each year.
- One third of borrowers graduating between '06 and '11 have defaulted.

“Stop Calling Millennials the Facebook Generation. They’re the Student Loan Generation.”

Unprecedented Unhappiness

Alumni

- Only half agree investment was good one (38% of younger alumni).
- 17% would have foregone college if they'd understood debt.
- Only 44% of currently enrolled students would attend same college again.
- 30% would sell an organ to get rid of debt.

Parents

- Only 21% say cost of college is justified.
- In 2005, majority of young adults in 35 states lived independently; now only true in 6 states.
- 76% of parents with adult kids at home say they'd pay \$24k to get them out.

Policy Makers

- “Too many Americans have come to believe that the pathway to a successful career lies solely on a college campus, and in a baccalaureate degree.” – Rep Virginia Foxx, Chairwoman of House Committee on Education and the Workforce.

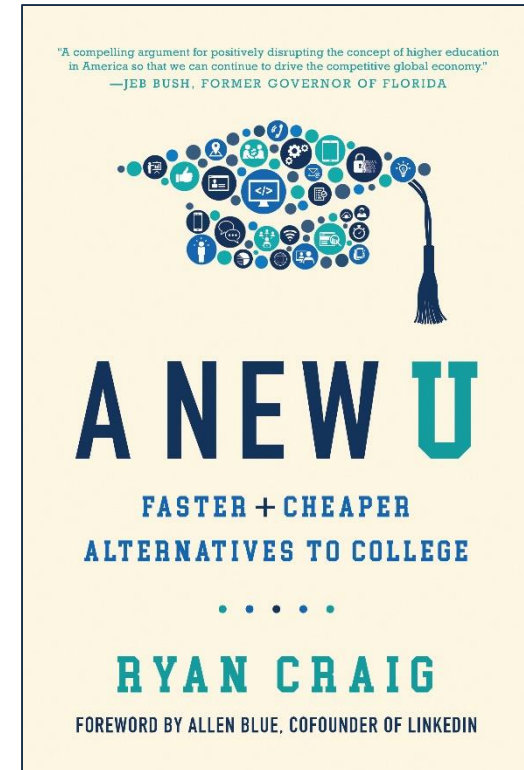
Millennials: The Cursed Generation

- Wealth
- Income
- Housing
- New business creation



Profile of Dropouts

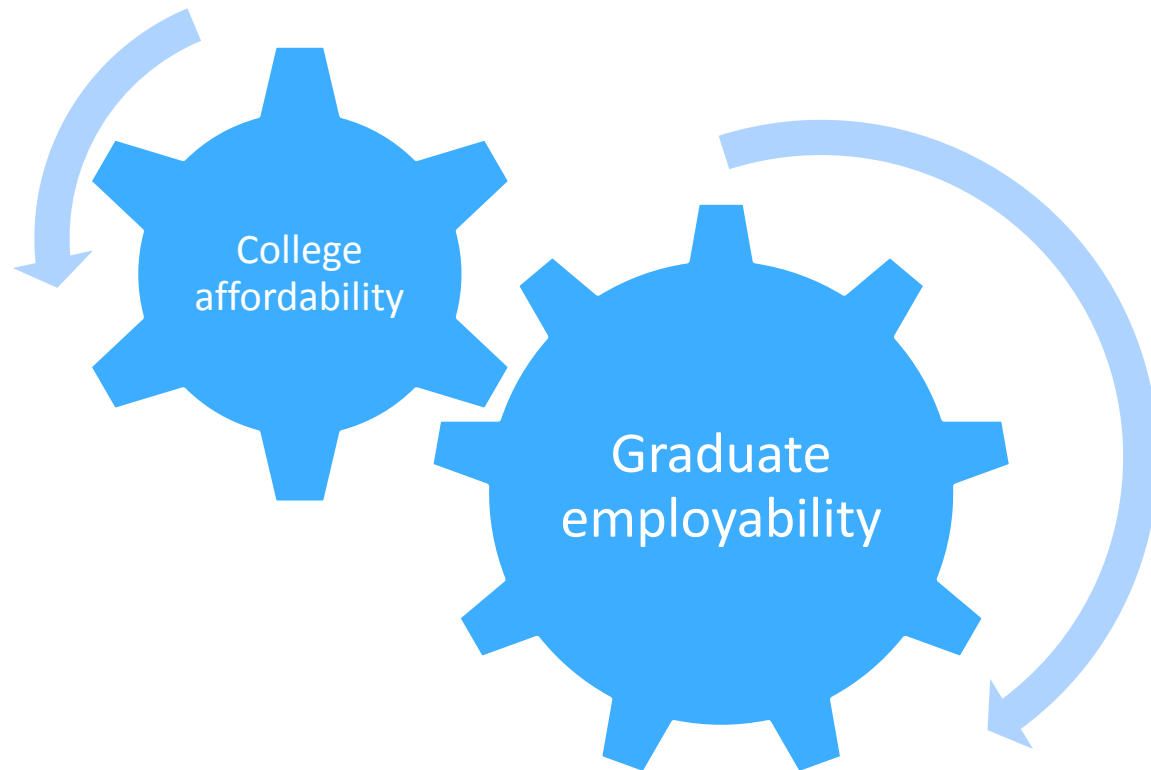
- **Simon Kim**
 - Completed two years of CC, then transferred to UC Merced
 - Dropped out when found some credits didn't transfer
- **Mark Anthony Robles**
 - Accepted to UCLA, but family health issue resulted in enrollment at local CC
 - Did not complete
- **Antony Pegues**
 - Did not get into desired program at CC, dropped out
- **Justin Marsh**
 - Enrolled at University of Illinois for computer science
 - Dropped out and made money playing poker online
- **Quinton Bolt**
 - Dropped out of computer science program at NW Mississippi CC



Graduated into Underemployment

- **Samantha Wolverton**
 - George Mason international relations with minor in software engineering; worked in restaurant for a year after graduating
- **Christina DiMartino**
 - Mediocre grades in high school, then worked as waitress
 - Enrolled in business program at community college, dropped out
 - Attended for-profit college, got low-paying job as medical assistant
- **Morgan Combs**
 - Degree in psychology, then worked in restaurant
- **Yasmine Sadid**
 - Kent State computer science; best job was as realtor's assistant
- **Wendy Pei**
 - Graduated from SF State, then worked in restaurants and retail for a decade
- **Jeffrey King**
 - Completed AA degree at CC, then worked as a waiter
 - Returned to UNLV to earn degree in actuarial sciences, still couldn't get a job

Twin Crises Lead to Poor Economic Outcomes



College Not Keeping Up With Digital Economy

THE CHRONICLE OF HIGHER EDUCATION

CURRICULUM



How to Revamp a Curriculum Quickly — but Not Too Quickly

Those conditions can pose a trap for well-meaning administrators and faculty members. Work-force demand can lead some institutions to teach students the skills needed for today's entry-level jobs. But those tools may well be obsolete five or 10 years from now



Sara Goldrick-Rab  @saragoldrickrab · Jun 5

Sorry, that isn't a shared goal. It is a questionable goal, in fact.

