



American Revolution 2.0

How Education Innovation is Going to Revitalize America and Transform the U.S. Economy

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Michael T. Moe, CFA

Matthew P. Hanson, CFA

Li Jiang

Luben Pampoulov

In collaboration with GSV Advisors



Deborah Quazzo
Michael Cohn
Jason Horne
Patrick Shelton

Special Advisor Michael Horn, Innosight Institute
Contributor Sara Leslie
Contributor Candlestick Research

We would also like to honor and celebrate the lives of **Stephen Covey** (1932-2012), an educator and author whose work has influenced millions around the world and **Sally Ride** (1951-2012), a professor and the youngest and first female American astronaut to ever be launched into space.

We thank the pioneers who paved the path and serve as an inspiration for all of us.

For additional information, please contact Michael Moe, Deborah Quazzo or Matthew Hanson.

Contact	Email	Phone
Michael Moe	mmoe@gsvam.com	650-235-4780
Assistant: Debbie Elsen	delsen@gsvam.com	650-235-4774
Deborah Quazzo	dquazzo@gsvadvisors.com	312-397-0070
Assistant: Kerry Rodeghero	kerry@gsvadvisors.com	312-397-0071
Matthew Hanson	mhanson@gsvam.com	312-339-4967

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Knowledge Troops - Learning by Numbers

United States

- ▶ 77 million students are enrolled in school, which represents 27% of total population
- ▶ 20 million are enrolled in postsecondary education
- ▶ 49 million are enrolled in public PreK-12
- ▶ 6 million are enrolled in private PreK-12
- ▶ Over 2 million enrolled in charter schools
- ▶ 7.2 million total teachers, with about 1.7 million in postsecondary
- ▶ 98,817 public schools and 17,916 total school districts
- ▶ 33,366 private schools
- ▶ 5,600 charter schools and 180 virtual charter schools
- ▶ Over 6 million students took at least one online course

Around the World

- ▶ 655 million students in primary school
- ▶ 781 million students in secondary school
- ▶ 608 million students in higher education
- ▶ 78 million teachers in the world
- ▶ 26% of the world's population is under the age of 15
- ▶ Top 5 languages in the world, total speakers:
 1. Mandarin Chinese: 1.3 billion
 2. English: 1.0 billion
 3. Spanish: 500 million
 4. Hindi: 490 million
 5. Arabic: 255 million

Battle Budget - Market Size and Growth Rates¹

(\$ in billions)

Knowledge Industry	Market Size (2013)	Market Size (2016)	Market Size (2018)	2013-2018 Growth (CAGR)
United States Market Size				
US Education Expenditure	\$1,481	\$1,696	\$1,857	5%
Pre-K and Child Care	\$82	\$98	\$110	6%
K-12	\$720	\$810	\$876	4%
Postsecondary	\$604	\$699	\$771	5%
Corporate & Lifelong Learning	\$75	\$89	\$100	6%
Government Spending on Education	\$941	\$1,058	\$1,145	4%
eLearning	\$56	\$85	\$113	15%
K-12 eLearning	\$4	\$7	\$10	20%
Higher Ed eLearning	\$25	\$41	\$57	18%
Corporate eLearning	\$27	\$37	\$46	11%
For-Profit Postsecondary	\$25	\$33	\$40	10%
Postsecondary LMS	\$1	\$2	\$2	15%
Textbooks	\$11	\$12	\$13	3%
eTextbook	\$1	\$2	\$5	50%
Test Prep / Tutoring / Counseling	\$11	\$12	\$13	3%
Charter Schools	\$16	\$22	\$27	11%
Social Learning / Communities	\$5	\$6	\$7	6%
Global Market Size				
Global Education Expenditure	\$4,556	\$5,574	\$6,379	7%
Pre-K and Child Care	\$245	\$318	\$377	9%
K-12	\$2,385	\$2,841	\$3,192	6%
Postsecondary	\$1,631	\$2,054	\$2,396	8%
Corporate & Lifelong Learning	\$295	\$361	\$414	7%
eLearning	\$85	\$129	\$171	15%
K-12 eLearning	\$10	\$20	\$31	25%
Higher Ed eLearning	\$35	\$60	\$87	20%
Corporate eLearning	\$40	\$49	\$53	6%
For-Profit Postsecondary	\$41	\$52	\$60	8%
Postsecondary LMS	\$4	\$5	\$6	10%
Postsecondary Textbooks	\$17	\$19	\$20	3%
Social Learning / Communities	\$10	\$14	\$18	12%
Mobile Learning	\$5	\$9	\$13	22%
Edu Gaming	\$6	\$12	\$18	25%
Global IT Spending	\$70	\$79	\$85	4%
Global Language Learning	\$60	\$84	\$106	12%
Global English Language Learning	\$40	\$61	\$80	15%
Test Prep / Tutoring / Counseling	\$60	\$84	\$106	12%
For-Profit	\$329	\$438	\$530	10%

**For-Profit: our recommendation is to remove the labels of "for-profit" and "not-for-profit" in education; however, we use them in this context to discuss traditional categorizations for market sizing purposes.*

¹ GSV Asset Management and Candlestick Research, 2013.

Shock and Awe

United States PreK-12 Education to College Readiness

- In 4th grade, American students scored above the international average in mathematics. By 8th grade, they dropped below the international average, and by 12th grade, they only outscored South Africa and Cyprus.
- By age 4, there is an 18-month academic gap between an impoverished child and his wealthier peers.
- 4 out of 100 kindergarteners entering KIPP Ascend in Chicago in 2010 were able to recognize numbers or letters. By the end of the school year, 94% were reading at a 1st grade level or higher.
- 6 out of 10 low-income fourth graders in the U.S. cannot do math at grade level.
- Pre-Katrina, 35% of students in New Orleans Public Schools were performing at grade level. In 2011, that number was 56%.
- Before Katrina, 22% of New Orleans Public Schools were “academically acceptable”. In 2011, 51% were, and that’s expected to reach 92% by 2016.
- In 2009, 99% of public school parents in New Orleans believed that school choice was important.
- In 2010, over 90% of New Orleans Public School students were in charter schools.
- In 1970, 10% of California’s budget went to higher education and 3% to prisons. In 2010, 11% went to prisons and 8% to higher education.
- Only 25% of high school graduates in 2011 met all 4 ACT college-readiness benchmarks. 41% of graduating Asians and 4% of African-Americans met all 4 benchmarks.
- In 2012, only 1 of 4 graduating seniors were prepared for college coursework.
- 75% of high school seniors were unfamiliar with basic facts about American government.
- 22% of all public high school students in the US don’t graduate on time, and 32% of the 78% that do graduate aren’t college-ready.
- A U.S. high school student drops out every 26 seconds.

- Each dropout costs the nation about \$292,000 in lost earnings, taxes and productivity over a lifetime.
- Each dropout class costs the nation \$325 billion in lost contributions, which is equal to the combined GDP of Kansas, Utah, Nebraska, and Alaska every year.
- The number of teachers in the US has more than tripled since the 1950's, almost cutting the student-teacher ratio in half.
- More than a third of math teachers don't have a degree in math.
- In 2012, TFA was the leading employer at 55 colleges and universities, and 9% of graduating seniors at Ivy League colleges applied.
- In 2012, 38% of TFA corp members are racial minorities (person of color).
- In 2012, TFA had over 48,000 applicants, and 17% were admitted. 5,800 first-year corps members will begin teaching in the 2012-13 school year, bringing the overall corps size to 10,400 teachers.
- Two-thirds of nearly 28,000 Teach For America alumni remain in the Education sector.
- In 2000, 45,000 K-12 students participated in online learning. In 2010, 3 million did.
- Today, Washington, D.C. Public Schools (DCPS) spends over \$29,000 per student.
- The Department of Education found that students in online conditions did as well or better than those learning through face-to-face instruction.
- Over the last 40 years, upper-income parents have increased the amount they spend on enrichment activities for their kids by \$5,300 annually while lower classes have increased their investment by only \$480 annually.
- Spending per student has tripled since 1970 and doubled since 1980 but achievement levels have stayed the same.

From College Completion to Career Readiness

- 30% of incoming freshmen in the US are first generation college students, and 24% - 4.5 million – are low-income.

- 1.7 million college students need remedial classes each year. 50% of students entering two-year universities and 20% of those entering four-year universities take at least one remedial class.
- 600,000 college freshmen take calculus. 250,000 fail. Assuming a cost of \$2,000 per course, this amounts to \$500 million spent with zero return.
- The average graduation rate of the 7 schools that make up the City Colleges of Chicago is 10%.
- 67% of entering freshmen in the class of 2010 at the 200 most selective colleges came from the top income quartile; only 15% came from the bottom half.
- The gap in SAT scores between low-income and high-income students has widened about 40% in the past 40 years.
- 70% of students who enter community colleges in the US do not graduate.
- In two-year programs, 60% of students at for-profit colleges graduate while only 22% in public two-year schools graduate.
- 90% of the fastest growing jobs in the economy require a college degree.
- 54% of recent college graduates don't have jobs or work jobs that don't require a college degree.
- 66% of college graduates cannot reliably compare 2 editorials or compute the cost of purchasing office goods.
- 75% of US citizens ages of 17 to 24 are not qualified to join the military because they are physically unfit, have criminal records, or don't have a high enough level of education.
- Of all applicants to the U.S. Special Forces, 66% did not score well enough on the General Technical Exam to qualify, and that number is 86% for African-Americans and 79% for Hispanics.
- Members of the Class of 2009 graduated with an average of \$24,000 in student loan debt and \$4,000 in credit card debt spread amongst 4.6 credit cards.
- 30% of college students with loans drop out without a degree.
- 3 of 10 students with loans are in default.

- The majority of students with loans take 5 or 6 years to complete their degree, thus increasing their debt by as much as 50%.
- Today, 30% of American adults have a college degree, but 80% of jobs require a college education.
- 63% of life science and aerospace firms in the US report a shortage of qualified workers.
- The US ranks 1st for adults 55-65 with degrees, but 8th for 25-35 year olds.
- A college graduate will earn an average of \$1 million more than a high school dropout during his or her lifetime.
- College graduates today will have 13 careers before they retire.
- Twenty years ago, 1% of all college students were in for-profit universities. In 2010, that had increased to almost 12% of all college students.
- iTunes U has over 300,000 visitors per week.
- UVA in-state tuition this year is \$9,622, up nearly 100% from \$4,841 ten years ago. Tuition must cover 61% of UVA expenses, up from 42% in 1999.
- The cost of a 4-year degree is 15-30% of an upper-middle income household's net worth.
- Total college debt in the U.S. has surpassed \$1 trillion.
- Only 49% of college graduates found a full time job within a year of graduation.
- Companies with a corporate university outperformed the S&P 500 over a 10-year period.
- Less than 10% of corporations have a corporate university.
- A CorpU survey found that 80% of leaders in learning and development organizations recognized that there were skills gaps that affected the team from being able to execute its strategy.
- There are 168,000 STEM (science, technology, engineering and math) graduates and 67,000 engineering graduates, but 45% who receive engineering degrees are not practicing engineers 10 year later.
- 18% of STEM workers are eligible to retire today. Roughly 25% of the 637,000 aerospace workers in the U.S. can retire this year.

- Over the next 15 years, retirement and resignation in STEM industries will exceed current headcount.
- The U.S. has to produce 5 high school students with top quartile math scores to get one STEM worker.
- 47% of Bachelor's degrees in STEM occupations earn more than PhDs in non-STEM occupations.
- 71% of new STEM jobs through 2018 in the U.S. will be computing related, but students choosing computer science degrees has dropped 50% in the past decade.
- The top 4 most common job positions listed on Facebook are those at Walmart, Starbucks, Best Buy, and Target.
- Of the 18-29 year olds who are employed, 25% have jobs in the hospitality or restaurant industry and earn an average salary of \$15,000 compared to an average of \$74,000 for manufacturing workers.

The US on the Global Battlefield: Winning and Losing

- In 2010, the United States ranked 49th in adult literacy. 20% of American workers read at a 5th grade level or lower.
- The US ranks 16th for its college graduation rate and 20th for high school graduation rate among 34 countries.
- According to PISA 2009, 15 year-old US students rank 17th in reading, 31st in math, 23rd in science.
- The US spends 2.5 times more than other developed countries on postsecondary education per student.
- There are more honors students in India than there are students in the United States.
- Teachers in South Korea are selected from the top 5% of their class and are paid comparably to doctors and engineers.
- MegaStudy teachers in South Korea can earn more than \$4 million a year.
- Only 1% of U.S. college students study abroad.

- In the US, 15% of all undergraduates received a degree in the natural sciences or engineering. In France, 47% did, in China, 50% did, and in Singapore, 67% did.
- Today, about 42% of all doctorate-level science and engineering workers are foreign-born.
- To meet the demand for skilled workers, the US would need 1 million additional graduates each year by 2020 (which is 40% more than the number of graduates today).
- 42 of the top 50 universities in the world are US-based.
- Americans spend 33% of their money on housing and 2% on supplemental education. In Asia, families spend 10% on housing and 15% on supplemental education.
- Professor Sebastian Thrun's first open online Stanford class taught 160,000 students (from every country except North Korea) at a cost of \$1 per student.
- The highest performing Stanford student in Professor Thrun's class was ranked 412 – out of the 23,000 students who completed the course.
- Khan Academy has over 4,000 videos on its YouTube channel and almost 250 million total views.
- Coursera, a 2-year old higher ed startup, has over 2.8 million students enrolled on the platform with the ability to take free classes from top universities, such as Princeton, Stanford, Michigan and UPenn.
- 25% of all high-technology start-ups established between 1995 and 2005 had at least one foreign-born founder.
- 72% of Indian immigrants to the US returned home to start their own businesses. That number was 81% for Chinese immigrants.
- English speakers will go from 510 million to 2 billion within the next decade. China today has more English speakers than the U.S. and India will surpass United States in English speakers by 2020.

Our Best Days Are Behind Us?

“Since 1776, it’s always been a mistake to bet against America”

- *Warren Buffett*

Our Best Days Are Behind Us?

Conventional wisdom holds that the United States is a nation in decline, and that our national greatness is being eclipsed around the world by the rise of China, India, Brazil and the like. Since the dark days following September 11th, we've spent considerable time, energy and resources undertaking nation-building in faraway lands—sadly, to the neglect of our own country's needs. The core of our national infrastructure—our people, our human capital—has been ignored at our own peril, and has now put our country truly at risk.

The American Promise has always held that if you worked hard and kept your nose clean, you could enjoy gainful employment, an improving standard of living, and ultimately would be able to retire comfortably.

Since 1960, our GDP per capita has risen over 1,500%, from nearly \$2,900 to over \$48,000², and people from all over the world moved here to participate in the *American Dream*. Today, we suffer an 7.7% unemployment rate, with an estimated 12 million Americans unable to find a job...that's more than the *entire* population of Ohio. For African-Americans and Latinos, the unemployment rate is substantially worse, at 13.8% and 9.6%, respectively.³ Including underemployed, the overall rate is 18.0%.⁴

Depressingly, 51% of college graduates cannot find a job within a year of graduation; only 54% of all 18-24 year olds are employed, the lowest percentage in 60 years.^{5,6} Law graduates are becoming the "starving artist" of our day, with 45% not employed within nine months after receiving their diploma.⁷

² "GDP per Capita." *The World Bank*, 2011. <<http://data.worldbank.org/indicator/NY.GDP.PCAP.CD>>.

³ U.S. Bureau of Labor Statistics, February 2013. <<http://www.bls.gov/>>.

⁴ "In U.S., Unadjusted Unemployment Flat So Far in June." <<http://www.gallup.com/poll/155225/unadjusted-unemployment-flat-far-june.aspx>>.

⁵ Rosensweig, Dan. "Chegg: The Academic Hub". June 2012.

⁶ "43 Troubling Facts about the Youth Unemployment Crisis", 2012. <<http://theyec.org/43-troubling-facts-about-the-youth-unemployment-crisis>>

⁷ Palazzolo, Joe. "Law Grads Face Brutal Job Market." *Wall Street Journal* 25 June 2012.

Tragically, in a world where knowledge and education are the fundamental *currency* needed to participate in a global marketplace, almost a quarter of students are not graduating from high school on time and most young adults are entering college ill-prepared. In 2010, 43% of new college students at 4-year institutions and 50% of incoming students at 2-year institutions needed to take remedial classes to be college ready, an increase from 33% in 2002.⁸

2020 Vision...Will U.S. Be Ready to Compete?⁹

U.S. Rankings in Various International Competitiveness Indicators		
Current innovation-based competitiveness	6th	(in the world)
Percentage of young adults who graduate from high school	11th	(in the OECD)
Science literacy among top students	15th	(of 65 countries/regions tested)
College completion rate	16th	(in the OECD)
High school completion rate	20th	(in the OECD)
Density of broadband Internet penetration	22nd	(in the world)
Science proficiency of 15-year-olds	23rd	(of 65 countries/regions tested)
Proportion of college students receiving S&E degree	27th	(in the OECD)
Mathematics literacy among top students	28th	(of 65 countries/regions tested)
Mathematics proficiency of 15-year-olds	31st	(of 65 countries/regions tested)
Improvement in innovation-based competitiveness in the past decade	40th	(in the world)
Quality of mathematics and science education	48th	(in the world)
Density of mobile telephony subscriptions	72nd	(in the world)

⁸ "The Condition of Education 2011". NCES 2011033. National Center on Education Statistics, May 2011.

⁹ *Rising above the Gathering Storm, Revisited: Rapidly Approaching Category 5*. Washington, DC: National Academies, 2010. Print.

During the American Revolution, the revolutionaries lost more battles than they won, and barely survived Valley Forge before prevailing at Yorktown. By fighting, and eventually winning, a long and painful war, they gained control over their destiny—the freedom to pursue life, liberty, democracy and, ultimately, happiness.

We don't think it is overly dramatic to say that we face a similar battle today. By not taking control of our education system and career preparedness, we are losing the ability to control our destiny. We've lost many "battles" over the last decades in an attempt to increase academic success and achievement for American youth and adults.

However, when you look through "the fog of war," you can see that some progress has been made—*No Child Left Behind*, the rapid development of our technology infrastructure, and call-to-arms movies such as *Waiting for Superman*. We now have 5,600 charter schools with over 2 million students¹⁰, more than 38,000 Teach for America ("TFA") Corp members and alumni and 100% of schools are wired^{11 12}. Postsecondary education, despite all of its recent turmoil, has continued to create access for non-traditional students, which is critical to American academic rearmament. But this clearly is not enough.

“The fate of our country won't be decided on a battlefield.
It will be determined in a classroom.”

- *Waiting for Superman*

We see two scenarios that could unfold. The bright, optimistic case is that we rapidly embrace the transformation of our educational system, driven by technology, accountability, the “new ROE”—Return on Education, and “KNAAC”—Knowledge as a

¹⁰ "Fact-Checking School Choice Research". *The Center for Education Reform*, 2012.

¹¹ "Corps Member and Alumni Resources". *Teach for America*. <<http://www.teachforamerica.org/corps-member-and-alumni-resources>>.

¹² "Educational Technology". *National Center for Education Statistics*. <<http://nces.ed.gov/fastfacts/display.asp?id=46>>.

Currency. While not inevitable, we see emerging and converging forces indicating that such an outcome is realistic.

The more pessimistic case is far more dramatic, but certainly possible—the end result being a fundamental deconstruction of our 236 years of participatory democracy.

“History is a race between education and catastrophe.”

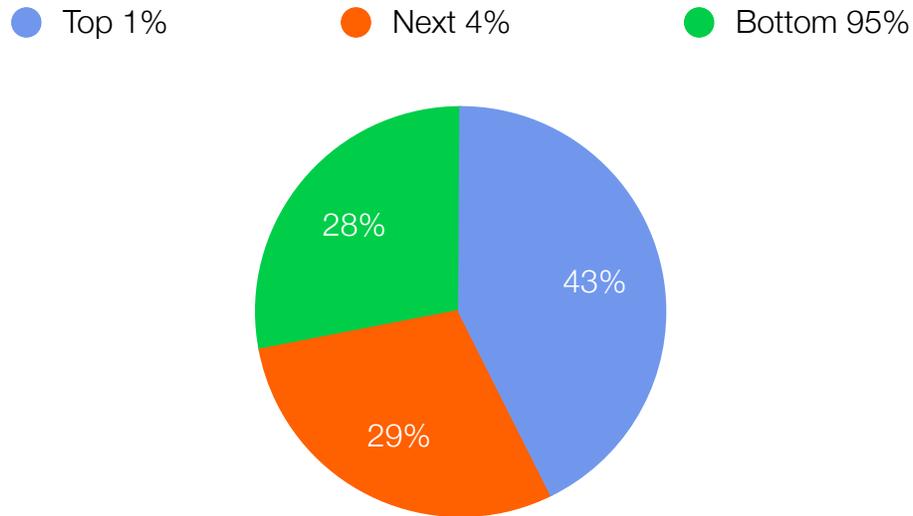
- H.G. Wells

We need a *revolution*, not an *evolution* in education. Simply stated, we don’t have time to let incremental progress be our goal. Occupy Wall Street (“OWS”) and adjacent uprisings have powerfully demonstrated that a large and growing segment of American society doesn’t believe that they are participating in the future. Aristotle observed, “Inequality is the parent of revolution.” The “1% vs 99%” that OWS blames for all of America’s troubles actually contains a substantial kernel of truth. The top 1% of earners in America own 43% of the country’s financial assets, while the top 5% own 72%.

CEO pay in the United States has increased more than 300% over the last 20 years, while average workers’ total take-home pay has essentially flat-lined. With historically high-paying jobs being outsourced, outmoded, and outdated, a significant part of the population is being left behind.