Ryan Craig @ryancraiguv

Replying to @djvanness

Thanks for your comment. How does faculty governance get us closer to the shared goal of better aligning curricula with labor market needs?



Career Services: A Poor Interface

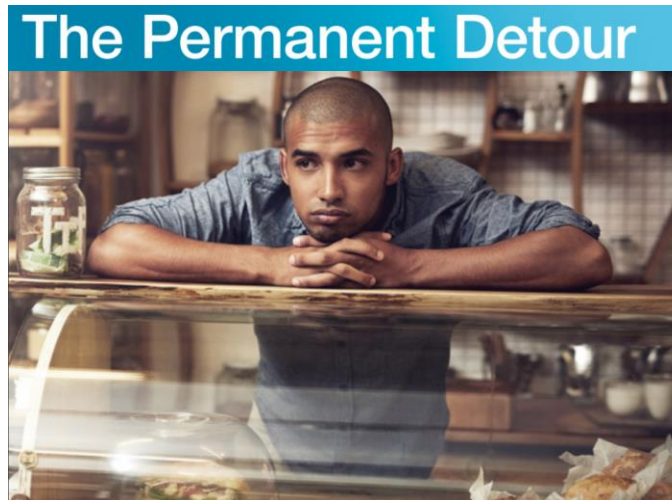


“Career services must die”
- Andy Chan, VP Career Dev't at Wake Forest

Since the Recession, colleges and universities have cut spending on career services by 11.4%.

Crisis of Underemployment

- Not unemployment, as student loans causing graduates to take first job that allows them to make loan payments.
- But “underemployment”:
 - Federal Reserve Bank of NY estimate: 45% of new college grads are underemployed.
 - Nearly 5M working part-time, would like full-time
 - Underemployed earn \$10k less p.a.
 - Strada/Burning Glass finds pernicious persistence: 2/3 are still underemployed after 5 years, and 1/2 after 10 years.



Most Significant Change in Higher Education



- Only ~50% of matriculating students reported that their primary or sole motivation for commencing postsecondary education was employment/income related.



2018

- 90%+ report primary or sole motivation is employment/income related.

Other Reason for the Employment Imperative



≡ COSMOPOLITAN

10 Reasons Why You Shouldn't Freak Out if You're Graduating Without a Job

You are so not alone.

But Not Entirely Higher Education's Fault: Mechanics of Hiring Have Changed



ORACLE®
Taleo 

How Not to Get a Job

The New York Times

Opinion | OP-ED CONTRIBUTOR

By ALLAN RIPP JULY 7, 2017

What do a fragrance designer, New York City cop, bed-and-breakfast manager and youth hockey coach have in common?

Each of them recently applied for an account director position at my public relations firm, along with 500 others whose experience and skill sets ranged from vaguely on-point to off-the-charts irrelevant. Auto collections manager? Home health aide? Visual merchandiser? Count them all in.

It's not that my postings on Indeed, LinkedIn and other career sites weren't explicit in outlining desired qualifications. I added instructions urging candidates to contact us only if they had backgrounds in journalism, P.R. or law. There was nothing to suggest I was looking for a fiscal benefits analyst, emergency medical technician or brand ambassador, but they showed up anyway.

In part, the disconnect stems from a revved-up labor market that encourages job hopping and inflated credentials. It also reflects the vast online jobs marketplace, where restless applicants shoot off their résumés like one of those T-shirt cannons at a football stadium, firing without aiming. Not a single candidate bothered to look us up and refer to what we do in the cover note. Instead, they all invoked grand boilerplate statements meant to impress the hiring gods.

Here's how one actress stated her case: "Not only do I believe in Ripp Media's ability to deliver human and intuitive touchpoints through physical and technological interaction, but I can contribute to this strategic investment for the modern enterprise by bringing my diverse experiences ..." It was like reading Mad Libs.



Why Are Employment Outcomes Worse?

Proliferation of Technical Skills

Career Area	Technical Skills Specified	Cognitive and Soft Skills Specified
Information Technology	75%	25%
Healthcare	74%	26%
Engineering	71%	29%
Life/Physical Science and Math	68%	32%
Manufacturing and Production	68%	32%
Design, Media, and Writing	66%	34%
Research, Planning, and Analysis	65%	35%
Personal Care and Services	63%	37%
Finance	62%	38%
Marketing and Public Relations	62%	38%
Management and Operations	61%	39%
Education and Human Services	60%	40%
Hospitality, Food, and Tourism	59%	41%
Sales	59%	41%
Human Resources	57%	43%
Clerical and Administrative	57%	43%
Customer and Client Support	49%	51%

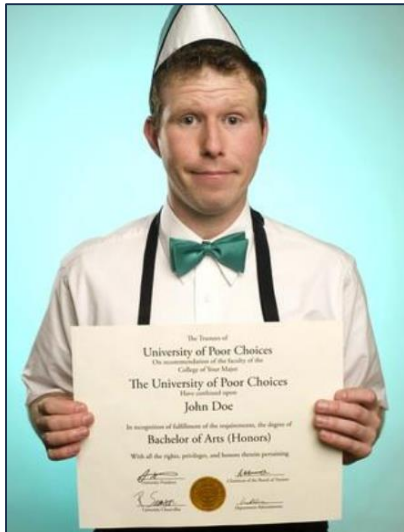
What Are These Technical Skills?



Employers Aren't Seeing These Skills



Degree Inflation

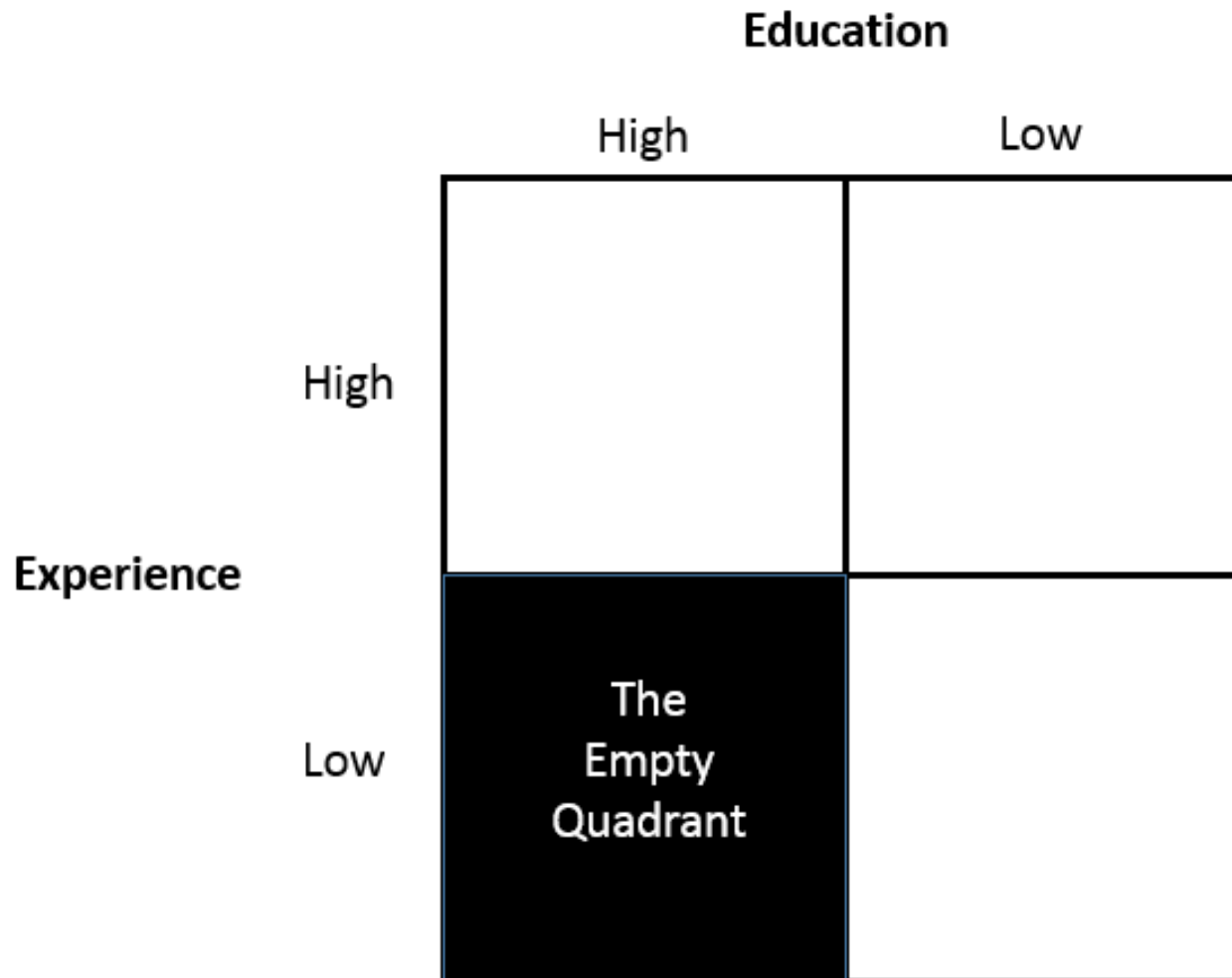


Experience Inflation

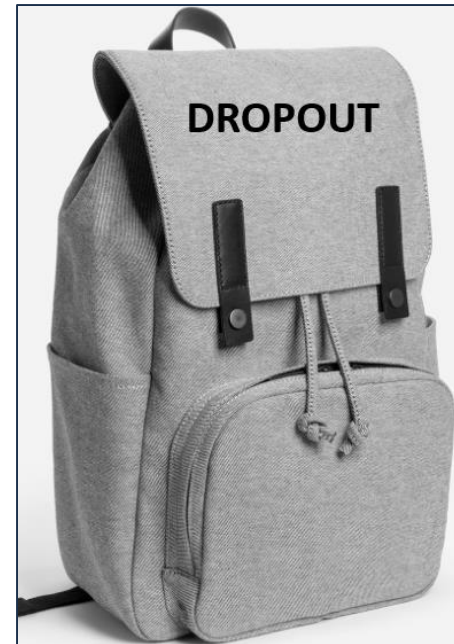


Unfilled Jobs

The Empty Quadrant



Reactions



**INSIDE
HIGHER ED**

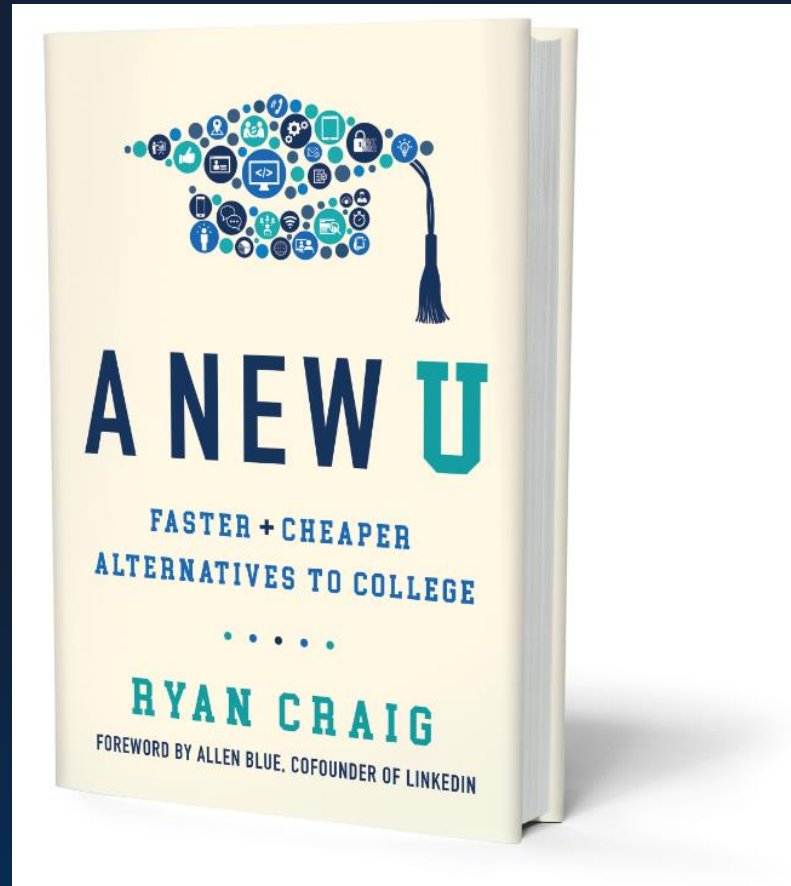
The 2017 Survey of Admissions Directors: Pressure All Around

Only 34 percent of colleges met new student enrollment targets this year by May 1, the traditional date by which most institutions hope to have a class set.

That is a key finding of the [2017 Survey of College and University Admissions Directors](#), released today by *Inside Higher Ed*, in collaboration with Gallup.

The 34 percent figure is down from 37 percent [a year ago](#) and 42 percent two years ago.