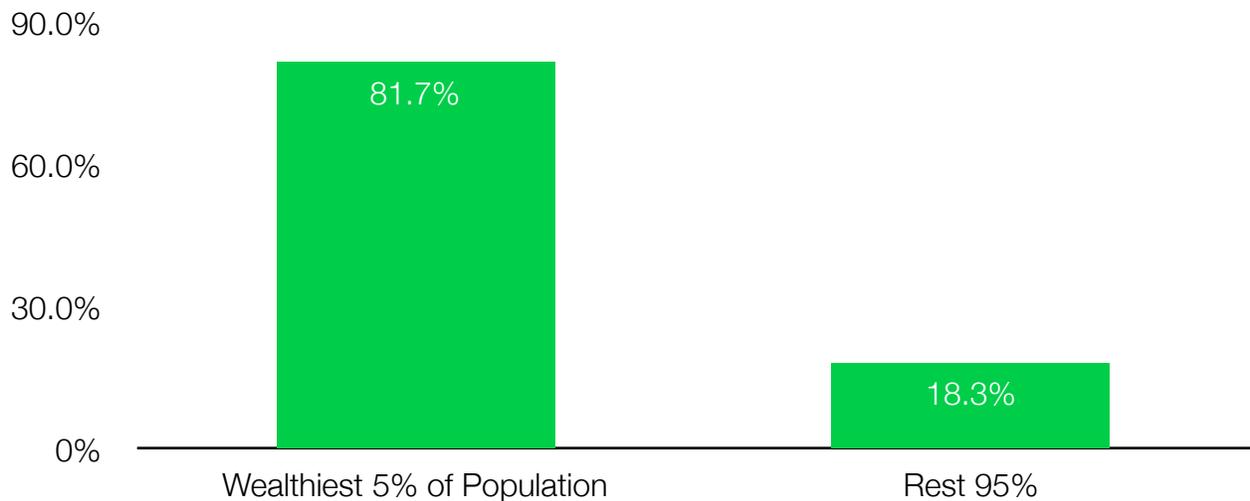
The Rich Own A Disproportionate Percentage of Financial Assets¹³

The Top 1% owns 43% of assets and top 5% owns 72% of assets



The Rich are Getting Richer¹⁴

Over 80% of the wealth gain is going to the top 5%

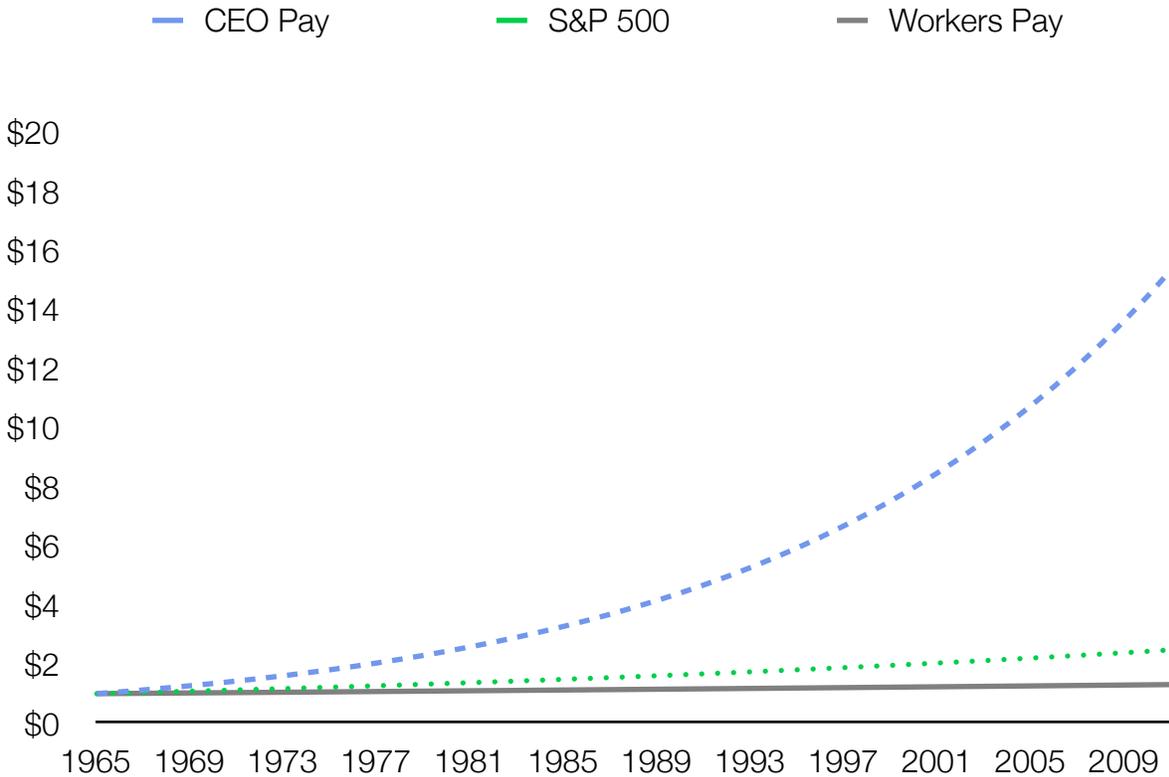


¹³ Mutnick, Deborah. "Occupy Wall Street and the Rhetoric of Equality." *Forbes*. 01 November 2011.

¹⁴ "Huge Disparity in share of total wealth gain". *Economic Policy Institute*, September 2011. <<http://www.epi.org/publication/large-disparity-share-total-wealth-gain>>.

While Less of the Population is Participating in Prosperity...

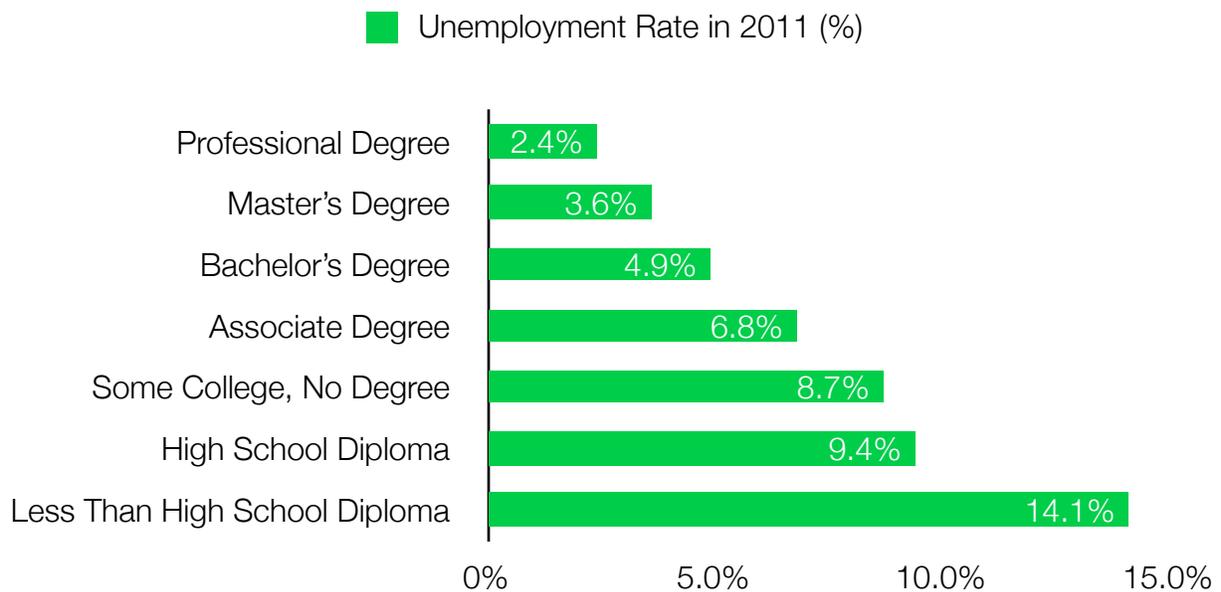
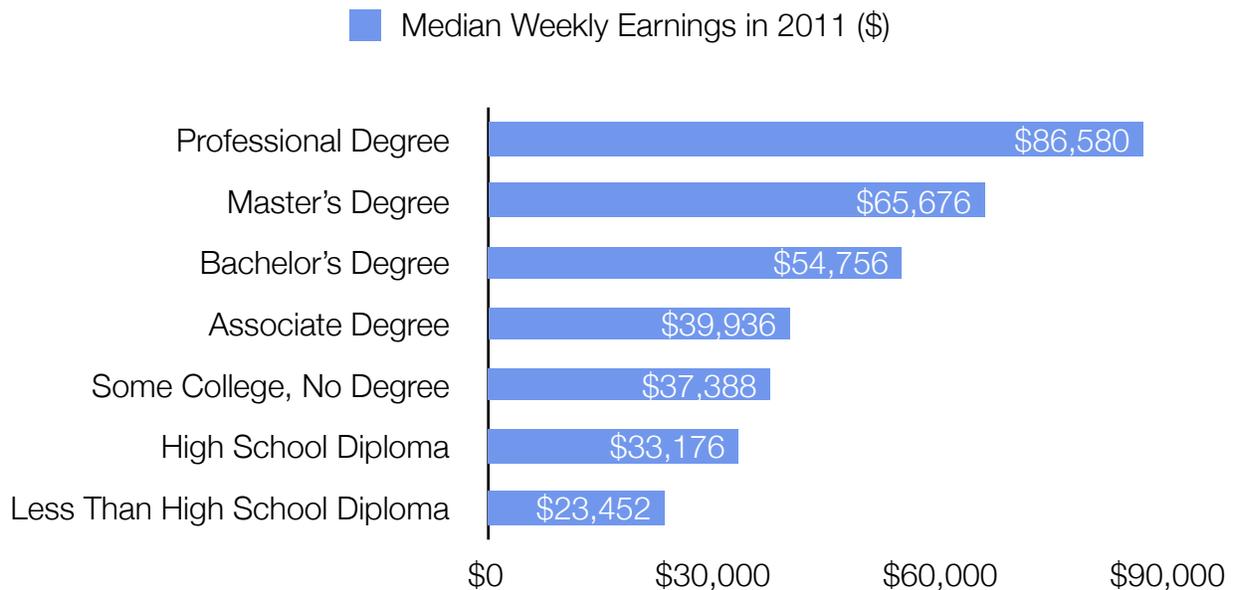
In real dollar terms, CEO's compensation increased 1435% while the average worker pay rose less than 1% per year from 1965 to 2011.¹⁵



Additionally, in the current Great Recession, the gap between the “haves” and “have nots” is widening as employers are taking a “flight to quality” approach to hiring talent. Employers are voting with their checkbooks and telling students that a completed BA is the minimal ticket to ride into a career workforce and anything less and you’d better hope we become France. The flight is to high quality *human assets* rather than *financial assets* and in this new reality, knowledge is the tangible *currency*.

¹⁵ "CEO pay top 1%". Economic Policy Institute. <<http://epi.org/publication/ib331-ceo-pay-top-1-percent>>.

The More You Learn, The More You Earn...and The More Likely You Will be Employed¹⁶

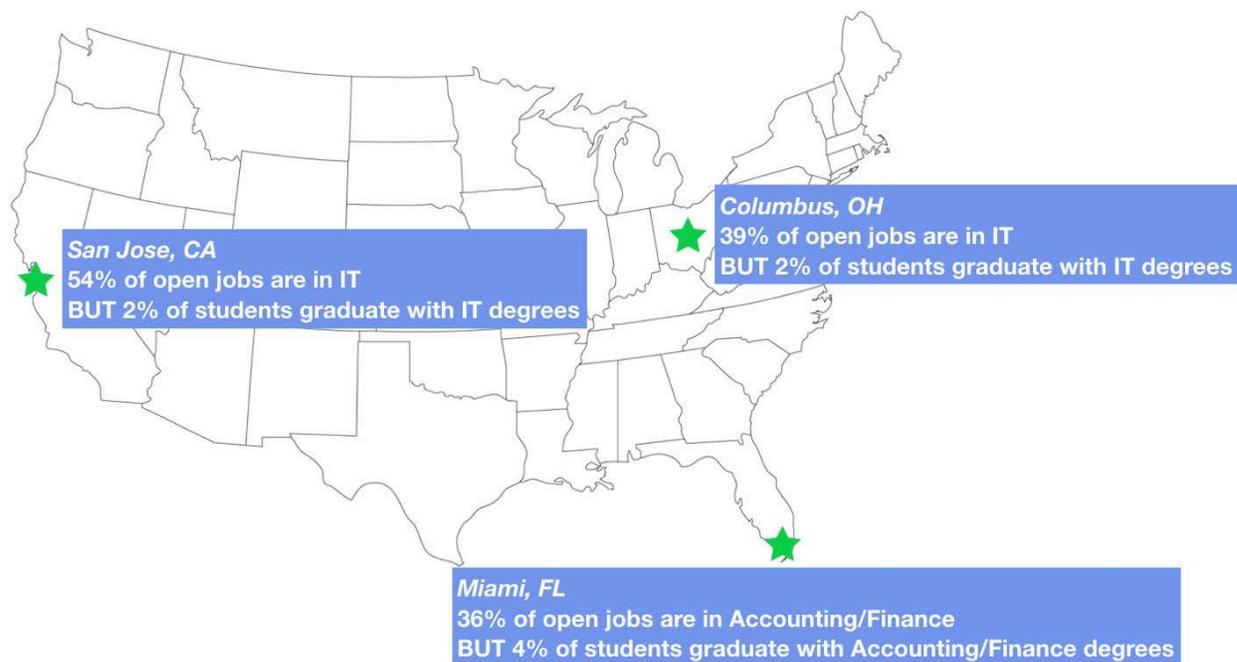


Contrary to the popular opinion that there are no jobs out there, the reality is that there is just a gigantic mismatch between the skills of our people and the jobs being created. To illustrate this, look at the cases of San Jose, Columbus and Miami. San Jose, in the *heart*

¹⁶ "Labor Force Statistics from the Current Population Survey". Bureau of Labor Statistics. <http://www.bls.gov/cps/cps_over.htm>.

of Silicon Valley, Columbus, the *heart* of America and Miami, the *main artery* to booming South America, are examples of this skills gap. In San Jose, over 54% of the open jobs are in IT, but only 2% of students in that market graduate with an IT degree. In Columbus, 39% of open jobs are in IT, but only 2% graduate with a qualifying degree. In Miami, 36% of open jobs are in Accounting or Finance, but only 4% of graduates have a degree in either of these fields.

Local Jobs vs. Students Qualified to Fill Them¹⁷



The growing frustration between where opportunities are being created and what our workforce is qualified to do is a crisis on both the supply and demand sides. Simply put, we have a massive imbalance between what employers need and what workers have the knowledge to do.

¹⁷ Rosensweig, Dan. "Chegg: The Academic Hub". June 2012.

It should not be lost on us that revolutions are actually a fairly common occurrence in modern society. The most recent prominent example is the “Arab Spring,” but since 1900, there have been over 250 governments overturned by revolutionary action.¹⁸

Major Revolutions Since 1900

1910 Mexican Revolution	1916 Irish Revolution
1917 Bolshevik Revolution	1920 Gandhi leads Peaceful Revolt
1936 Spanish Revolution	1945 August Revolution (Vietnam)
1956 Cuban Revolution	1966 Cultural Revolution (China)
1979 Iranian Revolution	1989 Fall of the Wall (Berlin)
2004 Orange Revolution (Ukraine)	2010 Arab Spring



¹⁸ Wikipedia, 2012.

Joe the Plumber is right in that redistribution of wealth is not a sustainable economic philosophy, nor is it an American one. There is no example in history of any nation taxing itself into prosperity. However, when approximately 50% of adults don't pay any federal income tax, the seeds of class chaos could easily result in a *Robin Hood State* instead of addressing the *real* issue of preparing people to be productive in the world we are in. The revolution America needs today is not against an oppressive monarchy, but rather against an educational system that has equally oppressive effects.

“Inequality is the parent of revolution.”

- Aristotle

Fortunately, we have the arms and technology to fight this war: proven innovations, a dedicated force of educators, entrepreneurial DNA and a groundwork of educational restructuring that has been laid over the last 30 years have the potential to ignite a *Second American Revolution*.

We can choose to accept the status quo of a failing education system or we can opt to embrace the transformative potential of technology, re-conceptualize traditional models and invest in building our nation's education and knowledge capital. This is our call to arms. Which side of history will we be on?

“We shall pay any price, bear any burden, meet any hardship...to assure the survival and the success of liberty.”

- President John Kennedy

Paul Revere's Ride



The First American Revolution

"There, I guess King George will be able to read that."

- John Hancock, July 4, 1776

The First American Revolution

The American Revolution didn't begin with the Boston Tea Party; rather, the Tea Party was the culmination of 25 years of colonial opposition. Prior to the events leading up to the American Revolution, the colonists experienced almost 200 years of religious freedom, independence, and economic success: the Roanoke Colony was founded in 1585; Jamestown, the first English settlement, was established in 1607 in Virginia, and the Mayflower landed at Plymouth Rock in 1620. The number of colonies grew to 13 and their inhabitants lived side-by-side with the previous inhabitants. Notably, there were no civil wars between the original 13 colonies.

By 1751, things began to change. England prohibited New England from issuing paper money as legal tender, and, in 1764, the British Parliament passed the Sugar Act, a three-penny tax on molasses. By taxing sugar, the British hoped to raise money to pay for the costs of the French and Indian War and ensure that England could benefit from colonial commerce. By passing the Currency Act in 1764, Parliament extended the paper money ban to all of the colonies. With a shortage of gold and silver, the Currency Act created additional problems for the colonies. Faced with a tax that threatened to topple their businesses, the colonies disobeyed the Sugar Act and began to petition King George III against taxes that they felt were unfair.

Taxation without representation continued. Parliament passed the Stamp Act in 1765, which levied new taxes on court and customs documents as well as other printed material, including playing cards. Later that year, Parliament passed the first Quartering Act, a law that required local officials in the colonies to house British troops.

The colonists passed resolutions to challenge Parliamentary authority and what they felt were unfair taxes and limitations on their freedom and prosperity. Their first united coalition, the Stamp Act Congress, met in 1765 and riots—including the Boston Massacre in 1770—began. Parliament then passed the Tea Act in 1773, which reduced taxes for British tea merchants and gave them an unfair advantage over colonists' other trading partners. In the same year, colonists staged their strongest act of resistance to the Tea Act

and unfair taxes by organizing the Boston Tea Party and dumping Britain's tea in the Boston harbor.

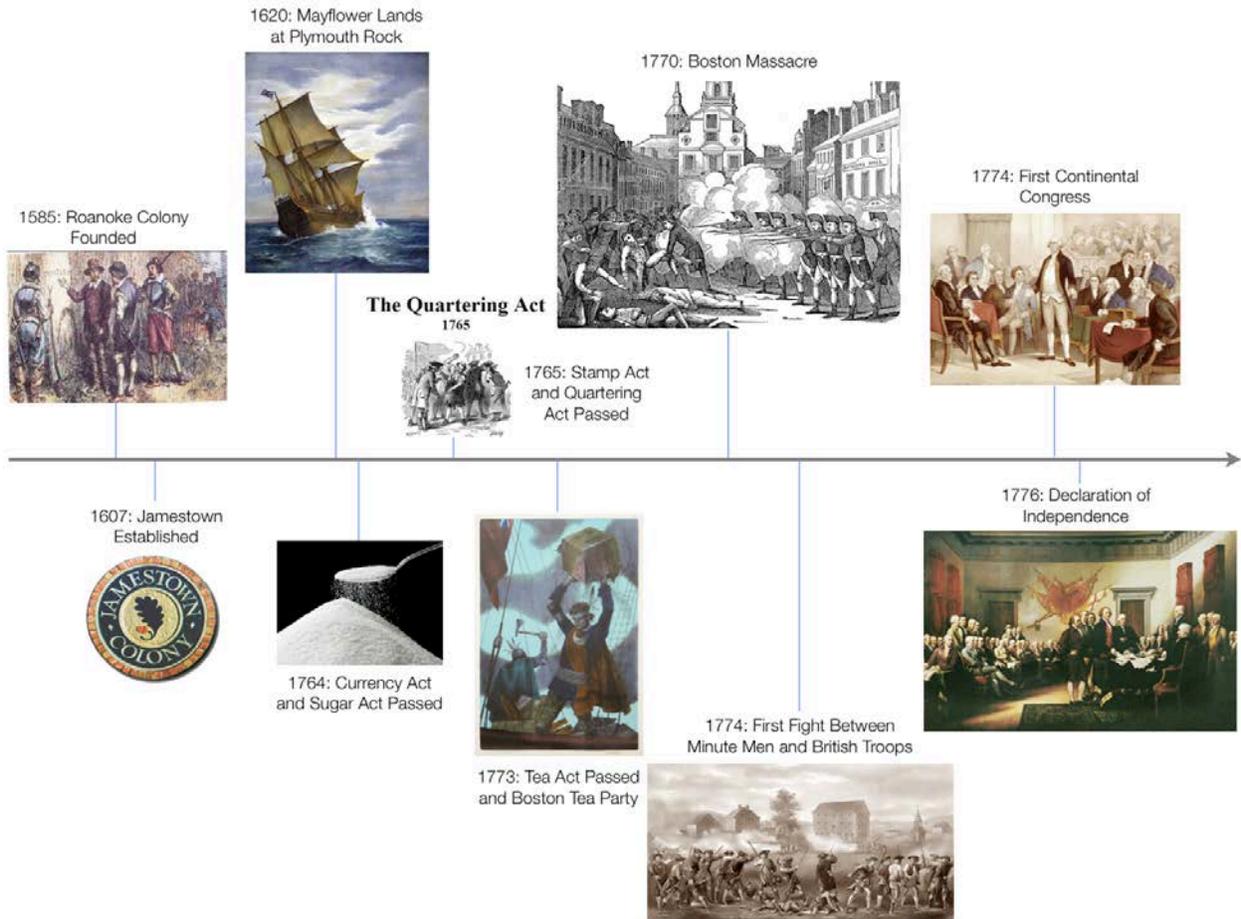
The colonies continued to organize. They held the First Continental Congress in 1774 and, later that year, the Minute Men and British troops fought for the first time in Lexington, Massachusetts. What most people think of as an urgent moment in time - the Declaration of Independence on July 4, 1776 - actually was a culmination of events taking place over 25 years. Additionally, it took nearly 15 years for the Revolutionaries to form the United States government.

After a period of 150 years of relative calm, the colonial system was smashed. And what seems overnight from our history lessons was in fact 40 years in the making. The Declaration of Independence was the "tipping point" that crystalized the dramatic change that was taking place, but was built on the foundation that had been formed and the leaders that had come together to make change happen.

“Liberty, when it begins to take root, is a plant of rapid growth.”

- *George Washington, letter to James Madison, March 2, 1788*

First American Revolution Timeline



How We Got Here

“You either get better or you get worse . . . you never stay the same.”

– Lou Holtz

How We Got Here

Throughout history, whether in preindustrial or industrial times, great nations developed based on their access to *physical* resources or their ability to surmount physical barriers. England and Spain crossed oceans, Germany turned coal and iron into steel, and the United States exploited a wealth of agricultural and industrial resources to become the world's breadbasket and industrial superpower. The advent of the personal computer, the Internet, and the digital delivery of information has transformed the world from a manufacturing, physically-based economy to an electronic, knowledge-based economy. Whereas the resources of the physically-based economy were coal, oil, and steel, the resources of the new knowledge-based economy are brainpower and the ability to acquire, deliver and process information effectively.

A college degree is the new high school diploma. Modern curriculum needs to reflect the modern economy and knowledge will become the *currency for opportunity*.

“If investments in factories were the most important investments in the Industrial Age, the most important investments in an Information Age are surely investments in the human brain.”