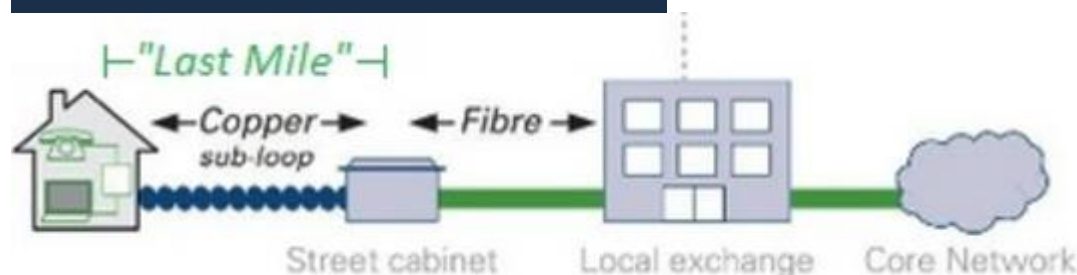
Alternative Models



Last-Mile Training



Borrowed from Telephony



- Hardest + most expensive to build
- Therefore most valuable segment
- Basis for natural monopoly

Talent Market Correlation



1. Digital training

- Minimum: Ensures candidate no longer filtered out of ATS
- Maximum: Offers training and experience on exact SaaS platforms employers utilize



2. Soft-skills training

- Real project work in work-like setting furthers teamwork, communication, organization skills
- Interview preparation and training



3. Absorbing frictions

- Absorb education frictions by eliminating upfront tuition and guaranteeing employment outcome
- Absorb hiring frictions by funding training + providing employers with opportunity to try before they hire

Design Thinking Cure for Labor Market Ailments



90%+

Primary/sole
motivation to pursue
postsecondary
education is
job/income



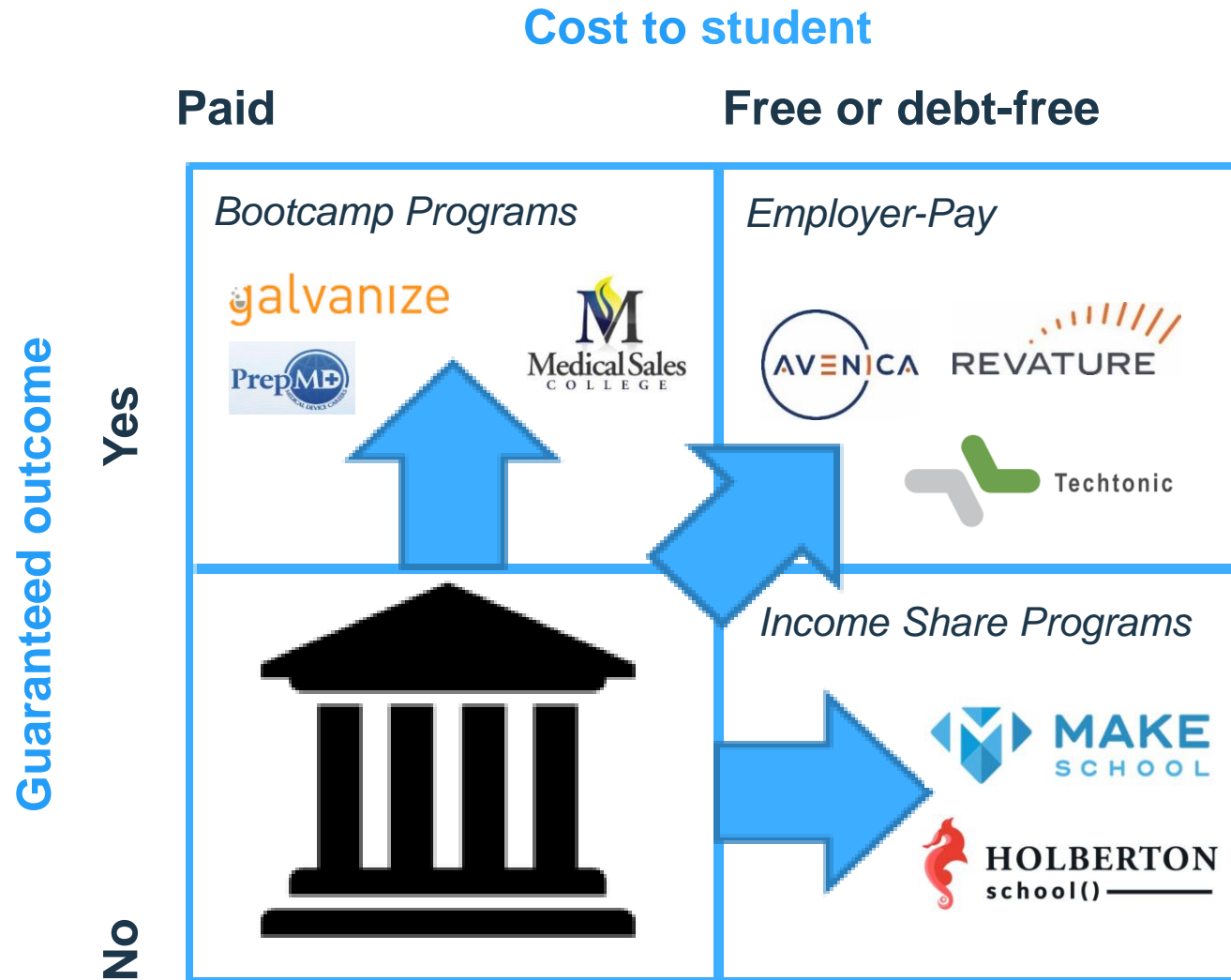
Students no longer buy
tired line that college
prepares you for your
5th job.
1st job is key.



Start with
1st job
Build backwards
from there

- **Historically, our approach to postsecondary education has been to build forward from K-12**
- **Design thinking requires that we begin building backwards from good first jobs in growing sectors of the economy**
- **Most critical for students who are at greatest socioeconomic risk**

LMT Can Provide Better Value to Students



LMT Can Eliminate Frictions



Value Proposition to Clients

Changing The Way The World Hires

Our proprietary talent development and delivery program takes the unpredictability out of securing the right people while eliminating wasted efforts, time and money in the process.



Recruit

We're selective about our technology talent, recruiting the top 1% from colleges and universities throughout the country.



Develop

Through our intensive coding immersion programs, we turn web developers into world-class software engineers.



Deploy

We deliver job-ready technology talent fast, cutting down onboarding time so you can focus on your project's success.



Hire

Our talent seamlessly integrates with existing technology teams so well that they end up being hired by clients.

Value Proposition to Students

Why Revature?

At Revature, it's more than a job—we provide careers in technology. Our program gives you the next-gen skills needed to work at top companies, on projects that make a difference. Gaining the tools you need to be successful starts here.

[APPLY NOW >](#)

1 Work with relevant technologies

You work intensively with enterprise-level technologies that companies are using today—as well as next-gen and niche technologies that are shaping the future of business.



4 Showcase your talents

You can develop a comprehensive online portfolio that showcases your projects, skills, experience, certifications, academic coursework, and more—equating them to actual industry experience.



5 Start your technology career faster

Our intensive program gives you the leading-edge, enterprise-level technology skills businesses need in as little as 12 weeks. Our software engineers are in demand across the country.