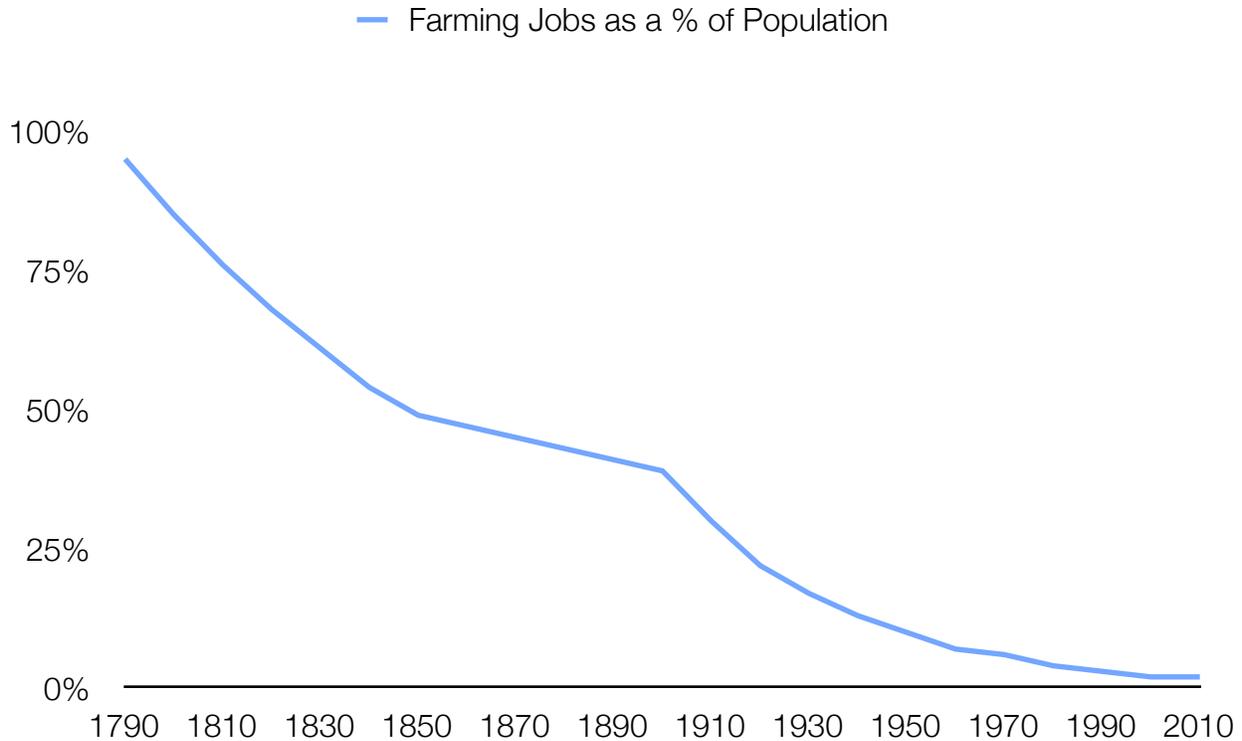
- Larry Summers

In 1700s and 1800s agrarian economies, not even a high school diploma was required. In fact, when John Hancock boldly put his signature on the Declaration of Independence, 95% of all jobs were farming related.

By 1910, the majority of American jobs were industrial. Though these jobs required different skills than farming, they required little to no education. Less than 3% of

Americans had a college degree (primarily for fields such as the ministry, medicine, and law) and, for those who lacked one, it wasn't a barrier to success.¹⁹ Remarkably, only 13% of the adult population had a high school degree at the brink of World War I.

Farming Jobs Declining From 95% to 2%²⁰



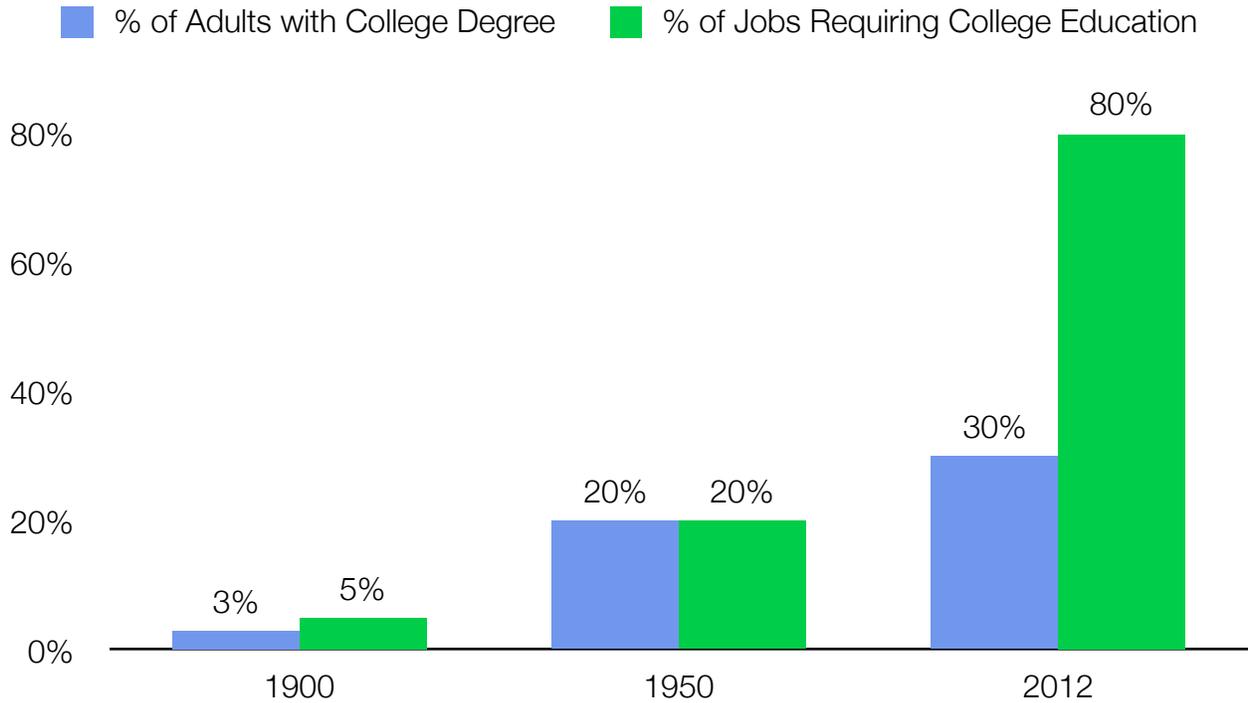
The Service Economy that developed after World War II started to shift education requirements. If you wanted to participate in the service industry—in anything from accounting to retail sales to entertainment—some formal education was required. Gaining formal knowledge was worthwhile; these jobs were safer, less strenuous and often better paid. Nevertheless, the education demands were still fairly low: in 1950, 20% of US

¹⁹ "Percentage of Persons Age 25 and Over...". *Digest of Education Statistics*. National Center for Education Statistics, April 2011.

²⁰ US Census Bureau.

workers had some college education but only 20% of jobs required a college background.^{21,22}

A Drastic Education “Gap” Exists Today²³



The Personal Computer revolution that began in the mid-1970s displaced many manual labor, administrative, and clerical jobs. Computers replaced even those jobs that were once desirable and lucrative. Generally speaking, even the jobs that were not displaced had a shallow talent pool.

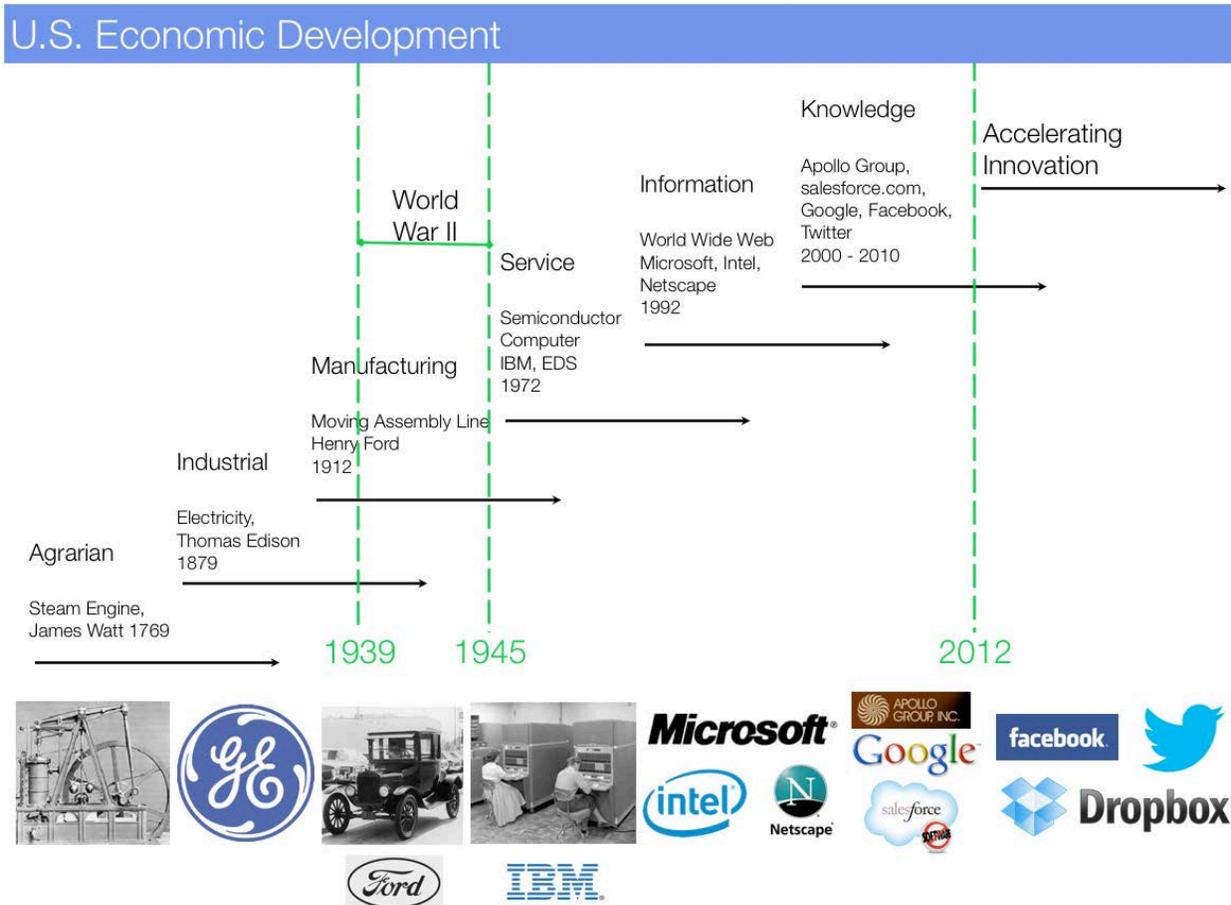
The world changed again, in 1995, when Netscape debuted on Wall Street. It changed the way we communicated by making an individual's actual workplace less relevant. Now,

²¹ "Adults with College Degrees in the U.S." *Chronicle of Education*. US Census Bureau, January 2011. <<http://chronicle.com/articles/Adults-With-College-Degrees-in/125995>>.

²² Squires, Gregory D. *Education and Jobs: The Imbalancing of the Social Machinery*. New Brunswick, NJ: Transaction, 1979. Print.

²³ Apollo Group and GSV Advisors.

not only could computers do the jobs of humans, but for the humans that remained, it was now possible for them to work from thousands of miles away...one click and you are connected to your service representative in Mumbai.



Companies like LegalZoom have reduced the need to consult an attorney for many small businesses. ATMs have replaced bank tellers, while technologies such as PlatePass have done away with toll booth collectors.

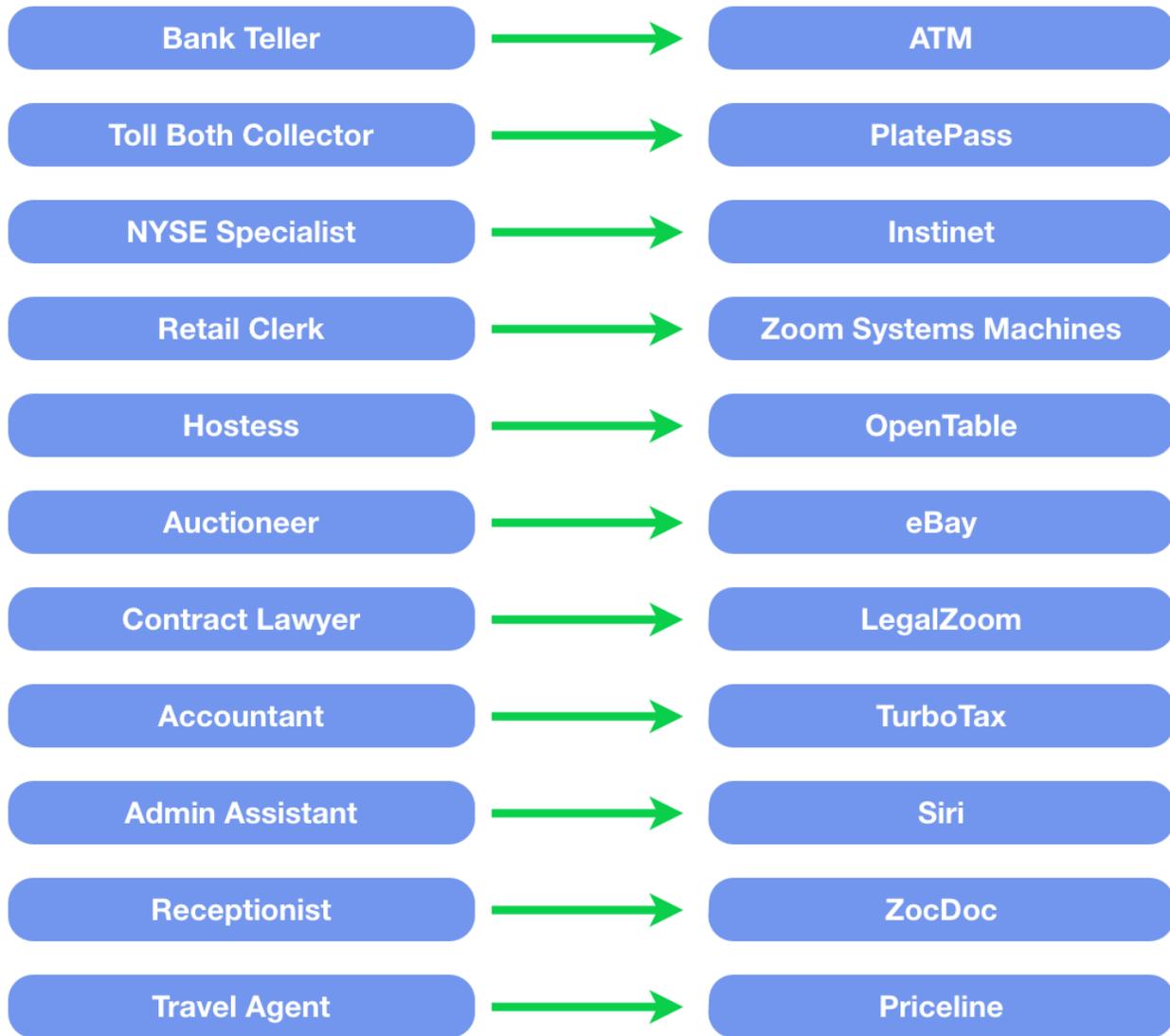
The replacement of human beings by technology – we are being “Siri-ed” – across every industry is rapidly rendering low-skilled jobs and even undifferentiated high-skilled jobs obsolete.



*“Siri, make me
a sandwich.”*

If “Deep Blue” can handily defeat a world chess master like Garry Kasparov (not to mention Watson destroying his human competition in Jeopardy!), what can’t a computer replace? The things that a computer can’t do is to create and to discern, both unique human traits that need to be cultivated. Today, we can pray for the “Good Old Days” to come back and thus repeal progress, or we can pursue a more realistic and enlightened philosophy by embracing change and making a commitment to participate in it.

Man vs. Machine²⁴



Importantly, *we are not advocating* the elimination of effective teachers. In fact, our *strong* belief is that technology will be a great tool for great educators. Whether it is freeing up time, reaching more students or helping quantify student progress, technology is the friend of the education professional. The flip side is there are few places to hide for the ineffective teacher as we increase transparency.

²⁴ GSV Advisors, 2012.

If you think about it, since the Revolutionary War, virtually every major industry has undergone radical transformation. In 1776, the way generals learned about what was happening on the battlefield was from a courier pigeon. Today, we have drones providing real time video to find the bad guys. Leeches were used in medicine to cure patients where today we are using robotics and mapping the human genome. Back in the Colonial days, it was a major ordeal to travel from Philadelphia to Boston on horseback. In June 2012, SpaceX sent a rocket to the International Space Station with human space travel soon to come.

If Benjamin Franklin, who founded University of Pennsylvania in 1749, were to be teleported into modern society, he would be totally confused until he was brought to his school, which he would recognize instantly.

The Evolution of American Industry – 1776 vs. Today²⁵

Dramatic change in every major industry imaginable...with the exception of schools.

Then

Now



Transportation



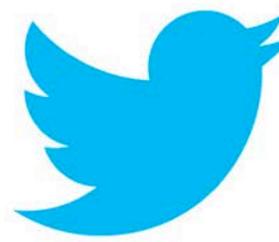
Medicine



Lighting



Warfare



Communications

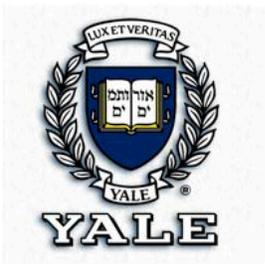
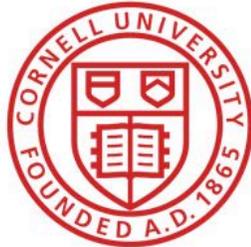


Education

²⁵ Wikipedia.

Time for a pop quiz—see if you can spot the anomaly on this list: Harvard, Yale, Penn, Brown, Cornell, Columbia, Princeton, Dartmouth, and Rutgers.

Which Doesn't Belong?



And the answer is...Cornell—which was the only school on this list to be founded *after* the Revolutionary War. Here's our real point: with all of the changes that have happened in the last 10 years—let alone 236 years—we can't think of another industry in which so little has changed.

Until now.

“You can always count on Americans to do the right thing
- after they've tried everything else.”

- Winston Churchill

In the early 1980s, economists and educators began to more closely analyze the education system and, more importantly, highlight a mismatch between workers' skills and job requirements. In 1983, Education Secretary Ted Bell released *A Nation At Risk*. It warned the country about the decline in American education and the country's imminent fall from domination:

Our nation is at risk. Our once unchallenged preeminence in commerce, industry, science, and technological innovation is being overtaken by competitors throughout the world...If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war. As it stands, we have allowed this to happen to ourselves. We have even squandered the gains in student achievement made in the wake of the Sputnik challenge. Moreover, we have dismantled essential support systems, which helped make those gains possible. We have, in effect, been committing an act of unthinking, unilateral educational disarmament.

Our leaders knew that the world was changing—America was losing its technical edge. Unfortunately, Bell's work was more of a mark than a shot heard around the world. He warned that the education system that had helped prepare American students to invent everything from a hepatitis B vaccine and the artificial heart to supercomputers and magnetic resonance imaging was no longer preparing students for what lay ahead for them.

30 Years Later: A Nation at Even Greater Risk

Despite Bell's warning, our situation has only worsened. In 2009, only 74% of 12th grade students read at the basic or better level compared to 77% in 1999.²⁶ In 2010, the National Academies of Science, Engineering and Medicine published "Rising Above the Gathering Storm, Revisited: Rapidly Approaching Category 5," and warned that the current generation of children would have less education than their parents, which has never happened before in America.²⁷ In a *Knowledge Economy and Global Marketplace*, education makes the difference in how an individual, a company, and indeed, how a country does.

"Today, for the first time in history, America's younger generation is less well-educated than its parents."

- *National Academies of Science, Engineering and Medicine*

First Wave

The pioneering education reformers and companies of the 1970s and 1980s took the first step in the process of revolutionizing education. With a few exceptions, most efforts were well meaning but had limited impact.

One of the first groundbreakers was Dr. John Sperling. In 1976, he founded University of Phoenix to serve working adults with convenient class times at local sites; University of Phoenix gave students options to meet their individual needs. These students didn't need a football team, marching band, dormitories, classes during the day, or a long summer break. University of Phoenix is now the country's largest private university and its parent company Apollo Group is publicly traded on the NASDAQ with a \$3 billion market cap; it

²⁶ "The Condition of Education". U.S. Department of Education, 2011.

²⁷ *Rising above the Gathering Storm, Revisited: Rapidly Approaching Category 5*. Washington, DC: National Academies, 2010. Print.

offers undergraduate and graduate classes at over 200 locations and online internationally.²⁸

During the same period, philanthropic foundations began to focus more intently on education. Large foundations like Ford, Carnegie and Rockefeller pushed education equality lawsuits in California, New Jersey, Texas and elsewhere. These resulted in enormous increases in state expenditures for low-income students. In 1993, the publishing mogul and philanthropist Walter Annenberg gave a record \$500 million to nine large city school systems. While these efforts were noble and widely publicized, they did little to close the achievement gap.²⁹

In 1982, the former financier Michael Milken and his brother Lowell Milken established the Milken Family Foundation to support education, human welfare, community service and health care. In 1996, the foundation launched Knowledge Universe to invest in and purchase education companies. Today, it serves 5 million students globally and is the largest private early childhood education provider. The company has quietly built an education business that is one of the largest in the world.

In 1992, media entrepreneur and founder of Channel One, Chris Whittle unveiled a bold vision of creating The Edison Project. Edison aspired to be a national network of privately managed public schools and became the leader in operating charter schools. Mr. Whittle astutely pointed out that it wasn't the buildings that weren't working, it was the educational programs within the walls.

Mr. Whittle assembled top talent from the education industry including persuading the President of Yale University, Benno Schmidt, to join Edison as its chairman. While Edison achieved rapid growth and many impressive academic results, the combination of "pioneers getting all the arrows" and mediocre results at some Edison schools derailed the growth potential.

²⁸ "University of Phoenix History". University of Phoenix, December 2011. <http://www.phoenix.edu/about_us/about_university_of_phoenix/history.html>.

²⁹ Riley, Jason L. "Was the \$5 Billion Worth It". *The Wall Street Journal*. July 2011. <<http://online.wsj.com/article/SB10001424053111903554904576461571362279948.html>>.

That said, Edison today has over 500,000 children that they educate and blazed the trail for others to follow.

The Gates Foundation has made education one of its top priorities and, since 2000, has poured over \$5 billion into education grants and scholarships. Solving education, however, hasn't been as easy as blanketing the world with Microsoft Windows and Gates has publicly admitted his frustration at the level of impact he has made so far. He understands the limits of philanthropy and commented, "It's worth remembering that \$900 billion a year is spent by various government entities on education, and all the philanthropy that's ever been spent on this space is not going to add up to \$10 billion. So it's truly a rounding error."³⁰ *Even Bill Gates doesn't have enough money to fix education.*

As we entered the new millennium, for-profit education was at its nascency. Like many immature industries, it was highly fragmented, inefficient, lacked professional management, and had low technology penetration.

Phase one of online education focused on increasing access to higher education. Online learning companies extended *reach* but most of their offerings lacked *richness*—many players did not change their business model for an online environment. They took a flat text, put it online, and called it online learning. This was a natural evolution; when the television was invented, the first shows filmed people doing a radio show.

Additionally, far from being disruptive, the early online programs actually charged more for their programs due to the access they were creating and to protect the healthy margins on their traditional campuses.