6 Work with top companies

Revature software engineers work at some of the top companies in the country on projects that are making a difference.

- Free 10-12-week bootcamp program
- Hired from day 1, apprentice wage
- 2-year commitment, relocate to client site
- Pathway to first job, and probably second



University of Missouri



LMT Produces Good Outcomes for Students



"Training on **technologies that are actually used** in entry-level development jobs. The software engineering minor in college taught me the basics of only one programming language. In this job, I get way more **experience and in-depth understanding** of the programs we use. Revature trained me on most of the skills and technologies I actually use in my job."

Samantha Wolverton,
George Mason '16, Revature '17



"In university, **there was no talk of frameworks**. We learned how to write everything out from scratch. But at a job, there's no need to do that because someone's already done it. **Revature got me the job I wanted, because clearly my degree wasn't enough.**"

Yasmine Sadid,
Kent State '14, Revature '16

- **Diversity in IT hiring also valuable to clients**
- **Revature has recruited and launched all-female cohorts and all-Puerto Rican cohorts**

LMT Means Renaissance of Apprenticeships in U.S.



Central European Model: Gov't-industry collaboration

- Clear link to funding
- But impossible to replicate in other countries



UK Model: Apprenticeship Service Providers



Making Apprenticeships Work BY RYAN CRAIG AND TOM BEWICK

- Intermediaries sell to employers + manage, "hiding the wiring" for apprentices and employers
- But doesn't solve the fact that few employers are excited to have large #s of apprentices hanging around



American Model: Outsourced Apprenticeships



Techtonic Group raises \$2 million to transform tech hiring through apprenticeships

- Service providers sell + manage
- They also host apprentices until employer-clients are ready to hire based on proven work
- Relevant to any skill gap area where services are outsourced

Techtonic: Dev Shop + Registered Apprenticeship



(Boulder County Workforce, Arapahoe County Workforce, Jefferson County Workforce, Colorado Technology Association, Denver Workforce, Technology Employment in Colorado Partnership, Colorado Department of Labor and Employment (CDLE) and various non-profits)



Recruit

- Recruit candidates for apprenticeship program based on potential, not pedigree or degree.
- Candidates come through CO WIBs (75 different contacts), but selective (500 applicants per cohort).



Train

- 12-week Academy.
- Classes + paired programming.
- WIBs fund up to \$10k per trainee (separate deals with eight CO WIBs).
- Apprentices paid \$15 per hour.
- \$500,000 grant from CDLE in 2017.



Deploy

- By week 5 or 6, working on project and billing hours.
- Billing based on work, but up to \$100 per hour.



Hire

- After 1,000 hours, clients can hire apprentices at no additional cost.
- Apprentices have been working on teams with clients, thereby eliminating hiring friction.

Value Proposition to Clients



1. Novel supply of talent

- Entry-level
- Diverse
- Purpose-trained
- No hiring friction (worked with resource virtually and in person)
- Outsourced apprenticeship program

2. Dev work

- Complete important dev projects
- Local team
- Competitive pricing

Education-Up vs. Employer-Down



Until now, all efforts to close the skills gap have been “Education-Up”:

Hope employers
hire grads

- Deliver curriculum

- Develop curriculum

- Determine missing skills

“Employer-Down” starts with intermediaries that already have relationships with dozens or hundreds of employers