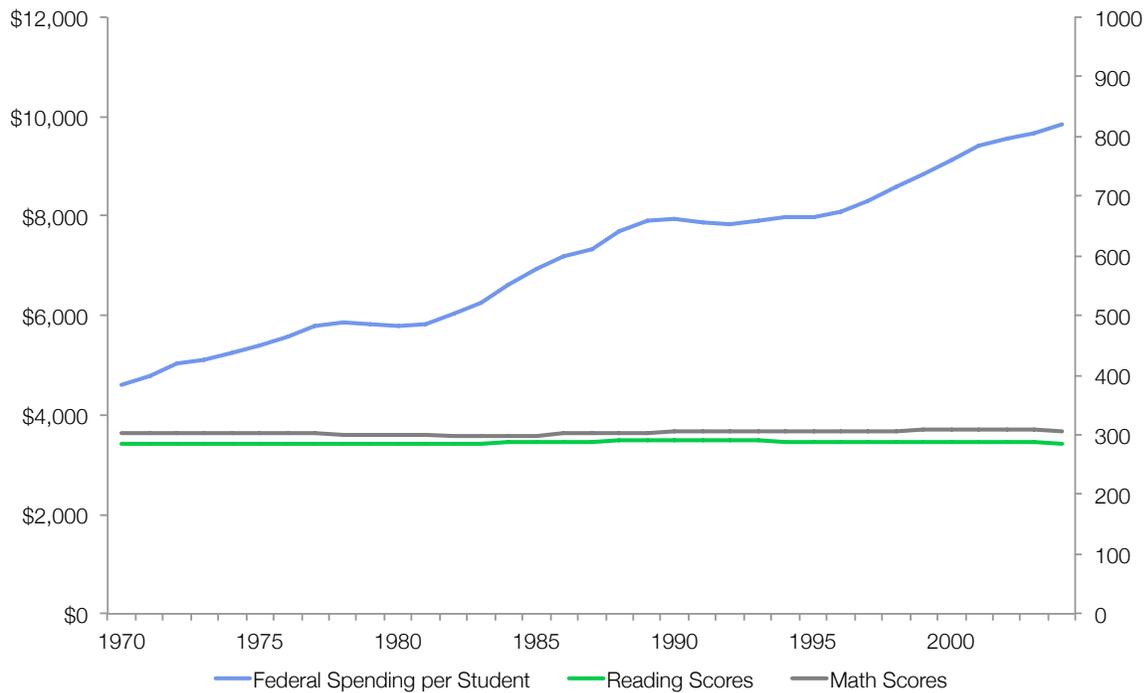
There were a number of ambitious online education programs that were introduced during the height of the dot-com boom such as UNext, Ninth House and Fathom, but it was too expensive to produce rich courses and technology wasn't ubiquitous enough to make these programs practical...essentially, a good idea but too far ahead of its time.

³⁰ Riley, James L. "Was the \$5 Billion Worth It". *The Wall Street Journal*. July 2011.

The Momentum Builds

Meanwhile, on the K-12 front, lots of good intentions and resources were thrown at trying to improve schools, but the results have been disappointing. With four decades of time and an astronomical rise in spending, student achievement and test scores have remained flat.

3x Increase in Federal Spending Per Student Resulted in Zero Increase in Achievement^{31,32}



“Either the kids are getting stupider each year, or there’s something wrong in the education system.”

- Geoffrey Canada, President & CEO of Harlem Children’s Zone

³¹ "Digest of Education Statistics". National Center for Education Statistics. <http://nces.ed.gov/programs/digest/d11/tables/dt11_191.asp>.

³² "NAEP 2008 Trends in Academic Progress". NCES 2009-479, National Center for Education Statistics.

Help is on the way as a convergence of forces are coming together to catalyze radical change.

Movies like *Waiting for Superman* showed the injustice and the unfairness in our education system, infuriating the general public. Parents are increasingly concerned for their children's future seeing data that shows that this generation of children will be less educated than themselves for the first time in this Country's history. They are demanding immediate changes.

Business people say they can't employ our students; they can't read, they can't write, and are woefully inept at the STEM subjects (science, technology, engineering and math). Minorities see unequal access to a quality education as the civil rights issue of our time. Politicians are sticking their fingers in the air and seeing the wind is blowing in the direction for education innovation. In fact, a College Board survey in April 2012 ranked education as a top issue for voters this year and 70% of independent women in swing states believe that "education is extremely important".³³

Against these powerful forces, the entrenched status quo is saying "give us more time, give us more money".

The good news is the American people are saying that 236 years is long enough. *We need an education revolution and we need it now!*

"A revolution is an idea which has found its bayonets."

- *Napoleon Bonaparte*

³³ "Voters to Presidential Candidates: 'Don't Forget Ed!'", College Board, April 2012. <<http://press.collegeboard.org/releases/2012/voters-presidential-candidates-dont-forget-ed>>.

Education Battlefield - Status Quo vs. Change Agents



Status Quo	Change Agents
<ul style="list-style-type: none"> ▶ Unions and beneficiaries of current system are pushing for “more time and more money” ▶ Protect tenure ▶ Protect the current time = money system ▶ Incrementalism ▶ No choice, no charters, no competition ▶ For-profits are the enemy ▶ Transparency is avoided 	<ul style="list-style-type: none"> ▶ Parents are pushing for children’s future ▶ Politicians are pushing to stay elected ▶ Businesses are pushing for a more skilled workforce ▶ Minorities are pushing for equal access as civil rights ▶ Students are pushing for college and career readiness ▶ Teachers are pushing for resources, support and professionalism

Education Battlefield - Arms Dealers (Publishers)³⁴

Arms Dealers		
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Status Quo</p> 		<ul style="list-style-type: none"> • Provider of publishing and other established media • Recently rebranded “Amplify” educational services division partnering with AT&T to provide purpose-built tablets and develop other digital learning platforms for K-12 Classrooms
		<ul style="list-style-type: none"> • Hardcopy book publishing • Leading provider of electronic learning programs, test development, processing and scoring services • 31% share of postsecondary; 18% share of K-12 publishing • Acquisition of self-publisher Author Solutions establishes position in rapidly growing segment of the consumer market (60% YoY growth). Recent acquisitions of Schoolnet and TutorVista dramatically expand digital instruction footprint • Continued investments /partnerships with Knewton, Tabula Digita, Inkling, an Florida Virtual support scaled growth in digital learning
		<ul style="list-style-type: none"> • Book publishing; had conflict with Amazon on e-books distribution • 3% of postsecondary publishing • Partnership with Instructure (July 2012) provides educators and students direct and easy access to Macmillan’s online educational resources within Instructure’s Canvas learning platform. • Launched MacMillan New Ventures (Summer 2012) to discover, develop and market innovative technologies that target learning and learning institutions; portfolio currently includes Prep-U, i-Clicker, and Educational Benchmarking Inc.
		<ul style="list-style-type: none"> • Provider of print and online solutions and assessment for teachers and students (Pre-K through professional) • Mostly still rely on print-based business model • 16% share of postsecondary; 16% share of K-12 publishing • Higher Ed digital sales up over 40% from prior year in Q2 2012 - now over 1.4 million digital users; professional digital sales up nearly 20% • Pushing toward a direct-to-students sales model and adaptive learning • Recent investment in Inkling (2011) complements acquisitions of Bookette Software (2012) and Tegrity (2010)
		<ul style="list-style-type: none"> • Provider of learning and research materials for academic and library markets • Pulled content off of Kno in 2011 • 22% share of postsecondary publishing • Integration partnership with Desire2Learn creates enhanced interoperability of Cengage Learning’s digital content and solutions within the Desire2Learn LMS platform (July 2012) • Unveiled MindTap, a suite of digital learning apps to go along with e-textbooks • Launching a Kno equivalent competitor
		<ul style="list-style-type: none"> • Provider of publishing solutions to PreK-12 • Status quo publishing model • 26% share of K-12 publishing • Partnering with Barnes & Noble Inc. to provide schools with bundles of digital titles loaded onto NOOK e-readers (May 2012) • Developed HMH Fuse, the world’s first educational app for schools developed exclusively for a touchscreen mobile device.
		<ul style="list-style-type: none"> • Provider of book publishing, media distribution, and classroom magazines • Children’s book publishing and distribution still half of revenue • 5% share of K-12 publishing • Investor in KidZui (2011), which develops safe internet browsers for kids • Increased focus on “Educational Technology and Services” segment which offers digital interactive programs like the popular READ 180 • E-reader platform “Storia” released (March 2012)
		<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Change Agents</p> 

³⁴ GSV Advisors and Candlestick Research, 2012

Education Battlefield - Arms Dealers (Technology Companies)

Arms Dealers			
<p>Status Quo</p> 	<ul style="list-style-type: none"> • Leading LMS provider with over 50% market share 	 Blackboard <ul style="list-style-type: none"> • Acquisitions of Moodle rooms and NetSpot (2012) establish strong position in the open-source, online learning market • Recent acquisitions of CerBibo (2011) and Saf-T-Net (2010) reflect continued investment towards providing digital-based products to the company's expansive client base. 	<p>Change Agents</p> 
	<ul style="list-style-type: none"> • Provides old world technology to schools and students 	 DELL <ul style="list-style-type: none"> • Developing and selling wide array of education technologies - mobile, data management, instructional technology, etc. 	
	<ul style="list-style-type: none"> • Supplies laptop, desktops and traditional learning tools 	 Apple <ul style="list-style-type: none"> • iPad, Apps Store and iTunes U are bringing access and digitalization to education 	
	<ul style="list-style-type: none"> • Most of their products are still in status quo technology (desktops, laptops, etc.) 	 Microsoft <ul style="list-style-type: none"> • Microsoft Office 365, Surface tablet, and Windows 8 provide new ways for students and educators to collaborate and to distribute and consume educational content. • Announced strategic technical collaboration agreement with ePals to develop and deliver communications, collaboration and digital learning technologies to global education market (April 2010) 	



Second American Revolution Timeline



“The significant problems we face cannot be solved at the same level of thinking we were at when we created them.”

- Albert Einstein

Modern Weaponry

“Education is the most powerful
weapon which you can use to
change the world.”

- Nelson Mandela

Modern Weaponry

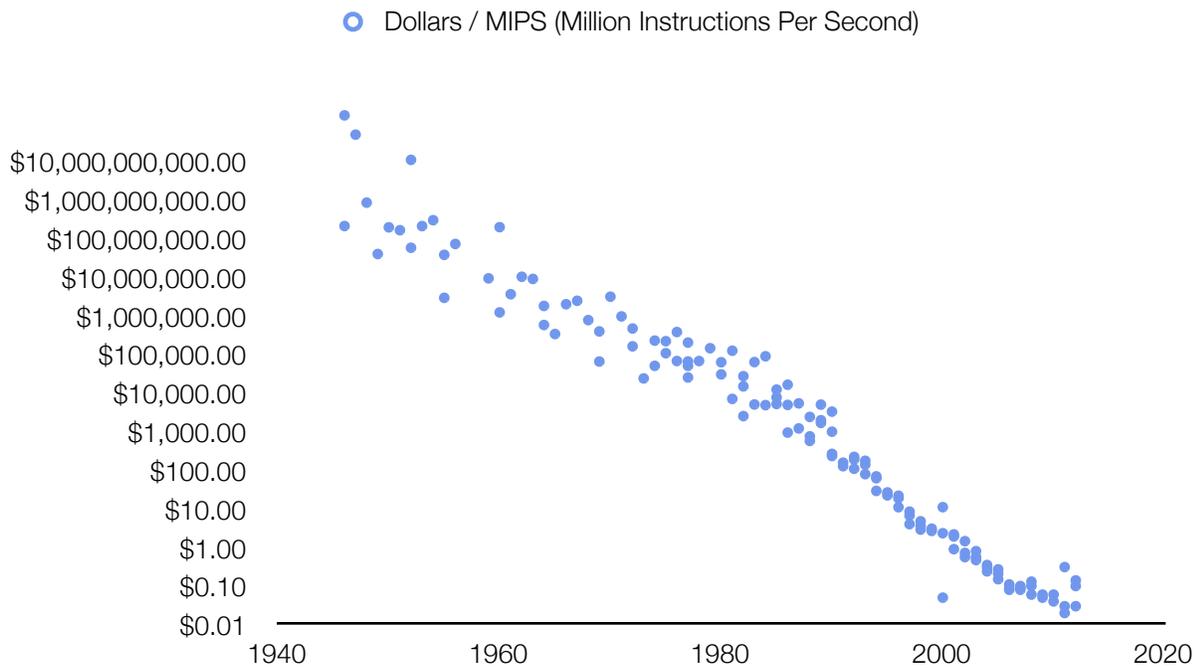
For much of history, who your family was, your resources, where you happened to be born, your proximity to libraries, your income and other uncontrollable factors dramatically impacted your access to education. Today, through the exponential increase in low-cost technology, students have as much information at their fingertips for free through Google as the President of the United States did just 20 years ago! Information is available nearly instantaneously with a click from any corner of the world.

The computer in your pocket (iPhone) allows you to instantly share information with anyone in the world via Facebook or Twitter. Through the magic of Dropbox, you can share files and collaborate with any person on any device with any operating system anywhere in the world...for free!

In 15 years since Google was launched in a garage, these technologies have emerged and changed how we do things...*forever*.

A major phenomenon that has been the driving force behind rapid technology innovation has been Moore's Law, the world's longest standing Megatrend. Today, we are seeing the creation of supercomputers that can process millions of calculations per second for just a few pennies. To put it in context, when NASA landed a team of astronauts on the Moon in 1969, the entire NASA had less computing power than a single iPhone today. We see Moore's Law continuing and the cost of computing becoming essentially free, which will greatly increase access to technology for students around the world.

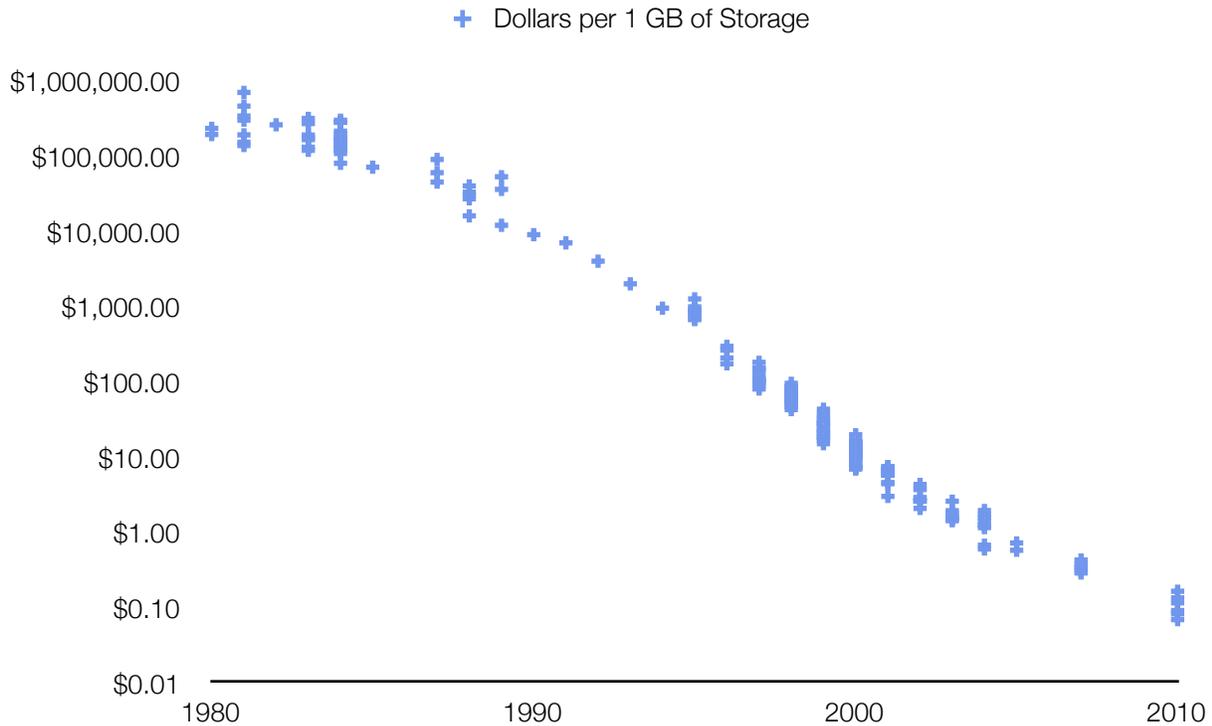
Cost of Computing Power is Approaching Zero³⁵



Related to the idea that computing power is becoming free is the idea that data storage is becoming free as well. The rapid decline has brought down the cost of storing 1 GB of data to a few pennies compared to nearly \$1 million in 1980. With this decline, it is now possible to create and share a large amount of information very easily and seamlessly. Knowledge is no longer best stored in hardcover textbooks or file cabinets, but in the new filing system - the Cloud, a new paradigm where applications running on a network can be accessed by any device, anywhere in the world at negligible cost.

³⁵ "MIPS Equivalents". Carnegie Mellon University. <<http://www.frc.ri.cmu.edu/users/hpm/book97/ch3/processor.list.txt>>.

Cost of Data Storage is Approaching Zero³⁶



We are in *exponential* times where the pace of change and innovation is transforming the world at breathtaking speed. It's exciting to imagine how this accelerating explosion of new ideas will impact society over the next 10, 20 and 50 years and how it is going to be a driver in the emerging *learning society*.

Technology	Year Founded	Educational Use
Google	1998	World's information
iTunes	2001	Instructional resources
Skype	2003	Tutoring, seminars, lectures
Wikipedia	2004	World's largest encyclopedia
Facebook	2004	Global collaboration platform
YouTube	2005	Instructional videos
Twitter	2006	Real-time reporting and search
Dropbox	2007	File-sharing and collaboration
iPhone	2007	Low cost computer in your pocket
iPad	2010	Mobile learning

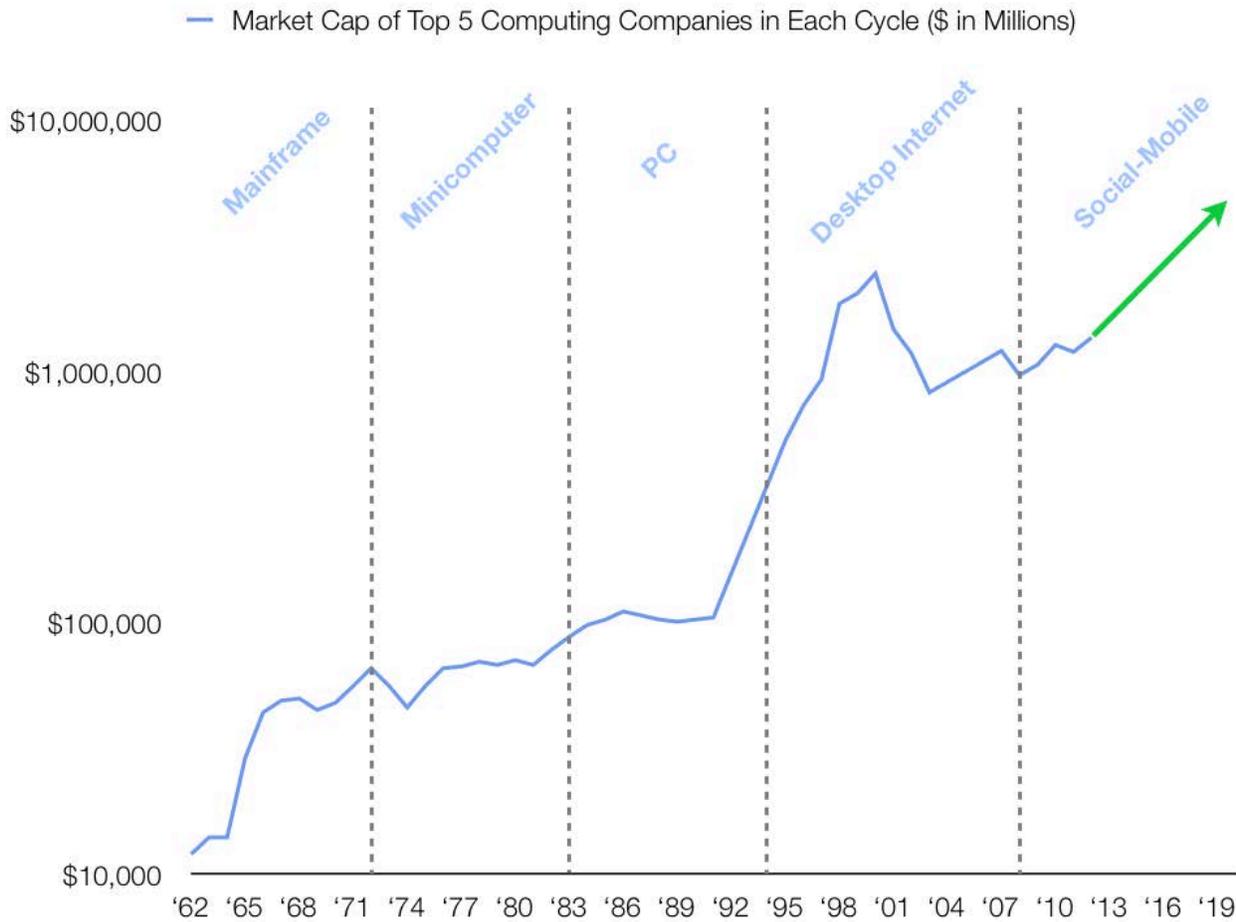
³⁶ "Cost of Hard Drive Storage Space". Nova Scotia's Electric Gleaner. <<http://ns1758.ca/winch/winchest.html>>.

“Four years ago, ‘Twitter’ was a sound, the ‘cloud’ was in the sky, ‘4G’ was the name of a parking space... and ‘Skype’ for most people was a typo.”

- *Thomas Friedman, NYT columnist and author (2009)*

Over the past 50 years, the information technology "tracks have been laid" which has resulted in each new era of technology building on top of the base from earlier generations. Nearly 20 years ago, the Internet was commercialized and today over two billion people use it every day.

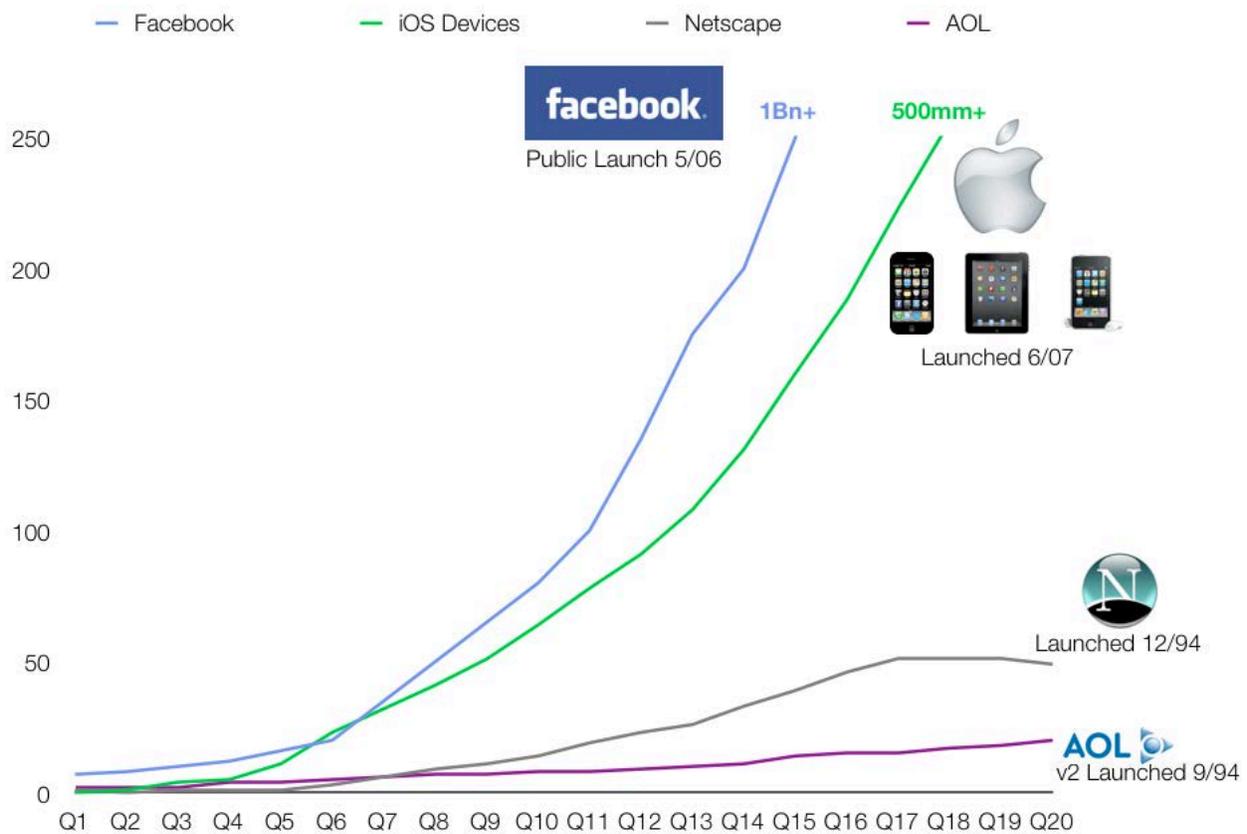
Technology Waves³⁷



Facebook, which has over 1 billion monthly active members, has become the communication and collaboration platform of the 21st century. Apple, with its ubiquitous iPhone and iPad, has ignited mobile computing and sold 500 million iOS devices as of January 2013. There have been over 30 billion apps downloaded in five years, showing the leverage of the iDistribution Network.

³⁷ Yahoo Finance, 2012.

Rich, Robust Infrastructure to Support Explosive Growth³⁸



With this rich infrastructure, the time from idea to billions of dollars of value is occurring at unimaginable speeds not because we have entered “Internet Bubble 2.0”, but because the growth fundamentals warrant it. Moreover, the game changing technology that has been introduced in the past fifteen years and now integrated into the learning market can help reinvent the education industry and provide the programs needed to transform society and the economy.

Importantly, traditional distribution channels to reach schools and students will be disrupted by ubiquitous mobile devices and their apps as well as social media. As of March 2013, there are over 30,000 education apps available in the Apple Apps Store and over 500 million iOS mobile devices that can download them. Facebook is the uber platform and is a powerful network to distribute education products and services.

³⁸ Company filings as of June 30, 2012.

Google, founded in 1998, puts the world's greatest library on everybody's desktop, phone or tablet...and has 2.0 billion education queries a month. Wikipedia, launched by Jimmy Wales in 2004, gives everybody the best encyclopedia ever published for free. YouTube, conceived in 2005, has hundreds of thousands of educational videos at zero cost for the student and iTunes has over 500,000 free lectures, videos, and books. Skype, founded in 2003, has 600 million users and promotes voice and video communication at no or little cost and is being used for tutoring, seminars and lecturing around the world. Facebook is the global communication and collaboration platform where everything is being done.

Twitter, founded in 2006, is the leader in real-time search with over 500 million users. The Twitter "firehose" is incredibly powerful and will be utilized as a research and discovery tool for learners. Dropbox, with 100 million members, provides free file sharing and collaboration utilizing the cloud. Effectively it has made an user's operating system and device irrelevant removing friction to allow users to collaborate seamlessly.

Incredibly, all of these game-changing and education-enhancing technologies, with the exception of Google, were introduced after 9/11. Despite focusing on foreign nation-building in the past decade, disruptive innovation has been introduced and will have a material impact on American Revolution 2.0.

The Internet Age, like other transformational eras, will be measured in the *hundreds of years* with its impact today only having scratched the surface of its significance. For some perspective, the Stone Age lasted 3.4 million years (until 2000 BC) and the Iron Age lasted 1,600 years (1200 BC - 400 AD). We are just now starting to see the revolutionary effects of the Internet in the education industry.

Time to Fight

"He pulls a knife, you pull a gun.
He sends one of yours to the
hospital, you send one of his to
the morgue."

- Jimmy Malone (Sean Connery,
Untouchables)

Time to Fight

Over Thanksgiving, the Smiths got together for their traditional dinner, which featured Granny's secret ham recipe. The signature of the preparation for the ham was that the end was cut off.

After four glasses of wine, the debate raged around the table on why the ham end was cut off and how that contributed to the culinary delight. Finally, one of the grandsons said that he was going to solve the mystery so he went over to Granny and asked her why the end of the ham was cut off.

Granny replied "Well, when I first got married, the oven wasn't big enough to cook the whole ham so we cut off the end".

Our point is that many things are done in the education market because that's "the way it has always been done" without any rhyme or reason to modern circumstances or taking a fresh look if there is a better way to do something. Chris Whittle, CEO of Avenues: The World School, explains the reason for this:

"Now, ask yourself: Who designed our public schools? By design, I mean every detail of a school's program - curriculum, calendar, daily schedule, compensation, discipline, data systems, professional development (training, to school laymen). The truth is that our schools were not carefully designed. Virtually all of them are an inherited hodgepodge of programs and initiatives piled one on top of the other."

The Time is Now

“All the forces in the world are not so powerful as an idea whose time has come.”

- Victor Hugo

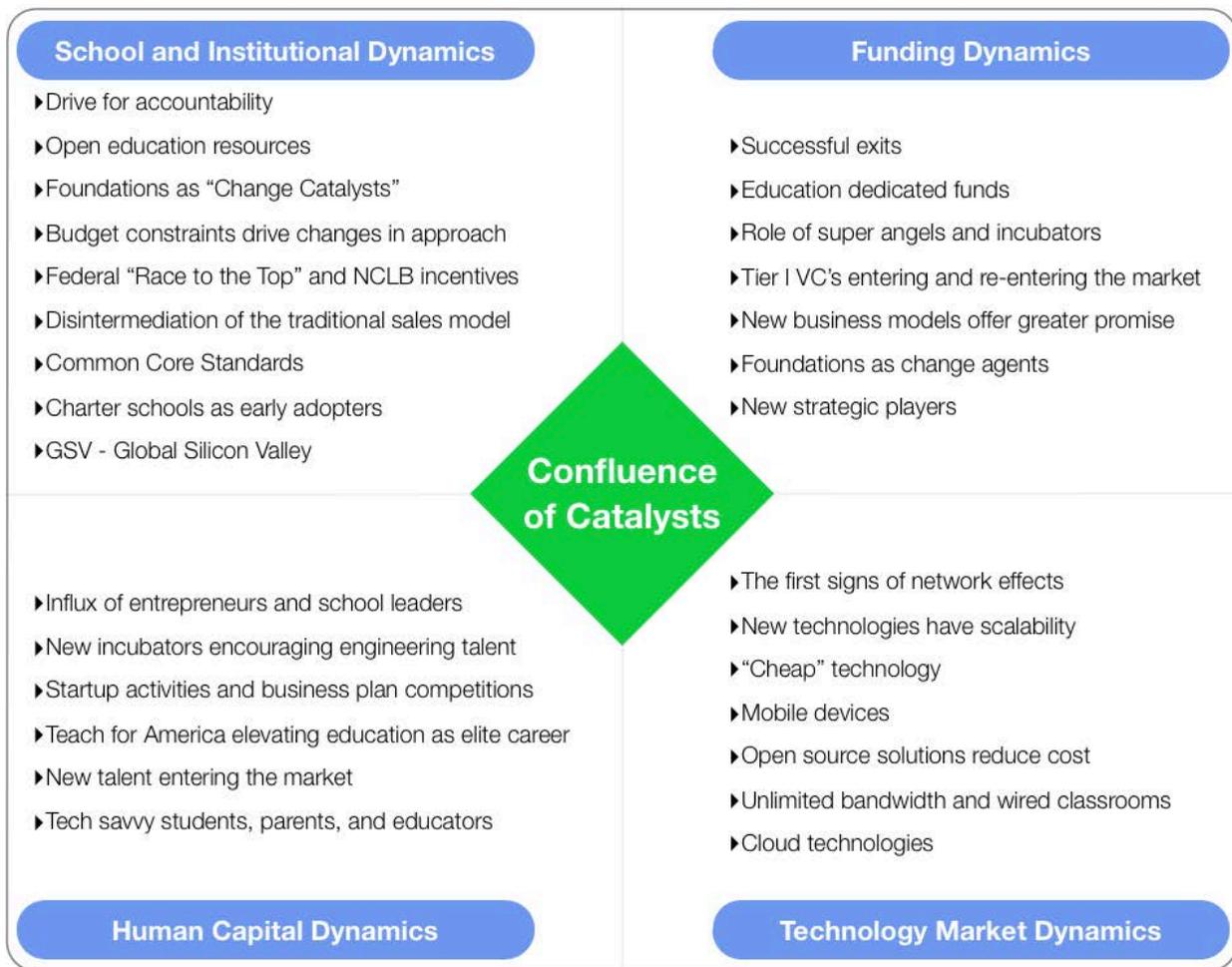
The “wise elders” of the education industry will undoubtedly entertain extreme skepticism whether material change can occur. *Anybody who knows anything* about the education industry knows that if there is any change at all, it is almost imperceptibly incremental.

We believe that our optimistic scenario for radical transformation isn’t based on the wild-eyed optimism of someone who doesn’t know any better—but rather, based on the Megatrends powering the tailwinds of change and the confluence of factors that are now present.

The Tidal Wave Comes Ashore: Confluence of Catalysts

We believe that there is a significant confluence of catalysts occurring in the education market today – all of which point to an optimal time for driving both innovation and investor interest in the sector.

By looking at the field with a fresh set of eyes and imagining what needs to happen and the possibilities, we now see the opportunity for radical transformation and monumental educational impact.



Schools and Institutions

The explosion of the Internet facilitates online learning anytime, anywhere...*even in your underwear*. The realities of a dynamic and global marketplace require continuous learning. Technology has provided more information, attention and better input to the "Return on Education", which fundamentally means driving down costs while increasing access and producing better outcomes.

Insufficient learning outcomes will increasingly result in consequences for educators and institutions. Education analytics will accelerate innovation, as will new disruptive open and/or free models. Importantly, education providers will increasingly be required to think globally and students will be benchmarked on a curve against the world. In the "Global Silicon Valley", the change-the-future ethos of the entrepreneurs in Silicon Valley has gone

viral. From Austin to Boston; from Chicago to Sao Paulo to Mumbai, Shanghai and Dubai, breakthrough innovations are taking place in the learning marketplace.

Funding Dynamics

Despite spending over \$4 trillion dollars annually on learning globally and \$1.4 trillion in the United States, the common cry is there is “no money” available for new products and services. However, the severity of the financial crisis has forced institutions to do more with less. Additionally, substantial funding sources have emerged from the increased activities and resources from foundations and tier-1 venture capitalists investing in new-age education companies. Incubators have popped up to promote education entrepreneurship and provide support for new innovation.

Human Capital

Perhaps the best leading indicator that an industry has arrived is the influx of entrepreneurial talent to the sector. The talent that has come into the education sector in the past several years is incredibly impressive. *Digital Natives* are proliferating and replacing the *Digital Immigrants*, making rapid adoption of innovative technology frictionless. The general correlation between education and opportunity has become more precise with “Return on Education” at the individual level being the core score and terms such as “not-for-profit” and “for-profit” becoming irrelevant.

“Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it’s the only thing that ever has.”

- Margaret Mead

Technology

Technology has become ubiquitous, invisible and cheap. Rich technology infrastructure with platforms such as Facebook and iPad and iPhone allow rapid adoption and circumvent traditional channels, which have resisted innovation. Educational models demonstrating network effects are starting to emerge which have both a profound economic and academic impact. Individualized learning through interactive and adaptive technology is creating a much more valuable learning experience. The “gamification of everything” is driving much higher levels of engagement in the learning process. Utilizing the cloud enables rapid scale at lower cost.

Vocabulary of Innovation³⁹

Technology Buzzwords	Commonly Used Definitions
AI	Artificial Intelligence: computers and machines gaining human-level and human-like intelligence
Application / App	Software designed to perform specific tasks; previously on computing platforms, but now moving towards mobile platforms
Blended Learning	Combination of traditional face-to-face classroom learning with computer-enabled learning
Cloud Computing	Delivery of services and storage using shared servers rather than individual local devices
CPU	Central processing unit: the "brains" of a computer, carrying out instruction of computer programs
Crowdsourcing & Crowdfunding	Generating content or funding through a platform that reaches a massive audience
Digital Native vs. Digital Immigrant	Digital native: a person born during or after the introduction of digital technologies and through interacting with digital technology from an early age, has greater understanding of its concepts Digital immigrant: a person who has had to adopt to digital technology later in life
Disruptive	A new technology that unexpectedly displaces existing products and services by providing at least 80% value at no more than 20% cost
Engagement	A way for primarily social media to measure users interest, includes number of visit per month, time spent each visit, etc.
Flipped Classroom	Inverted teaching method, delivering instruction online outside of class and moving “homework” into the classroom
Folksonomy	A system that efficiently categorizes related key words to organize content. A widely known example is #hashtag system used on Twitter

³⁹ Wikipedia, 2012.

Technology Buzzwords	Commonly Used Definitions
Freemium	A business model that provides an entry level free product and charges a premium for more functionalities and better service
Gamification	Using game design and thinking to enhance non-game content to attract users and increase engagement
GB	Gigabyte: 1,000 megabytes. Modern laptops and mobile devices typically have between 16GBs to 512GBs of storage
Hack / Hacking / Hacker	Using programming or technology generally to solve a difficult and entrenched problem
MAU	Monthly average users: number of users that engages a website per month; the commonly use metric for social media and web companies
MB	Megabyte: a measure of digital information storage or transmission. One minute of song or video is roughly equal to 1MB
MOOCs	Massive open online courses: distributed online and open course where a large number of students can participate
Network Effects	A phenomenon where each additional user added brings disproportionately greater utility to the existing user base - think telephone, think fax machine; a business effect that can rapidly and exponentially grow its user base
Operating System	The master set of software that connects the hardware with software; generally it means a platform for other applications to be used on it. The most commonly used operating system for mobile devices include iOS, Android, and Windows 8
Pivot	A point where a start-up decides to change strategy to better address the market opportunity
SaaS	Software as a service: provide software from the cloud rather than local computers which allow flexibility and more updates
Semantic Web	A movement to promote common formats for data on the web, transforming it from unstructured documents to a “web of data”
SEO	Search engine optimization: the process of improving a website’s positioning in search engines such as Google, Yahoo, Bing. SEO is used to drive more traffic to a website
Taxonomy	Similar to biology, the technology innovation ecosystem is defined and categorized to bring some structure in analyzing the industry
UI	User interface: The way humans interact with machines; typically a great user interface is a key differentiator for companies
UX	User experience: overall interaction that an user has with a product or service; the human-device interaction is a key point of differentiation for most tech companies

“Imagination has a great deal to do with winning.”

- Coach K, Mike Krzyzewski

Failure to create the system, programs, tools and infrastructure won't be because it's impossible, but because we didn't imagine what we can do as a nation when we are laser-focused on such a critical goal and also because we didn't enhance the innovation that was required. If we can put a man on the moon, we can create a *Learning Nation*.

America remains remarkably adept at fostering creativity and innovation. A little more than 37 years ago, two young guys in a garage started Apple Computer, and today its market cap is bigger than the GDP of Poland, Belgium, Greece, Taiwan, Saudi Arabia, and Ukraine. We believe the opportunity to build numerous multi-billion dollar education enterprises is finally real. The biggest investment opportunity is where there is a problem – the bigger the problem, the bigger the opportunity. There is no bigger problem in the global knowledge economy today than how to effectively educate our populace.

Special Forces: Imagine K12



Battle Plan: incubates and jumpstarts K-12 education technology companies using a 3-month program to coach and invest in entrepreneurs. Imagine K12 is one of the first education incubators and heavily influenced by Y Combinator.

Return on Education: igniting the next generation of education technology enterprises that will bring innovative solutions to increase access and quality while decreasing costs.

Claim to Fame: one of the first education incubators of its kind, Imagine K12 has generated attention and excitement around incubating education technology startups.

Fast Facts:

- Partners include Tim Brady (former CEO of QuestBridge and Chief Product Officer of Yahoo!), Alan Louie (ran strategic projects at Google) and Geoff Ralston (former CEO of Lala Media).
- Each company receives \$14,000 to \$20,000 in funding for a 3 month immersive program.
- 1st cohort: 200 applications, 10 accepted, 7 have received funding to date.
- Participation from prominent founders & CEOs including Reid Hoffman (LinkedIn), Reed Hastings (Netflix), Jeff Weiner (LinkedIn), etc.

Class 1 - Summer 2011	Class 2 - Winter 2012
Eduvant	Braingenie
BrainNook	Edshelf
Class Connect	InstaGrok
ClassDojo	Hapara
Educreations	LearningJar
Eleven Learning	Learnsprout
Formative Learning (nka BloomBoard)	Socrative
Goalbook	Tap to Learn
Remind101	TeachBoost
TutorCloud	

Kaizen... Education Style

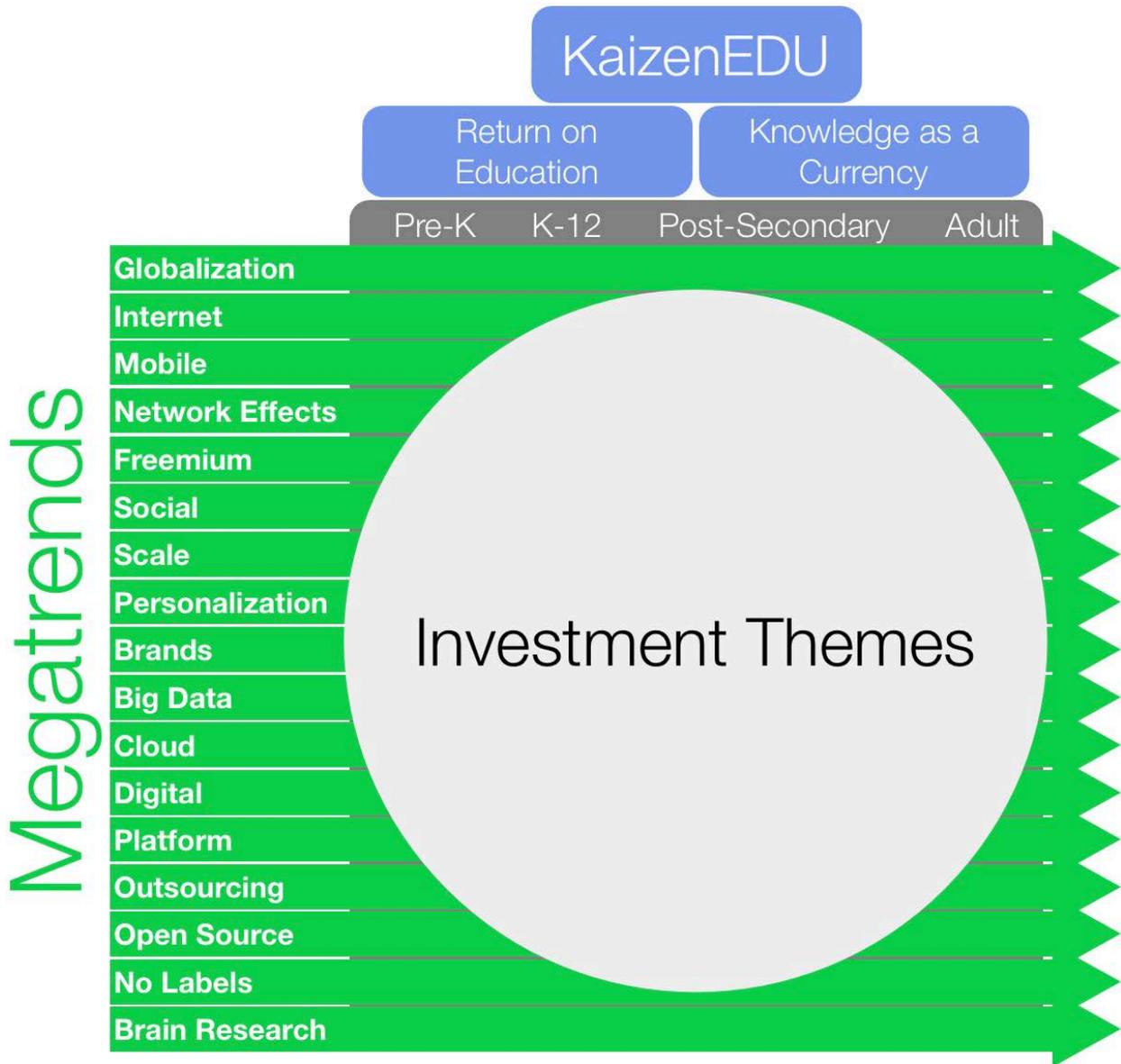
“When you improve a little each day, eventually big things occur...Not tomorrow, not the next day, but eventually a big gain is made.”

- John Wooden

Kaizen...Education Style

Kaizen is a Japanese business term meaning “continuous improvement.” An education corollary is our concept of “KaizenEDU,” which means “continuous learning.” Hard work and a college degree are the minimum price of admission in today’s global economy. In a dynamic, ever-changing global world, you can no longer fill up your *knowledge tank* until age 25 and cruise through life. Effective workers will be refilling their *knowledge tank* continuously. KaizenEDU must become the overarching reality of education in the 21st century if we want a large percentage of our population participating in the global economy. Technology is changing rapidly, jobs are becoming more dynamic—a pharmaceutical researcher of the 1970s had a very different job than a researcher today using bioinformatics rather than brute trial-and-error. A student of today needs to be preparing for a job that doesn’t exist yet, using technology that hasn’t been invented, to solve problems that we don’t know about yet.

Complementing the foundation of the learning society that we need to evolve to are Return on Education and Knowledge as a Currency. These two Uber-trends are the key forces of positive change and measurable learning impact.



University 2.0 - MOOCs

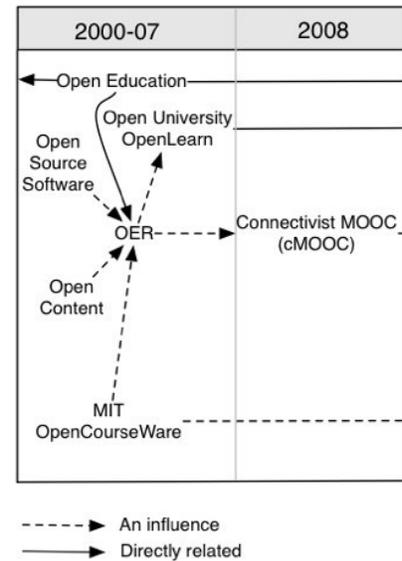
Massive Open Online Courses, a.k.a. MOOCs, are leading a wave of change to radically democratize access to high-quality, college-level courses for people anywhere in the world who can connect to the Internet...generally for free.

The MOOCs concept originated in 2008 through the Open Educational Resources movement that had begun in 2001-2002 through MIT's OpenCourseWare project but really hit its strides in late 2011 and 2012.