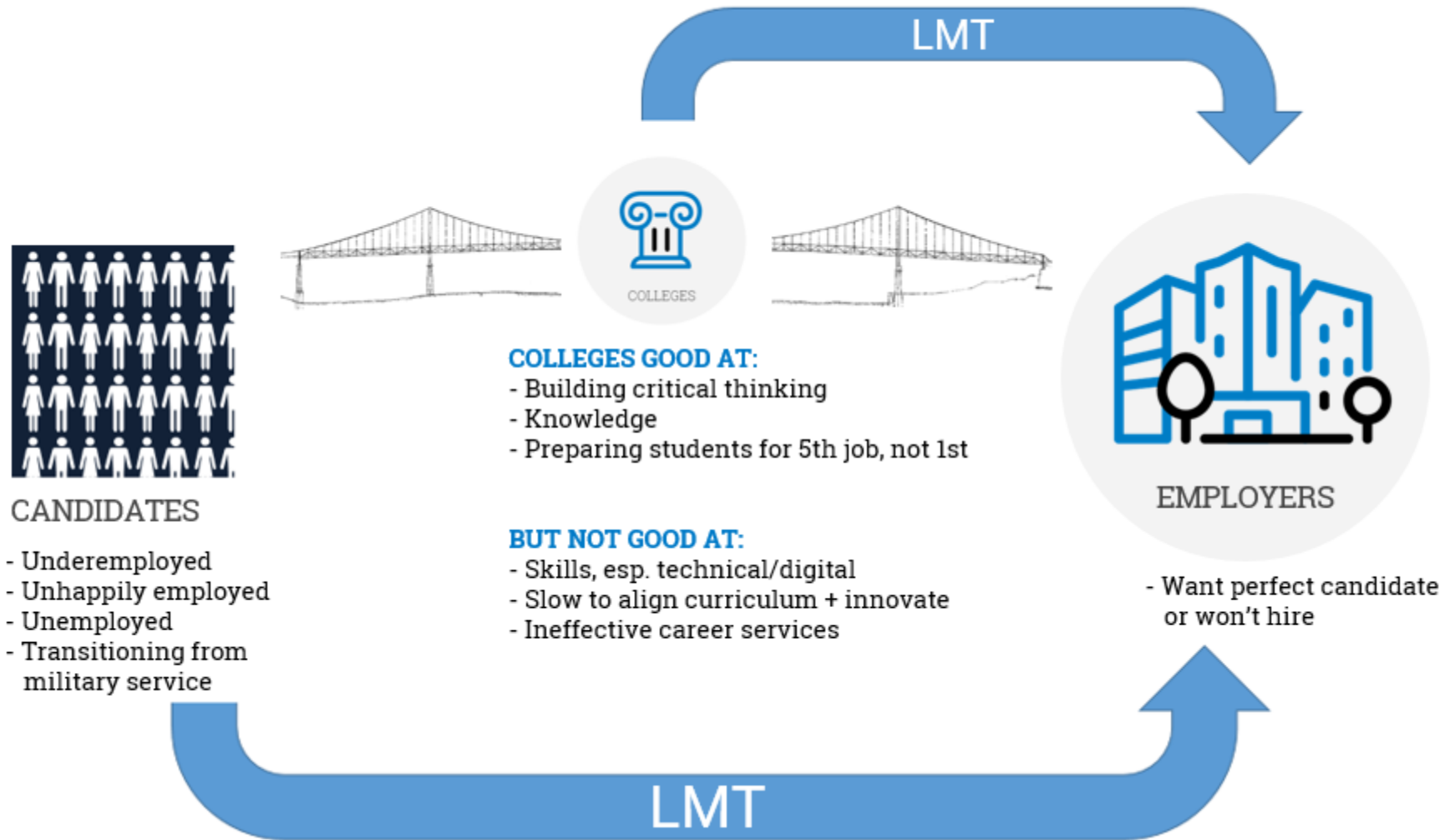
Staffing or business
services company

- Consult with clients on needed skills

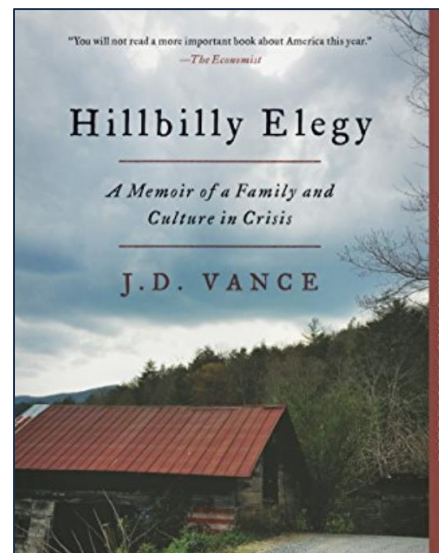
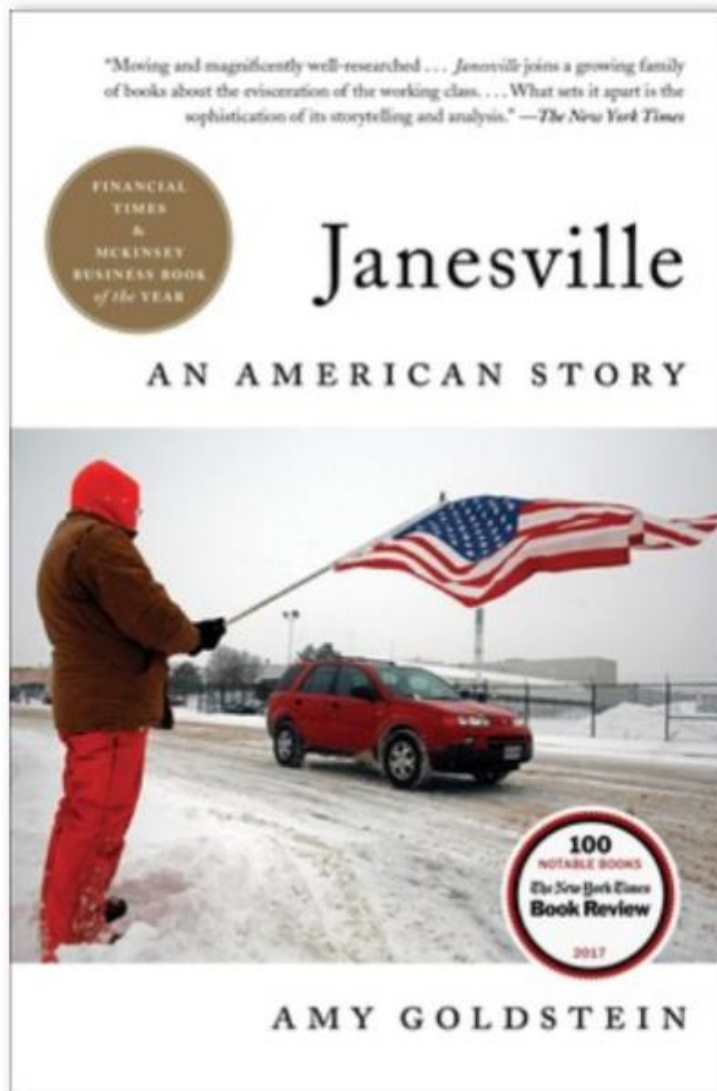
- Build LMT into model

- Allow clients to try before they buy

LMT Can Help Bridge Skills Gap



Should College Classrooms be the Only Path?

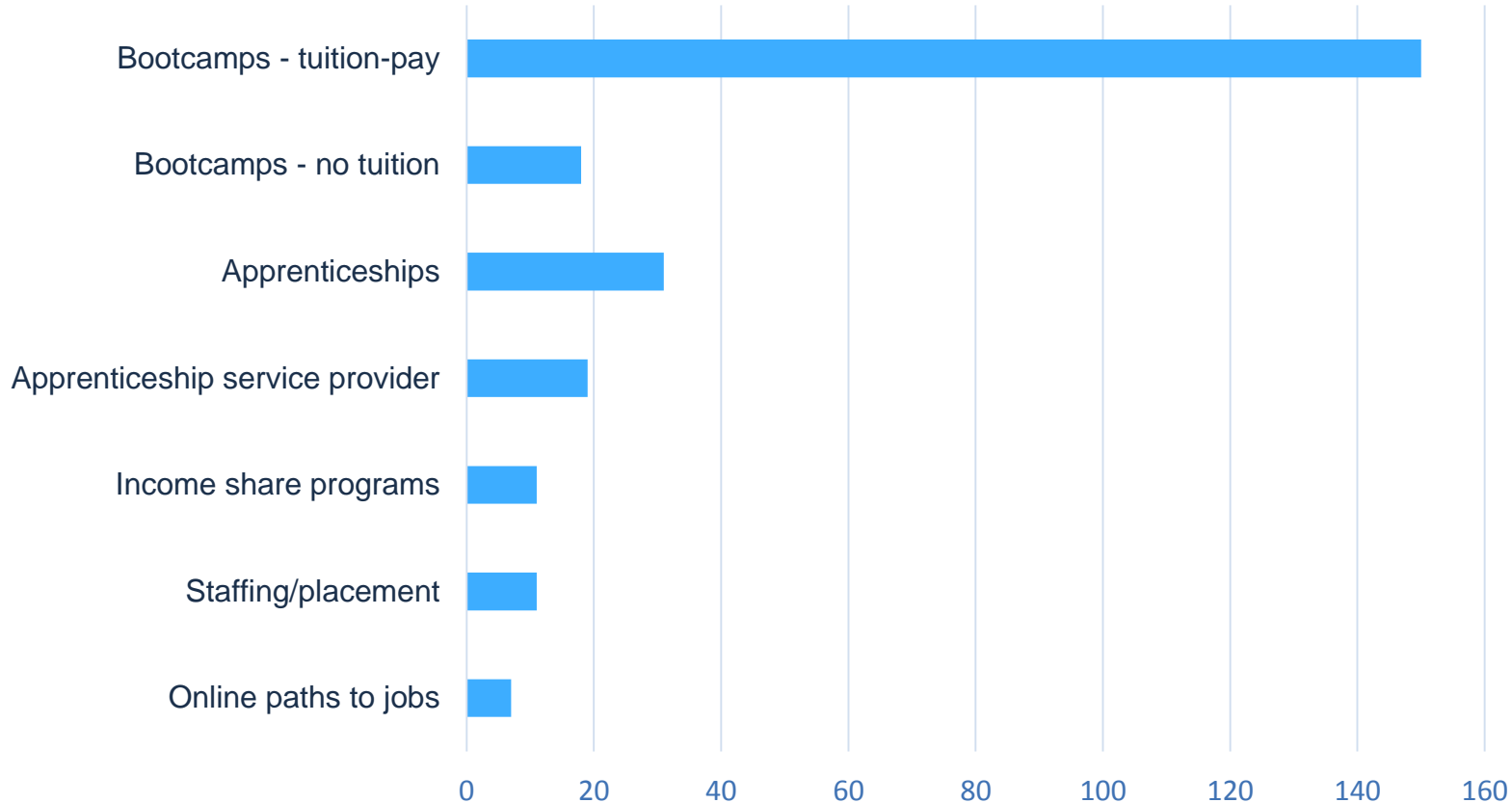


"It's like our politicians think college is the only way... For many, it's great. But a lot of our kids have no realistic shot of getting a college degree."

Faster + Cheaper Directory



247 faster + cheaper pathways to digital/new economy jobs



The Problem With Welders



As Supply of Faster + Cheaper
Pathways Grows...

Finally, a Real Choice



	Non-selective college	Selective college
Affordable		
Unaffordable		

Rule of 10 Becomes Operative Rule



A Benchmark for Making College Affordable

The Rule of 10

Students should pay no more for college than the savings their families have generated through 10 percent of discretionary income for the past 10 years, plus the earnings from working 10 hours a week while in school.

Example #1

- Household income of \$100k
- Save \$429/month for a decade, or \$51,500
- \$3,625 annually for working 10 hours per week
- Total contribution (incl. loans) < \$65k.

Example #2

- Household income of \$50k
- Save \$1,500 over a decade
- \$3,625 annually for working 10 hours per week
- Total contribution (incl. loans) < \$16k.

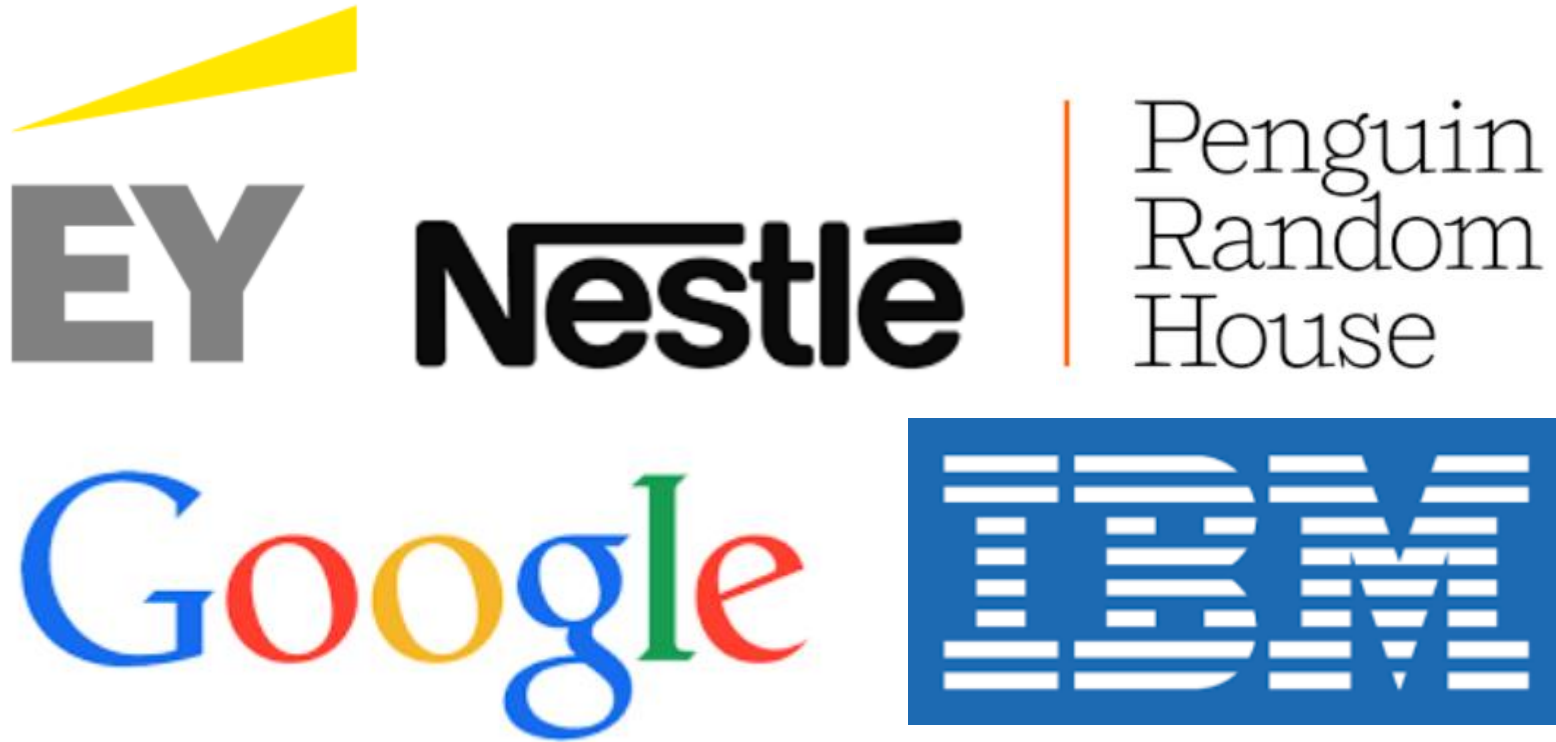
Tipping Point for Millennials



“The message we send is, this isn’t your father’s credit card. For Millennials, travel might mean taking an Uber to a hole-in-the-wall restaurant in Chinatown, and then riding the subway to karaoke, and then catching a taxi home. So we’re going to give you accelerated travel points on all that. This is a card for accumulating experiences.”

“An Amex says you’re rich, but [Sapphire Reserve] says you’re interesting.”

Leading Employers Already Open-Minded



71% of employers say they would consider hiring a candidate without a degree over someone with a degree.

A Decade from Now...



The fact that young people were encouraged to load up on debt just as they were starting their careers will seem bizarre and anachronistic – a practice that benefited providers of higher education more than the Millennials they aimed to serve.

In hindsight, given all the uncertainty around technological change and the future of work, it will seem incredible that Millennials risked taking on all that debt at one time, at such a young age.

What SaaS Has Done to Enterprise Software...



Adobe® Creative Cloud

SaaS MODEL

One-time purchase



Customer for life

In Faster + Cheaper World, Have We Passed “Peak Credential”



Second, third employers care more about first job and demonstrable achievements and competencies.