The modern wave of MOOCs started through what might be considered a lucky accident. Stanford University, in the fall of 2011, launched three online courses, each with over 100,000 students enrolled, a breathtaking number when you consider that most university courses have a difficult time teaching a hundred students. Notably, Professor Sebastian Thrun's first open online Stanford class taught 160,000 students where the top Stanford student came in ranked 412nd in the class.

Noticing the popularity of these courses, Thrun launched Udacity and his colleagues Daphne Koller and Andrew Ng launched Coursera. MIT, seeing the changes taking place, launched MITx the same fall as a non-for-profit initiative and later partnered with Harvard and together they renamed the initiative edX. Today, edX includes Berkeley, University of Texas System, Wellesley College and Georgetown. Others like Udacity and Udemy have set out with their own offering of courses and content, distributed massively over the Internet.

Today, 33,000 students are enrolling in each course offered by one of the MOOC platforms on average. Importantly, these companies have begun to develop very robust and sustainable models to evaluate the knowledge that students are gaining. Traditional universities are starting to reconceptualize their offerings with an example of this being Antioch University partnering with Coursera to offer students college credit for classes



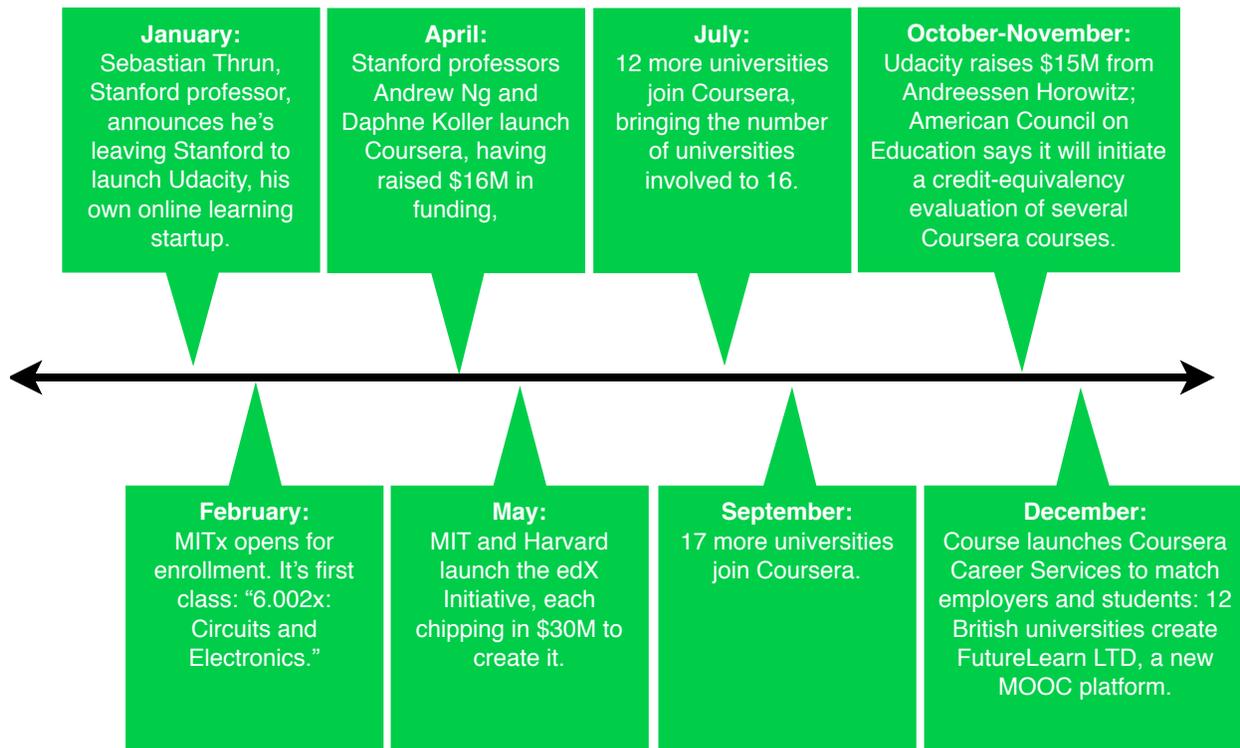
using the content provided by Coursera. This has the potential to be very disruptive for many traditional institutions and many mediocre professors.

MOOCs Business Models

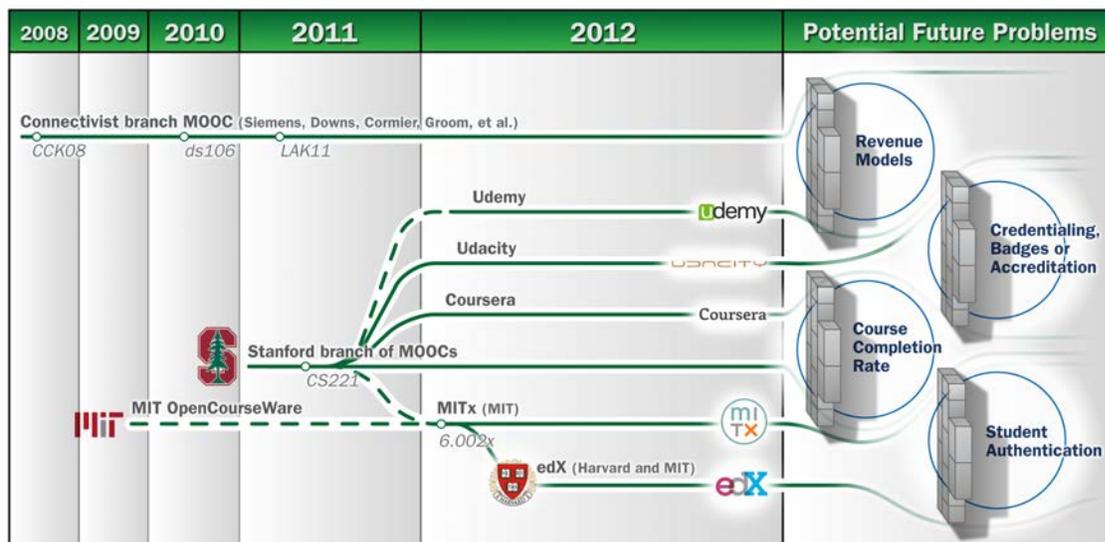
edX	Coursera	Udacity
<ul style="list-style-type: none"> ▶ Certification 	<ul style="list-style-type: none"> ▶ Certification ▶ Secure assessments ▶ Employee recruitment ▶ Applicant screening ▶ Human tutoring and assignment marking ▶ Enterprises pay to run their own training courses ▶ Sponsorships ▶ Tuition fees 	<ul style="list-style-type: none"> ▶ Certification ▶ Employee recruitment ▶ Sponsored high-tech skills courses

The trend didn't just stop there as MOOCs entered high schools in November of 2012 when the University of Miami Global Academy launched their online courses. Over time, we believe MOOCs are leading the development of *Knowledge as a Currency* where individuals will use the free courses online to build up a personal *Knowledge Portfolio*.

2012: The Year of the MOOCs



While 2012 was in many ways the year of the MOOCs, the platforms are actively tackling some remaining challenges, which are also some of the biggest opportunities for MOOCs including authenticating and credentialing students and increasing course completion rates. While there are as many questions presented by MOOCs as answers, we are excited about the traction and the potential to transform education.



Special Forces: Coursera

Coursera

Battle Plan: democratizing and sharing the best classes from top universities with users for free.

Return on Education: by curating and providing courses taught by world-class professors, Coursera is giving millions of students free access to the best formal education available. Coursera is providing Career Services to match students with employers and Verified Certificates for course completion.

Claim to Fame: offers a wide range of topics and design courses based on pedagogical foundations to help students master concepts quickly and effectively.

Fast Facts:

- Has raised \$22 million in total venture funding with nearly \$4 million coming from UPenn and Caltech and the balance from Kleiner Perkins Caufield & Byers and New Enterprise Associates.
- Founders Daphne Koller and Andrew Ng are both computer science professors at Stanford University.
- Has partnered with over 60 universities and is offering over 300 free massive open online courses (MOOCs) in 2013.
- Over 2.8 million students have enrolled on Coursera since its launch in 2011 and Coursera is seeing around 1.4 million course enrollment each month.

Special Forces: Udacity



Battle Plan: has the stated goal of democratizing education. It is the outgrowth of free computer science classes offered in 2011 through Stanford University by three roboticists who believed much of the educational value of their university class could be offered online for a very low cost.

Return on Education: the program is composed of video lectures with closed captioning in conjunction with integrated quizzes and follow-up homework that promote a "learn by doing" model.

Claim to Fame: offers 22 courses taught for free and a community of 753,000 active students and instructors (as of Nov. 2012) – giving a totally new kind of learning experience.

Fast Facts:

- Has raised \$21 million in venture funding from Charles River Ventures, Andreessen Horowitz and Steve Blank
- Born from a Stanford University experiment where Professor Sebastian Thrun, David Stavens and Mike Sokolsky opened a class on artificial intelligence for free online where it received 5,000 student enrollment in the first day and 160,000 student enrollment before having to close the class to additional students.

Special Forces: edX



Battle Plan: edX's goal is to reach out to students of all ages, means, and nations and offer online courses from a faculty who reflect the diversity of its audience.

Return on Education: With over 150,000 students from over 160 countries registered for MITx's first course, 6.002x: Circuits and Electronics, edX currently has 15 online courses and rewards free degrees. As more than 200 institutions have expressed interest in collaborating with edX, the company plans on expanding its global reach by including universities from across the globe, soon charging a modest fee for future certificates.

Claim to Fame: Started with a \$60 million investment from Harvard and MIT, edX is a nonprofit enterprise that delivers free courses in different academic disciplines to anyone who can get online, offering discussions, labs, quizzers, and other interactive learning methods.

Fast Facts:

- edX runs short lectures, which are usually between 3-15 minutes. A typical class has two lectures per week.
- As of October 2012, edX had over 370,000 unique learners enrolled on the site.
- In April 2013, edX merged with Stanford's Class2Go to build an open-source online learning platform

Special Forces: Udemy



Battle Plan: democratize the profession of teaching by providing a platform for experts to host their own courses online.

Return on Education: by providing a platform for anyone to teach courses in their field of expertise, Udemy effectively crowd-sources the teaching of higher education, allowing free market competition to discover the best possible education for the cheapest possible price.

Claim to Fame: by allowing anyone to host their own courses online, Udemy exponentially increases the number of options available for students, thus increasing flexibility in the education space.

Fast Facts:

- Has over 500,000 students currently using the platform, and has one million monthly visitors.
- Recently raised \$12 million in series B venture funding led by Insight Venture Partners, with participation from Lightbank, MHS Capital, and Learn Capital.
- One in four instructors on the site earned at least \$10K through their Udemy courses in 2012.
- Udemy offers over 5,000 courses on technology, business, lifestyle, the arts, and sports.

Return on Education (ROE)

The perceived effectiveness of education historically has been highly subjective. Big Data applied to education is going to provide real-time analytics to enable relevant quantitative information to improve effectiveness. Assessment becomes a "currency" that replaces less objective measurements. Schools, programs and content will be hired and fired by demonstrable impact on learner outcomes.

“Return on Education fundamentally means driving down costs while increasing access and producing better outcomes.”

- Deborah Quazzo

Achieving Return on Education



The corporate structure (i.e. being for-profit or not-for-profit) becomes irrelevant as the focus goes where it should: on student outcomes. The key fundamentals that will drive return on education include lowering costs, improving access, improving student outcomes, increasing professional capacity of instruction and providing real-time assessment.

Blended Learning models demonstrating a more cost effective solution to achieve student gains continue to blossom in the new ROE environment.

Special Forces: myEdu



Battle Plan: building one of the world's largest talent community for college students by providing applications and data that help students complete their degree, capture and promote their accomplishments / skills and achieve their career goals. An MyEdu Personal Learning Profile will be as essential to college students as the LinkedIn profile is to professionals.

Return on Education: delivering high "Return on Education" by using MyEdu apps and data to lower students' cost of education by graduating in less time and increase their return by securing a better job. This strategy matches the most important needs of students and aligns them with the interests of academic institutions and employers who are partnering with MyEdu to help students achieve these goals.

Claim to Fame: has assembled one of the richest academic warehouse available including course, professor, grade history, and degree information sourced directly from universities nationwide and user-generated content direct from students.

Fast Facts:

- 5 million students at over 800 colleges have used MyEdu.
- Students save up to 20% using MyEdu to manage and plan their college degree.
- Launched at the UT System (15 Campuses) and Colleges throughout Texas.
- \$20 million in venture investment from Bain Capital Ventures and University of Texas System.
- Founder and CEO Michael Crosno was formerly the CEO of Global 360 and Chairman & CEO of Epicentric.

Knowledge as a Currency (KNAAC)

Knowledge as a Currency is an Uber-trend that complements ROE and will be the ultimate objective for a learning society. Once aspirational, education technology, big data, and increased transparency of information will allow institutions and employers to select people based on what they *know* as opposed to where they *go*. The dislocation of historical gateways to opportunity via a degree or a certification becomes more pronounced as knowledge becomes the ubiquitous *legal tender* linked to opportunity.

With the advancement of data, measurement and assessment tools, and credential aggregators and organizers like Parchment and Smarterer, a marketplace is being created for knowledge.

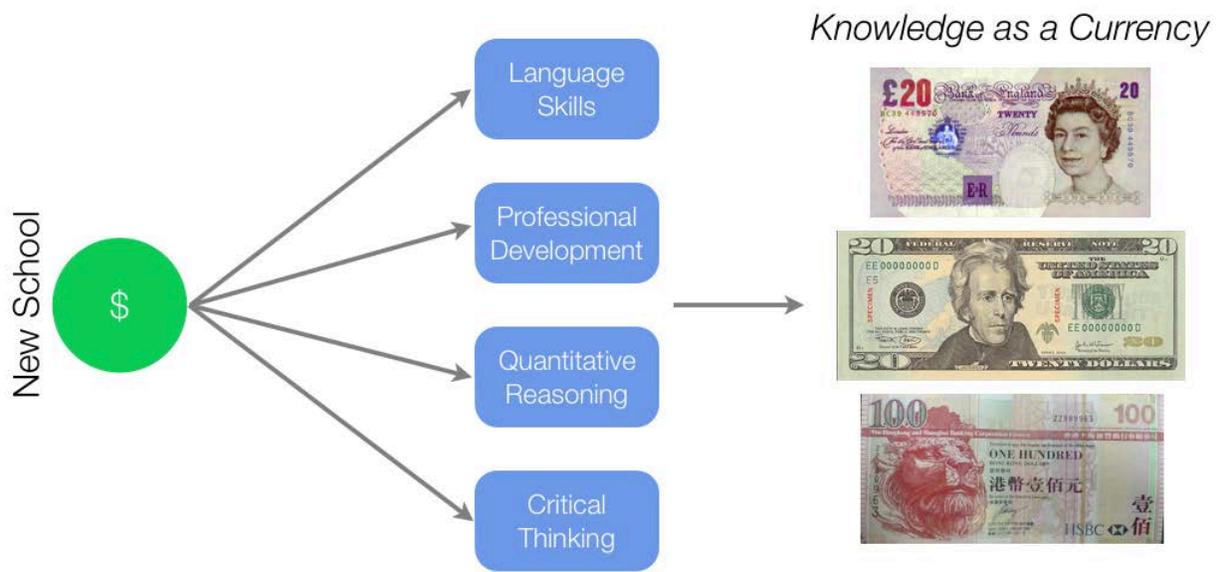
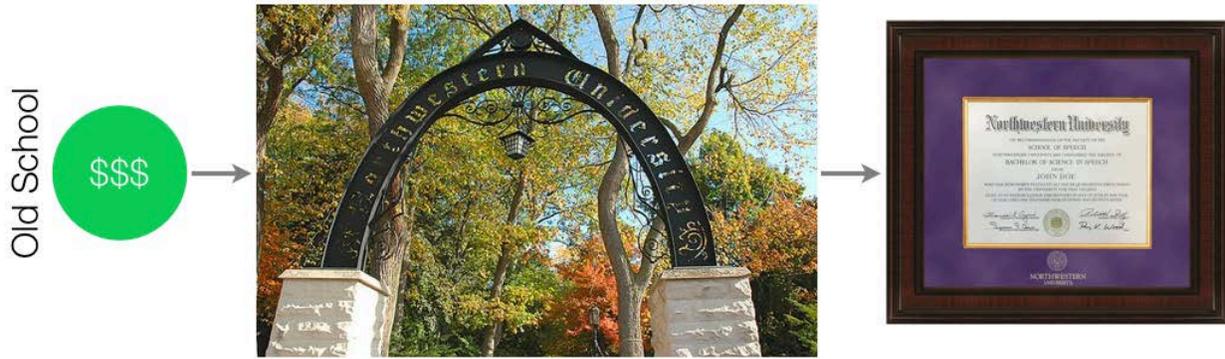
The currency of knowledge becomes more valuable as the marketplace becomes deeper and more liquid. With this marketplace established, exchange between knowledge and payment, primarily in the form of employment and enrollment, can occur.

In a similar way that NYSE allows *stock* to be a currency given the deep liquidity of the exchange, we see the knowledge and labor market becoming a similar place where people with the appropriate skill-set and knowledge base can succeed regardless of their official degrees.

The implication of KNAAC is very disruptive for traditional learning institutions and very empowering for the individual. We envision a new disaggregated learning model where the student will pick and choose courses from a variety of colleges and other non-traditional learning sources to build their knowledge portfolio. Analogous to Charles Schwab's *OneSource* innovation that allowed clients and advisors to select a variety of mutual fund families to build their portfolio but have one statement, learners will have their knowledge portfolio that will be their ticket to opportunity.

Massive Open Online Courses, or MOOCs, are gaining traction at the expense of traditional universities as students are able to get the knowledge they need at low or not cost and are able to exchange the *knowledge currency* for *career opportunity*.

Knowledge as a Currency - New School vs. Old School



Special Forces: Parchment



Battle Plan: transforming the value of credentials by rethinking their utility and liquidity through unlocking the critical meaning in the data they embody. Parchment works with institutions and corporations around the world helping people to collect, promote, and share their education credentials in simple and secure ways.

Return on Education: letting educational institutions organize and accurately capture a student's information allows transparency in credential information. Parchment gives individuals a web platform to collect, store, share, analyze and promote their education and professional credentials over their lifetime.

Claim to Fame: a pioneer in the field of education credential data, Parchment has already become one of the most trusted platforms for both sending and receiving transcripts and other credentials.

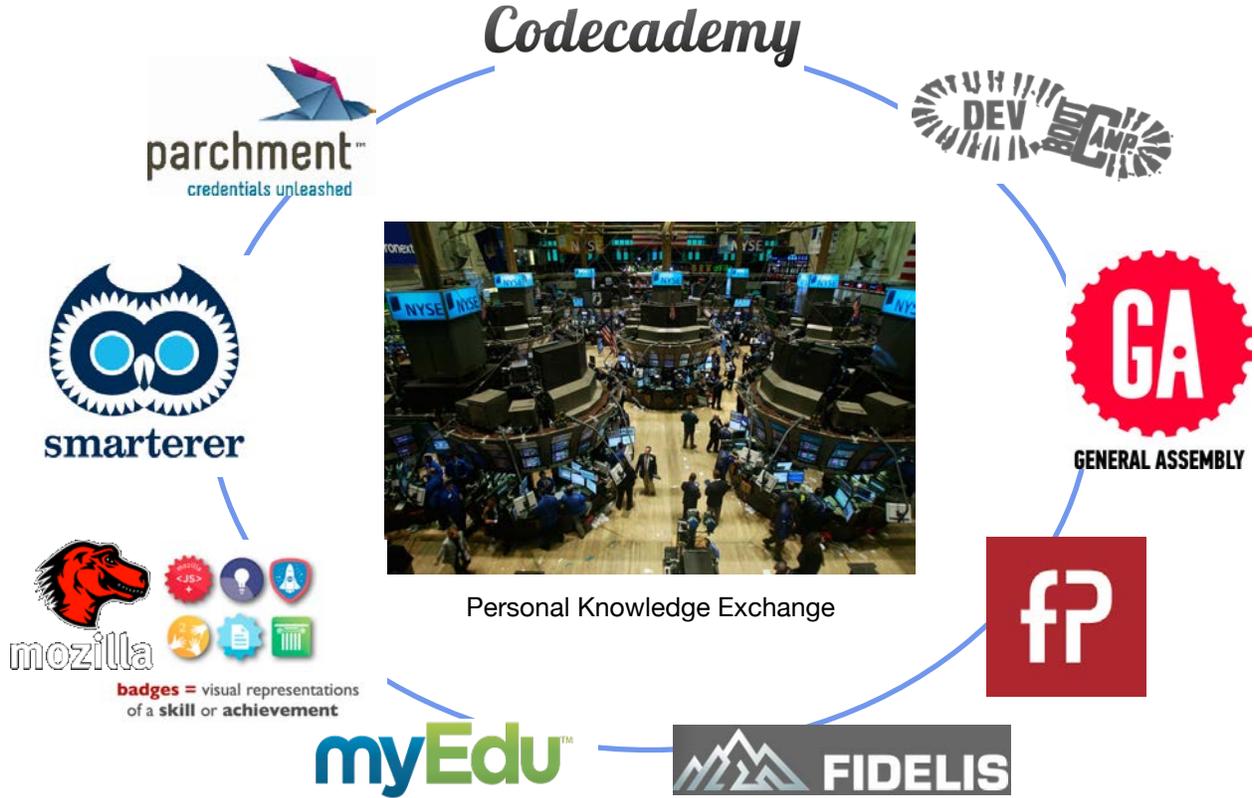
Knowledge as a Currency: due to network effects and big data, Parchment ultimately has the potential to create a currency for knowledge. Its platform could become a marketplace where a large number of user and their data builds deep liquidity so that knowledge can be valued and exchanged for employment or other forms of compensation.

Fast Facts:

- Has raised \$35 million in venture funding from Novak Biddle Venture Partners, Internet Capital Group, Salmon River Capital, The Raine Group, and GSV Capital.
- CEO Matt Pittinsky was the co-founder, Chairman and former CEO of Blackboard and was an early pioneer in the education technology industry.
- Enables the secure, rapid exchange of millions of electronic transcripts and other student records among nearly 9,000 schools and universities, eight state education agencies, and hundreds of thousands of individuals.

Personal Knowledge Exchange

A student today can become credentialed by one of many “institutions” and that knowledge currency is aggregated and exchanged.



Special Forces: Dev Bootcamp



Battle Plan: hosts an intensive 10-week program for 40 beginners and experienced programmers to learn Ruby on Rails and other programming knowledge.

Return on Education: students learn a variety of programming and professional skills through hands-on learning, flipped classroom learning, and mentorship and receive specific help to secure a job or internship at the end of the program.

Claim to Fame: has created a novel solution to educate programmers and an ecosystem of mentors and employers to support a programmer's career growth.

Fast Facts:

- In addition to helping students secure jobs, Dev Bootcamp will take the placement fee from the employer and return up to \$3,000 of a student's tuition.
- Program facilitator Shereef Bishay has led several hundred workshops in high schools throughout the U.S. and Canada and has experience working at Microsoft and multiple start-ups.

Riding the Megatrends

“When an irresistible force meets
an immovable object...shift
happens.”