- More likely in world where achievements and competencies are archived and accessible digitally

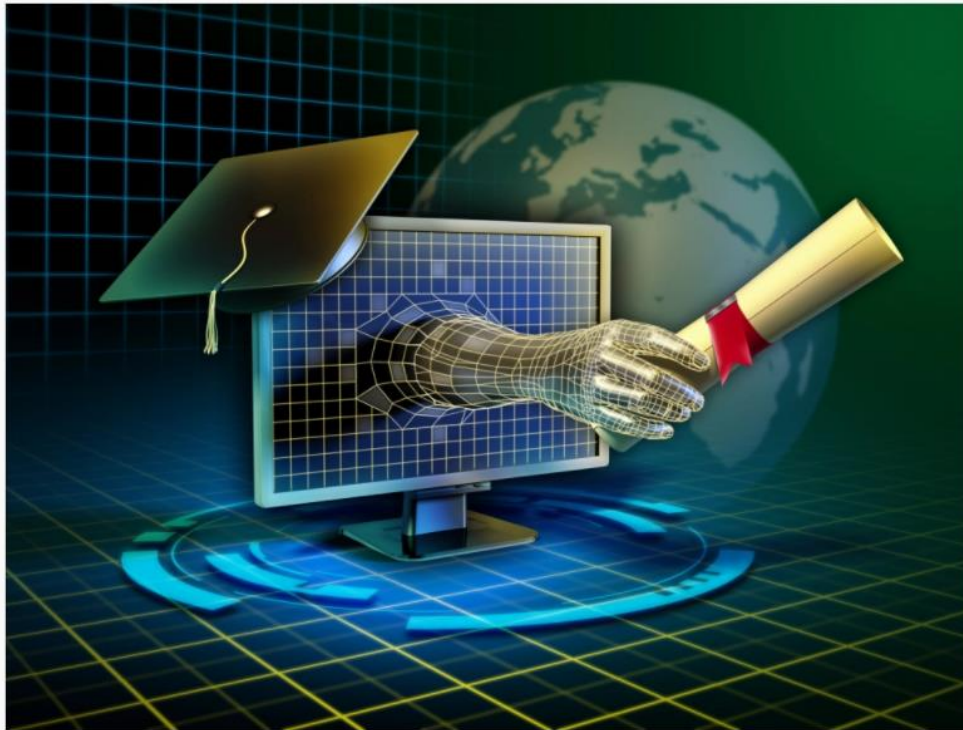
Demonstrating Competencies



CRUNCH NETWORK

The technology of higher education

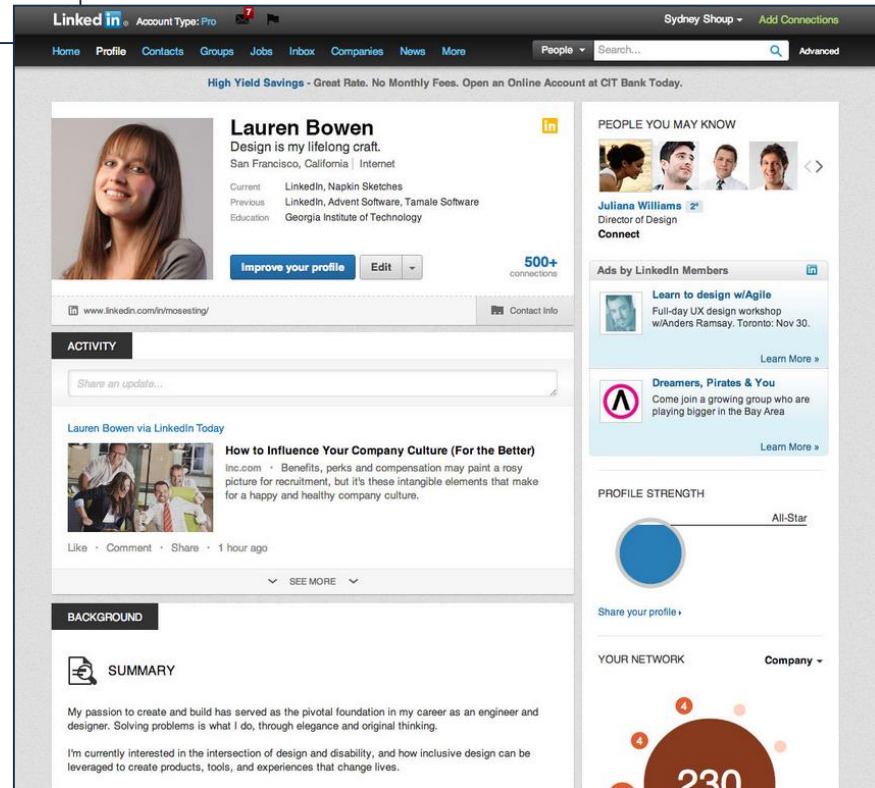
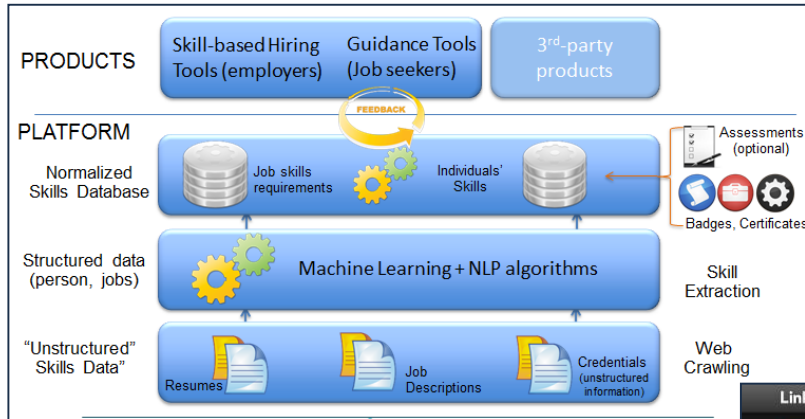
Posted Jun 28, 2016 by [Ryan Craig \(@ryanraigUV\)](#)



Portfolium



Competency Marketplaces



Plausible Strategies for Non-Selective Colleges



1. Faster degrees (off-ramps)
2. Cheaper degrees (WGU)
3. Secondary and tertiary programs to boost cognitive and non-cognitive skills
 - Ceding pathway to first job to F&C competitors
 - Crucial for educated citizenry and economic competitiveness
 - Harness innovation in graduate and professional education

Secondary and Tertiary Pathways

- Unbundled master's and professional degrees with focus on building cognitive and soft skills for specific job function and/or industry.
- More confident that colleges and universities will rise to occasion, because of more innovation and entrepreneurship in graduate and professional schools.

Many Degrees Will Go Way Of Debutantes



- Expensive
- Elitist
- ROI?

University Ventures

303 Spring Street
New York, NY 10030
(212) 202-3100

www.universityventures.com