- Michael Moe

Riding the Megatrends

Megatrends are powerful technological, economic and social change agents that develop from a groundswell (early adoption), move into the mainstream (mass market), and disrupt the status quo (mature market)—thus driving change, productivity, and ultimately growth opportunities for companies, industries and entire economies. Megatrends play a key role in how social, economic, technological and political changes take hold, and as we look backward through history, their effects are easily seen. In real time, however, Megatrends tend to go under-appreciated until they reach a tipping point. The nature of Megatrends is that they are relatively slow to develop, driven by bottom-up, local events that slowly gain in critical mass until they come to define large-scale and pervasive change.

Megatrends have created—and will continue to create—the largest market opportunities. They provide the fundamental catalysts to growing markets through their influence on consumer behavior and business processes, serving as the building blocks for the introduction of new products and services, as well as creating growth opportunities within more mature markets. Identifying Megatrends is difficult—as has often been noted, by the time something becomes a trend, it is too late for many investors to reap benefits. That said, only by continuing to look for the forces that shape the realms of education, business and consumers can we hope to understand and capitalize on the innovations underway in this market.

Globalization

If you go to any shopping mall around the world, you see many of the same brands - Ralph Lauren, Coach, Gucci, Nike, Starbucks, Apple, etc. Historically, education was a local business, but like almost all other industries, it's about to go very global.

The fall of the Berlin Wall in 1989, coupled with the commercialization of the Internet in 1991, broke down geographic barriers and accelerated global exchange of information. The "flattening of the world" is a double-edged sword however, providing opportunities for the prepared, and peril for the rest.

Workers aren't competing against other workers across the street but across the globe. Borders, languages and time zones are no longer insurmountable barriers as talent has become fluid.

ePals has created a global learning platform, with 60% of its 30 million members outside of the U.S. but able to interact in a global environment on learning.

Rest of the World Driving Global Growth^{40,41}

While the U.S. still has 5% of the world's population, it's influence is falling while the BRICs (Brazil, Russia, India and China) are rapidly catching up. S&P 500 Companies' earnings have also shifted to the Rest of the World.

	1990		2010	
	US	BRIC	US	BRIC
GDP	27.5%	7.6%	23.6%	18.2%
Market Cap	34.9%	0.2%	30.4%	14.7%
Population	4.7%	43.0%	4.4%	38.4%
	US	ROW	US	ROW
S&P 500 Companies Earnings	90%	10%	45%	55%

⁴⁰ "Domestic Market Capitalization". World Federation of Exchanges, 2011.

⁴¹ "World Population". United Nations Population Division. World Bank, 2011.

Knowledge Universe has been at the forefront of this megatrend and of its 5 million students in its various learning programs, most are outside of the United States.

In the K-12 space, private schools are bubbling up that have global growth plans such as Avenues, Meritas, GEMS, Dulwich and Nord Anglia. Kunskapsskolan, a successful Swedish school recently expanded to NYC and plans for further growth in the U.S. Pearson has announced a £10 million fund to invest in private schools in Africa and Asia aimed at providing affordable education for poor children.

In postsecondary, Laureate has established a global footprint as have many of the online universities. Additionally, MOOCs such as Coursera and edX are built to be create global reach.

Special Forces: Avenues: The World School



Battle Plan: creating a truly international pre-K through 12 private school experience. Avenues will ultimately become a single school with multiple global campuses in the world's great cities.

Return on Education: delivering a curriculum based on true language immersion, independent study and cultural relevance through study-abroad and city-based experience.

Claim to Fame: aspiring to become the leading private pre-K to 12 school in the world. The combination of a more integrated world and the growing demand imbalance for access to high quality education in the world's greatest cities provides enormous potential.

Fast Facts:

- Has the former President of Yale, former head of Phillips Exeter and former head of Hotchkiss amongst the leadership team.
- CEO Chris Whittle was the former founder of Edison Schools and Whittle Communications, which started Channel One News.
- Its flagship campus in Chelsea, New York serves over 700 students from pre-K to 9th grade. London, Beijing and Sao Paulo campuses will open by 2015.
- Has received funding from Liberty Capital, LLR Partners and GSV Capital.

Internet

Like the important human eras that have come before, such as the Stone Age that lasted 3.4 million years, the Iron Age or the Industrial Age, the Internet Age will transform society and the economy for *hundreds* of years to come.

With more than 2 billion Internet users globally (and 1 billion on Facebook alone), the Internet is the most disruptive technology in the history of the world. The Internet *democratizes* learning, increases access, lowers cost and is now set up to dramatically improve the quality of learning outcomes.

The global growth of the Internet has been robust, driven in particular by emerging markets. China and India alone added 284 million Internet users between 2008 and 2011...that is nearly the entire population of the U.S.

2.3B Global Internet Users in 2011 – 8% Growth, Driven by Emerging Markets⁴²

Rank	Country	2011 Internet Users (MMs)	Y/Y Growth	Population Penetration
1	China	513	12%	38%
2	India	121	38%	10%
3	Indonesia	55	22%	23%
4	Philippines	34	44%	35%
5	Nigeria	45	--*	28%
6	Mexico	42	19%	37%
7	Russia	61	3%	43%
8	USA	245	1%	79%
9	Iran	37	--*	48%
10	Turkey	36	26%	49%
	Top 10	1,189	12%	32%
	World	2,250	8%	32%

Online education 1.0 was essentially repurposing offline curriculum onto the web. Today, the Internet enables interactive and collaborative learning with studies showing that students do as well or better online compared to face-to-face learning. MOOCs and Blended Learning are growing trends that are piggybacking off of the rich Internet infrastructure that has been built over the past 20 years.

Importantly, the web creates unprecedented transparency that allows parents, teachers, administrators and students to have realtime information to improve learning.

⁴² Kleiner Perkins Caufield Byers, 2012. Note: Nigeria / Iran data as of 12/10. Other countries data as of 12/11.

Mobile

The computer in over 1 billion peoples' pockets globally is more powerful than the IBM System 370 mainframes that used to power all the banks in New York City in the 1970s, and is cheaper than a couple of Knicks tickets. While the number of personal computers shipped from 2001 to 2011 has increased by a robust 11% each year, the number of smart mobile devices shipped during the same period grew at an astronomical rate of 102% on average each year. This trend is likely to continue in the foreseeable future and signals an exponential increase in the number of people with access to new learning tools and applications via their mobile devices.

Global Smart vs. Dumb Phones⁴³

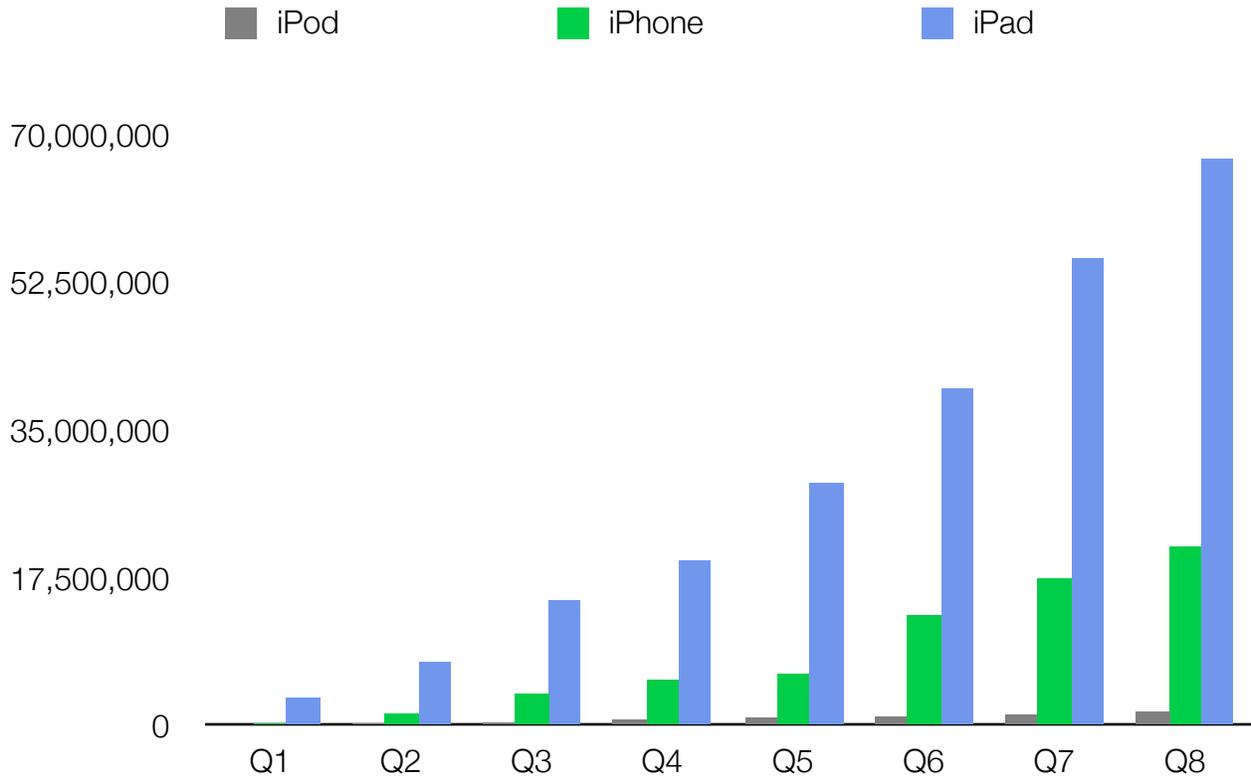
Smartphones account for 20% of all phones today, but will be 80% within the next 4 years.

(units in million)	2007	2011	2015E	Past CAGR	Est. CAGR
# Smartphones	115	1,200	8,000	80%	61%
# Mobile Phones	1,150	5,900	10,000	51%	14%
Smart as % of all	10%	20%	80%		

“Anytime, anywhere learning” is a reality, and mass distribution is just an App Store away. It also helps that the iPad has had faster adoption in the education market than any technology in history. Other tablets including Microsoft’s Surface are on the way, allowing invisible and ubiquitous computing.

⁴³ Gartner, Canalys, Cisco, ITU: 2012.

First 8 Quarters Cumulative Unit Shipments, iPod vs. iPhone vs. iPad⁴⁴



Importantly, growth in mobile for the education industry is set to take off. In Q2 2012, schools purchased a record number of iPads, with nearly 1 million units purchased, and iTunes U saw over 14 million downloads during the quarter as it added 700,000 new schools and 750 new courses.⁴⁵

Digital textbooks such as what Kno software provides for over 225,000 titles, bring a rich, interactive experience on your iPad, Android or Windows 8 tablet.

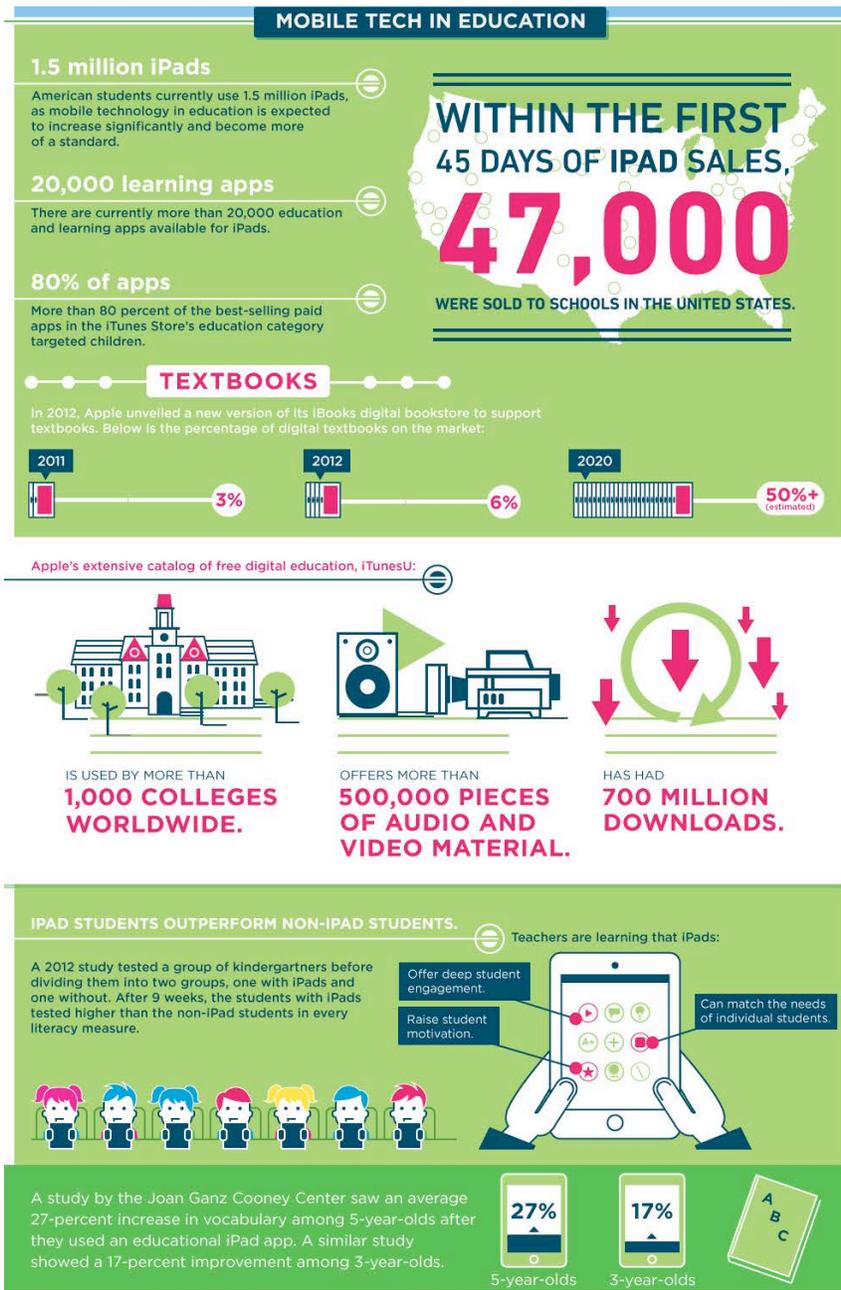
Mobile devices continue to get cheaper and more powerful while networks are doubling bandwidth every 18 months and expanding into rural areas. Today, each user consumes 92 megabytes of data per month, but that number is expected to increase to 1.2

⁴⁴ Apple company filings.

⁴⁵ Kapko, Matt. "A Growing Apple iPad Market Awaits in B-to-B, Education". July 25, 2012. <<http://www.clickz.com/clickz/news/2194389/a-growing-apple-ipad-market-awaits-in-btob-education>>

gigabytes per month, a 13 times increase in five years.⁴⁶ That's the equivalent of going from downloading 25 songs to over 340 songs per month.

Mobile in Education - Highlighted by Apple⁴⁷



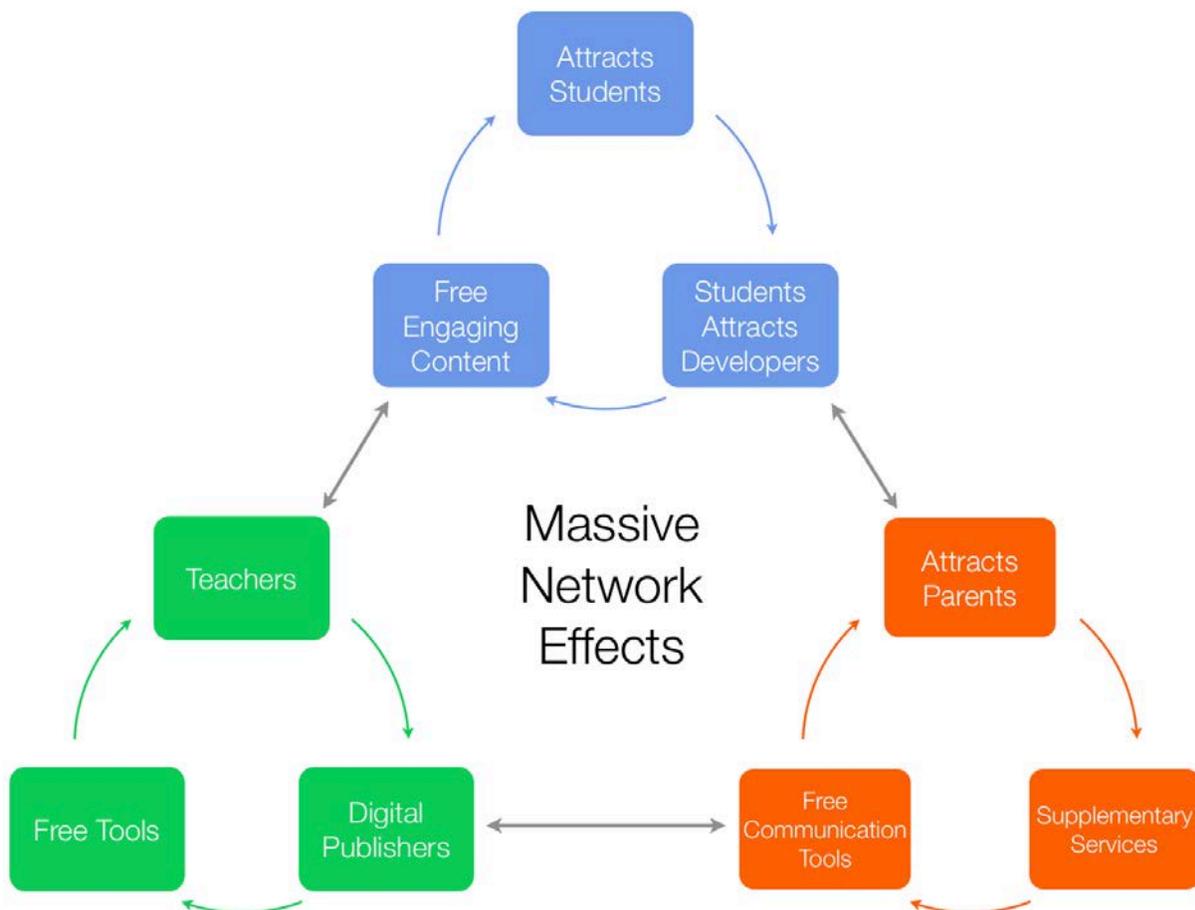
⁴⁶ World Bank, 2012.

⁴⁷ Edudemic. Aug. 31, 2012. <<http://edudemic.com/2012/08/the-ultimate-guide-to-apples-presence-in-education/>>

Network Effects

Network effects are exemplified by a system whose value grows exponentially as users grow linearly—think of the telephone or the fax machine. The first wave of technology innovation in learning was a broadcast model with linear growth. New interactive models are emerging that harness the power of network effects, which will not only have a profound impact on business models, but also on learning outcomes. With the key metric for network companies being engagement level, ROE and KNAAC are helping propel adoption and growth.

Network Effects Finally Occurring in Education



Imagine a learning network that gets “smarter” with every click and provides massive distribution for compelling curriculum.



Battle Plan: creating the Knewton Adaptive Learning Platform™, an open platform that personalizes educational content for each individual student, based on data collected about the performance of that student, similar students on the platform, and the content itself. The more students who use the platform, the more accurate it becomes.

Return on Education: uses data to make education more efficient and effective for every single student. Personalized recommendations engage students, helping them meet learning objectives more quickly and giving them a deeper level of knowledge and understanding. The Knewton platform also has the opportunity to help solve the access problem in education by providing a scalable way to bring high-quality learning experiences to students around the globe.

Claim to Fame: education is right now undergoing a monumental shift, from the one-size-fits-all factory model to a digital, personalized model. Knewton is at the forefront of this change. Knewton works with publishers, schools, and other content providers to bring the benefits of personalized learning to students.

Fast Facts:

- Knewton was named a Technology Pioneer by the World Economic Forum in 2011, following in the footsteps of companies like Twitter, Firefox, and Paypal.
- Knewton Founder and CEO Jose Ferreira was a former Partner at New Atlantic Ventures (formerly Draper Atlantic) and a former executive at Kaplan, where he led a company-wide re-engineering effort to redesign the company's courses.
- Knewton has raised \$54 million from Accel Partners, First Round Capital, Bessemer Venture Partners, FirstMark Capital, Founders Fund, Pearson, Reid Hoffman, Ron Conway, and others.
- In Nov. 2011, Pearson and Knewton partnered to create personalized education products.
- In 2012, Knewton was named to Fast Company's list of the world's 50 most innovative companies.

Stakeholders	Education Innovation Enabled by Knewton
Publishers	Use Knewton to transform digital content into an adaptive experience
Games & App Developers	Use Knewton to provide users with unique pathways through apps or games
Schools and Teachers	Use Knewton to power online and blended courses

Free and Freemium

Many of the most disruptive models are rapidly driving scale by making a component of their offering “free.” Mega-dislocation and hyper-growth were achieved by Google, Facebook, Dropbox, Skype, YouTube, and Twitter—all of which used freemium to drive rapid adoption. Freemium models in education have historically been challenged as perception has been that “you get what you pay for.” Real-time assessment and tangible knowledge as a currency are shifting the paradigm from “cost = quality” to “true ROE”—Return on Education. Freemium models will allow profound innovation on economic models and educational impact. They accelerate scale and allow you to get to the “tipping point” for network effects to kick in. MOOCs are a powerful example of this model where companies like Coursera have nearly 3 million students in less than two years by providing high quality, “branded” courses for free.

Special Forces: Edmodo



Battle Plan: providing a free and safe learning platform for teachers and students to connect, collaborate, and share content.

Return on Education: connects a global network of teachers and enables them to personalize learning for every student; helps students learn the way they live.

Claim to Fame: has built an easy to use platform for individual teachers and students as well as school districts, one that can be expanded to professional development training.

Fast Facts:

- Edmodo is currently connecting more than 8.5 million teachers and students globally.
- Has received more than \$40 million from New Enterprise Associates, Union Square ventures, Learn Capital, Greylock Partners and Benchmark Capital.

Special Forces: Schoology



Battle Plan: developing a K-20 collaborative learning platform that incorporates online learning, classroom management, and social networking.

Return on Education: the product integrates seamlessly with existing school/district technologies to create a single, scalable interface where educators can teach, assess, administer and analyze student progress.

Claim to Fame: expanding the educator's support and resource network by enabling meaningful academic collaboration through the sharing of best practices and digital content via school-to-school networking and an easy-to-access centralized resource library.

Fast Facts:

- Has raised \$9.8 million in funding from Meakem Becker Venture Capital, Cempaka Schools Malaysia, and FirstMark Capital.
- The Schoology platform was founded by Jeremy Friedman, Ryan Hwang, Tim Trinidad and Bill Kindler.
- Available as both a free, stand-alone product and as a fee-based, integrated enterprise-class solution for schools and districts.

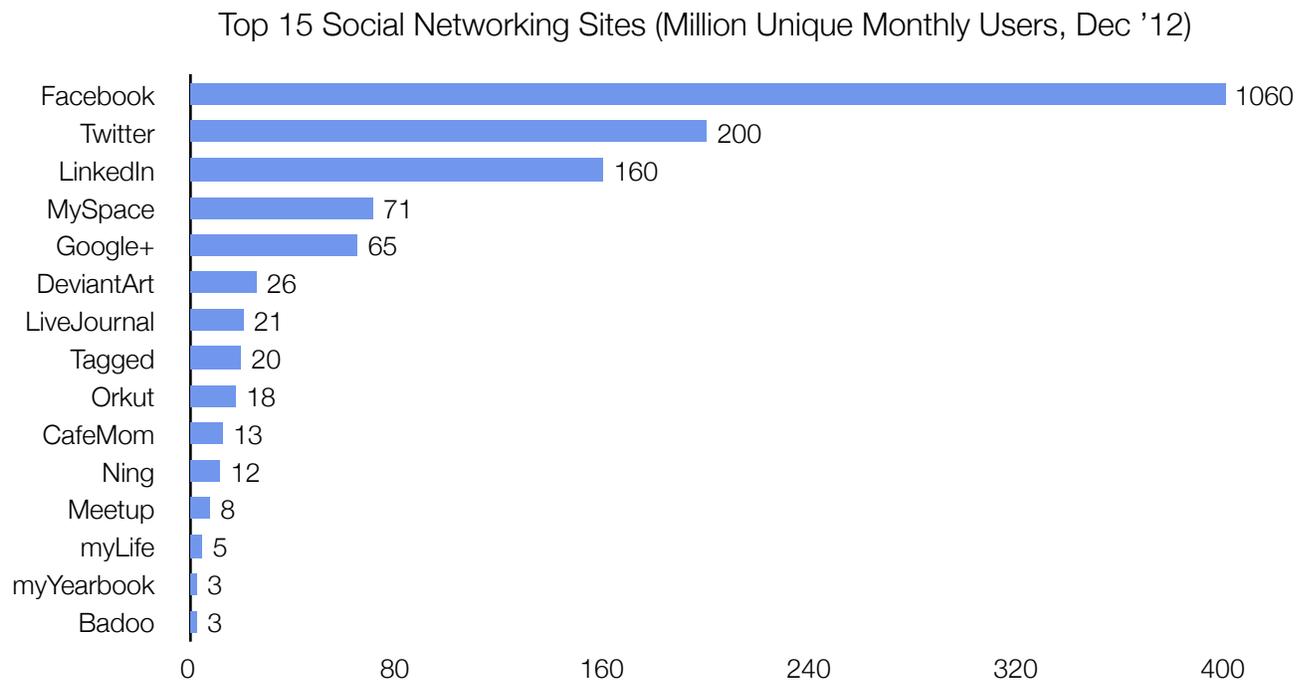
“If you think education is expensive, try ignorance.”

- Derek Bok, former president of Harvard University

Social

Human beings are inherently social animals. Social learning, network effects, adaptive learning, and creating platforms are all important drivers of opportunity for innovative education companies.

The Largest Social “Properties”⁴⁸

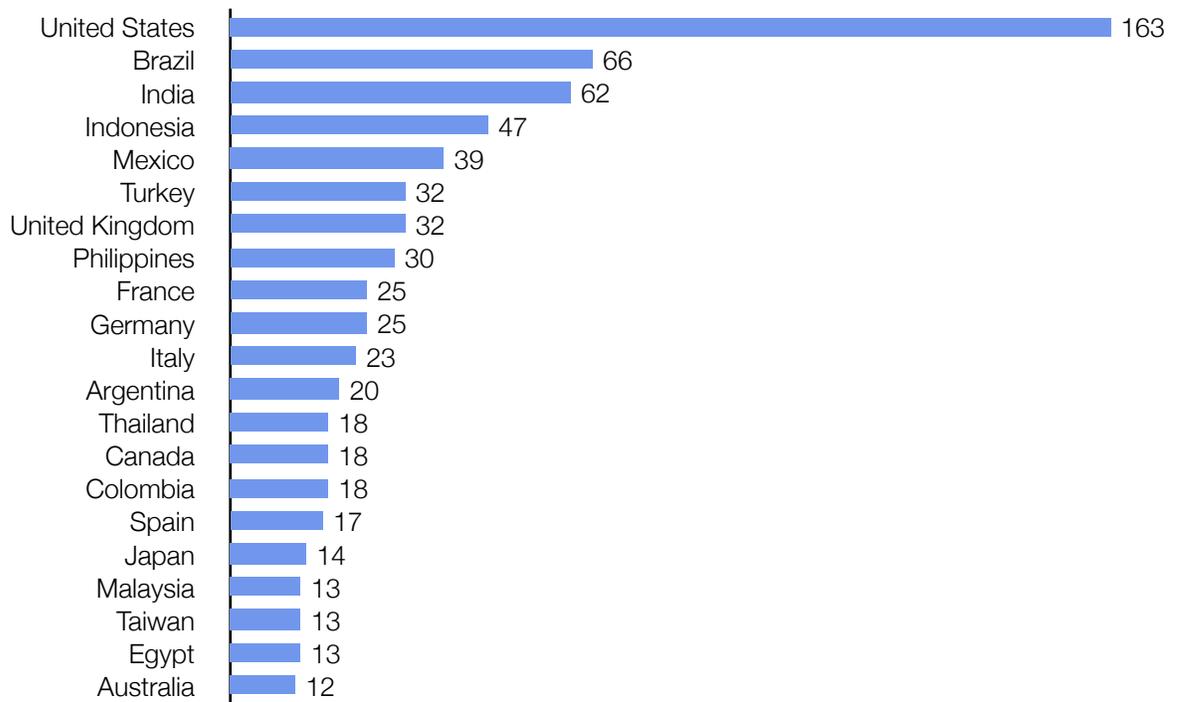


If Facebook were a country, it would be the third largest in the world, with over 900 million “citizens.” Facebook has become the future communication and collaboration utility for the world in the past few years. No college kid thinks Facebook is cool (their parents and grandparents are now on it!)...but it's necessary. You want to know what's going on with your friends? What your homework assignment is? Where to find a new game? How to share things you love? Pictures of your life? Facebook is the platform where you do that.

⁴⁸ eBizMBA, 2012.

Facebook's Global Reach⁴⁹

Facebook Users by Country (in million)



⁴⁹ SocialBakers, 2012.

Special Forces: Inigral



Battle Plan: develops Schools App, a private social network on the Facebook platform, to help colleges and universities improve enrollment and retention.

Return on Education: Schools App on Facebook helps admitted and current students connect with their campus community by allowing them to make friends, share interests, meetup and get involved on campus. Colleges and universities can view and analyze real time social data to assist in enrollment modeling and retention outreach.

Claim to Fame: by virtue of their location and industry relationships, Inigral is highly involved in the Facebook ecosystem and the innovation underway in social media. With partnerships at more than 100 universities across the U.S. and Canada, they pioneered how colleges build student community to improve student success.

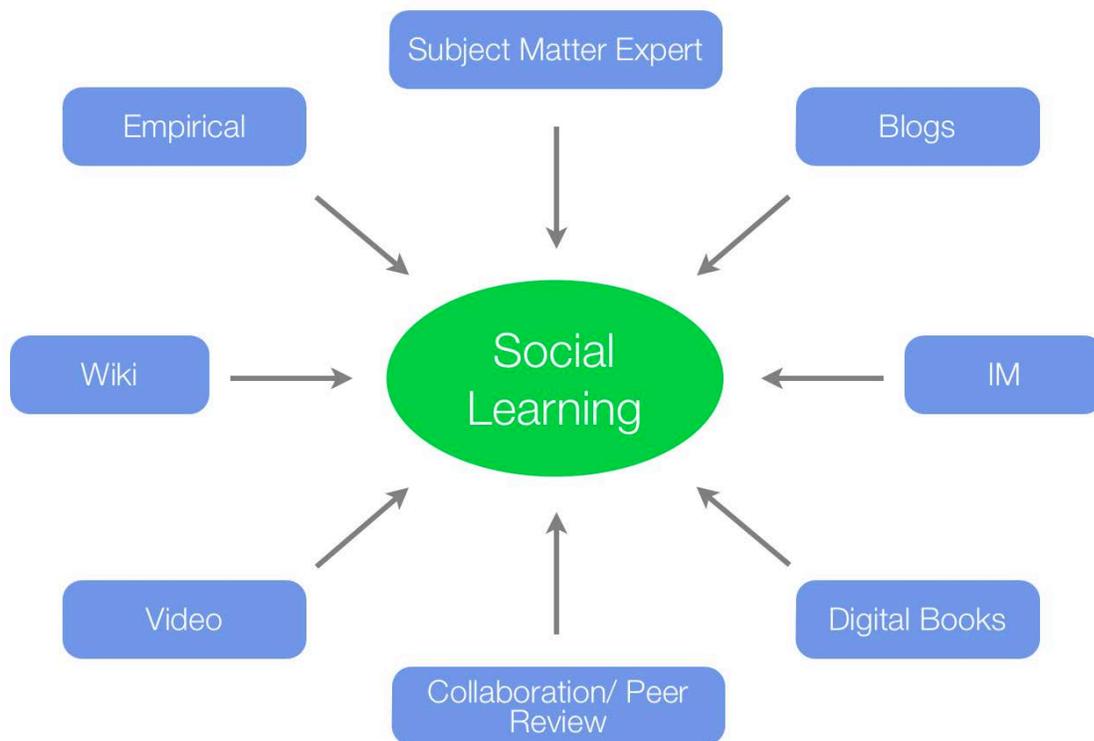
Fast Facts:

- Has raised over \$10 million of venture funding from Founders Fund and Retro Venture Partners (both early Facebook investors) as well as the Bill & Melinda Gates Foundation.
- Founder and Chief Evangelist Michael Staton was formerly a secondary educator and curriculum designer.

Today, we are entering what we believe is going to be the most explosive and disruptive era for online learning driven by Web 2.0 and Web 3.0 to what we call "Social Learning". The network effects created by the potent mix of everybody in the *Knowledge Economy* being a perpetual student, interactive courses, and anytime-anywhere social learning, are going to stimulate tremendous growth opportunities for companies in this market. In

community businesses, the market leaders scale through network effects virally and get a disproportionate share through escalating advantages.

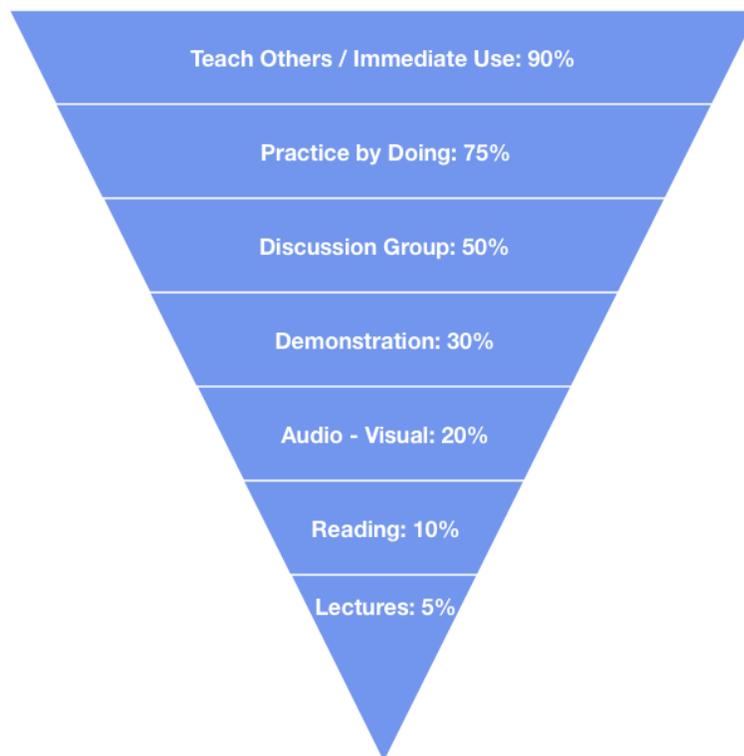
Social Learning Has Become a Tool to Drive Knowledge



It's been proven empirically, and is common sense, that people learn and retain more by doing and participating. In terms of mastery of the subject, the best way to learn and retain something is by teaching it to others, which has a 90% effectiveness score, 18 times higher than that of traditional lectures. Practicing by doing has a 75% effectiveness score, and discussing in group has a 50% effectiveness score. Social learning is the ideal way to integrate the most effective message online.

Learning Effectiveness⁵⁰

Social learning incorporates the best aspect of learning retention.



It is also logical for Social Learning to make its way through the professional world. Used as a tool to stimulate collaboration and allow for better human resources management, enterprise systems have been increasingly adopted within the corporate sphere. The latest Masie survey proves this point as it found that 62% of respondents believe social learning provides a meaningful value to their organization.⁵¹

⁵⁰ Magennis, Saranne; Farrell, Alison. "Teaching and Learning Activities: Expanding the Repertoire to Support Student Learning". 2005.

⁵¹ "Social Learning Survey". Masie Social Learning Lab and Seminar, March 2012.

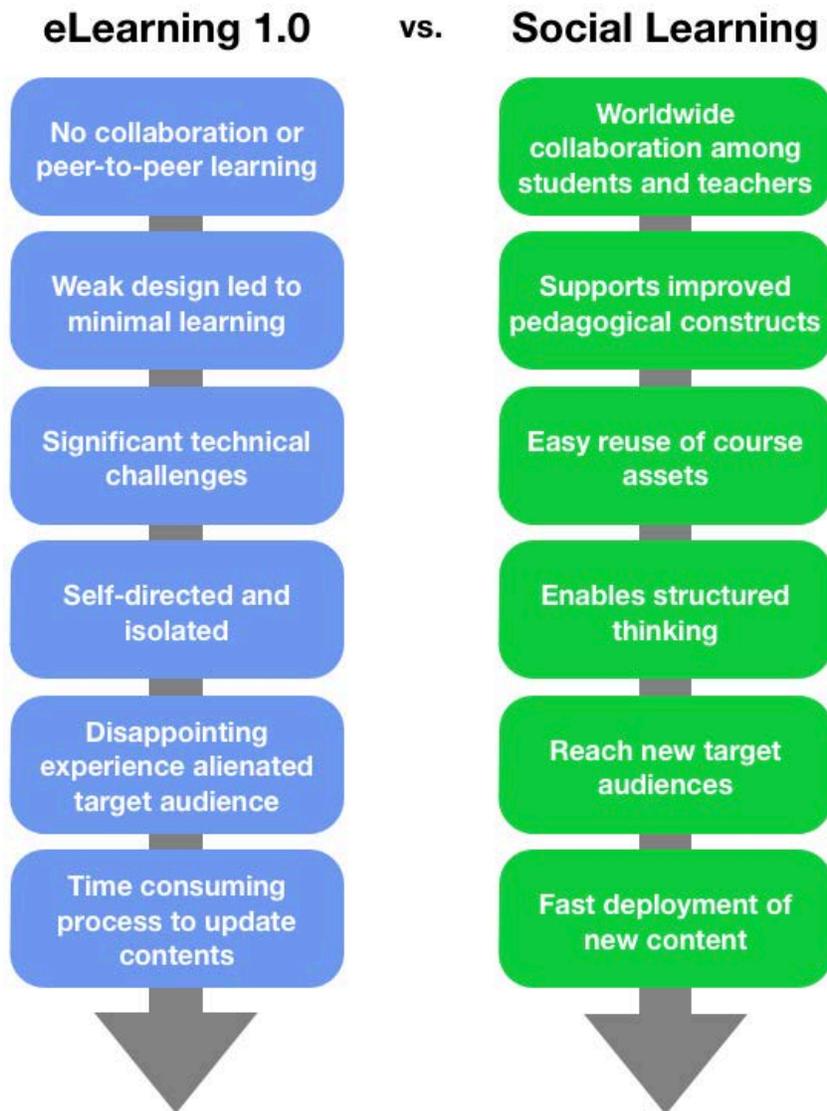
2012 Masie Survey

Percentage of organizations using various social learning methods.

Technologies Used	Percent %
Corporate Collaboration Portal	57%
Peer Coaching / Teaching	52%
Media sharing (images, videos)	48%
Collaborative Spaces - Wikis	47%
Blogs	45%
Learning Systems for Social Learning	42%
Social Networks	41%
Employee Profiles	33%
Content Ratings and Reviews	13%
Twitter and Mobile Content	12%

The potential of Social Learning will be to create access for lifelong learners around the globe to interact with world class subject matter experts and collaborate with engaged, passionate students in a highly customized manner. Different than the "broadcast model" of traditional teaching or even the online learning 1.0, Social Learning will be a highly interactive, rich and cost effective way to get the knowledge people want and need - anytime, anywhere.

Social Learning Addresses Weakness in Traditional eLearning⁵²



⁵² CorpU Social Learning Research, July 2012

Increasingly, learning providers won't need to build their own platform but utilize the robust networks that have already been created, such as Facebook, Twitter, and LinkedIn. Grockit's Learnist cleverly incorporates many of the features that work in social media and has developed an elegant social learning platform.

The Educator's Guide to Social Landscape

Platform	Learning Opportunity
	Global platform to create collaboration and use its API to develop education and other applications.
	Global network for realtime news and search. Allows users to find influential people and current news information.
	Social networking platform that allows collaboration, particularly through Chat and Google+ Hangout.
	Global professional development and networking center. Allows knowledge workers to connect, share ideas and find employers / employees.
	Largest online video platform; serves as host to Khan Academy, MIT OpenCourseWare, and a large variety of other educational channels and videos.
	Pinterest is a visual interest-sharing website that gives users the power to curate content and share their interest. Grockit is currently building Learnist, a similar concept focused solely on education topics.
	Quora is a global question and answer website that provides crowdsourced expert answers to users at low or no cost.
	Slideshare is an online presentation sharing website to allow easy collaboration on projects and distribute information.

Scaled Delivery

Incorporating the other Megatrends is a megatrend itself — Scale. Whether it's the Internet, freemium, social media, the Apps Store, Common Core Standards, or network effects — the era of “impossible to scale in education” is over. Having the opportunity to scale will attract the best entrepreneurs and smart capital as both seek the greatest returns.

Historically, in the K-12 market, even if you had a cure for cancer, your company would die before the patient because the traditional sales process was *so slow*. Now, schools are already embedded with millions and millions of smart devices with access to app stores, allowing an effective education product to go from idea to big time in the tap of a pad.

MOOCs have shown the ability to scale rapidly as have freemium platforms such as ePals and Edmodo.

Adaptive / Personalization

Smart software becomes more individualized with each click. Pandora created the music genome project which magically tailors music to your personalized taste. Adaptive technology dramatically and positively changes learner outcomes as technology is used to deliver a personalized learning experience.

For the first time in history, technology will enable students to be diagnosed and to be prescribed real-time coursework tailored to their precise needs. Every click is captured allowing Big Data to provide rich analytics for teachers and parents. Being able to know exactly where a student is and dynamically creating a learning experience that optimizes the time spent can be transformational.

Special Forces: Cerego



Battle Plan: creating an intelligent learning platform to revolutionize the learning process and transform information into long-term knowledge. Cerego allows users to manage and continuously test their knowledge base over time and keeps a database to guide the student through review materials.

Return on Education: using technology to make learning and remembering a highly efficient process for students. Cerego allows people to optimize time spent on learning a wide range of content from languages, to music, to medicine.

Claim to Fame: using years of applied research in cognitive science and data from users, Cerego has created a system to allow students to learn faster, remember longer and manage their evolving memory profile.

Fast Facts:

- Based in Tokyo, Cerego has raised \$28 million in venture funding from high net worth individuals with a vision to radically improve education.
- Has over one million registered users to-date and over 60 blue-chip enterprise clients.
- Co-founder and CEO Eric Young was formerly a currency derivatives trader at Bankers Trust and the CEO of Westdeutsche Landesbank's Asian securities company.

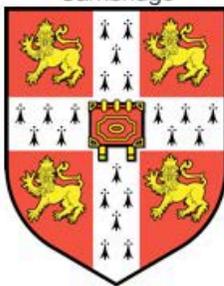
Brands

A brand is a promise to a customer in terms of quality of product or experience. Once a brand is established, its brand equity can be leveraged across other geographies and applications. Importantly, elite brands whose value is tied to scarcity become vulnerable if their Return on Education doesn't match their reputation.

“Super Brands”



Cambridge



Unlike the past five hundred years where it took centuries to establish a brand in education, demonstrable ROE with greater transparency will accelerate brand equity creation.

Big Data

The world's information is doubling every two years, with over 1.8 zettabytes created or replicated in 2011—this information would require almost 58 billion iPads to store, which, if stacked on top of one another, would be 25 times higher than Mt. Fuji.⁵⁴ Heretofore, education technology has been the king of small data—automating check-the-box requirements such as attendance or free lunch eligibility. This is all about to change as new technologies that analyze, prescribe, and predict learning outcomes will enable an objective evaluation of *Return on Education and Knowledge as a Currency*.

⁵³ Higher Education World University Rankings.

⁵⁴ Catone, Josh. "How Much Data Will Humans Create and Store This Year". Mashable, June 2011. <<http://mashable.com/2011/06/28/data-infographic/>>.

Special Forces: Junyo



Battle Plan: empowering educators to make smarter decisions and help students learn by partnering with schools, publishers and online learning providers to more effectively use learning data.

Return on Education: helping students, parents and educators understand and interpret progress as well as create actionable recommendations to improve performance and teaching effectiveness. Junyo harnesses the tools used by platforms such as Google, Facebook and Zynga to analyze educational data points and support student learning.

Claim to Fame: bringing a breakthrough method to evaluate student performance and moves away from the multi-decade old model of standardized testing and semester grades.

Fast Facts:

- Founder and CEO Steve Schoettler was a co-founder of Zynga.

“In the next 20 years, power will shift to the customer – for the simple reason that the customer now has full access to information worldwide.”

- Peter Drucker

Cloud

Utilizing the cloud allows startups to scale much more quickly and compete with much larger enterprises as compared to startups even a few years ago. The cloud provides on-demand, always-updated, lower-cost applications at a fraction of the price of traditional software models. Any individual or institution with an Internet connection can tap into the

power of the cloud. Amazon's web services (AWS) provide a tiny start up with the computing power of a major corporation at dramatically lower costs. Dropbox enables interoperability from the cloud and is agnostic to devices and operating system. The scalability implications for entrepreneurial education companies are profound.

Special Forces: LoudCloud



Battle Plan: delivers a highly personalized, adaptive and engaging student experience on a flexible and scalable platform.

Return on Education: allows students, teachers and institution instance access to LoudCloud via a Software-as-a-Service model and allow users to have on-demand access to the LoudCloud Ecosystem to minimize hardware and software costs.

Claim to Fame: next-generation learning platform natively incorporating mobility, social and collaborative technologies, adaptive learning, and predictive analytics.

Fast Facts:

- CEO Manoj Kutty was formerly the President of Tata Interactive Systems, a leading developer of learning solutions.
- LoudCloud's Adaptive Reader Technology is a retention tool that captures and statistically analyzes more than 300 variables from student demographics, course engagement, and assessment data to deliver preferred learning resources, remedial instruction, tutoring support, and personalized feedback based on each learner's individual profile.
- Recent adopters of LoudCloud's technologies include Career Education Corp., Grand Canyon University in Arizona, and Jefferson County School District in Colorado.

Digitization

The evolution is complete—we've come full circle from the *physical delivery* of a *physical product*, to the *physical delivery* of a *digital product*, and now finally to the *digital delivery* of

a *digital product*. From music to newspapers to textbooks, digitization has won. More than repurposing the physical to the electronic, digitization now enables interactive, adaptive technology that drives engagement in learning experiences in a more personalized way.

“We are strong believers in the disruption of untapped markets and education is a prime example of a sector in need of digital innovation.”

- *Marc Andreessen*

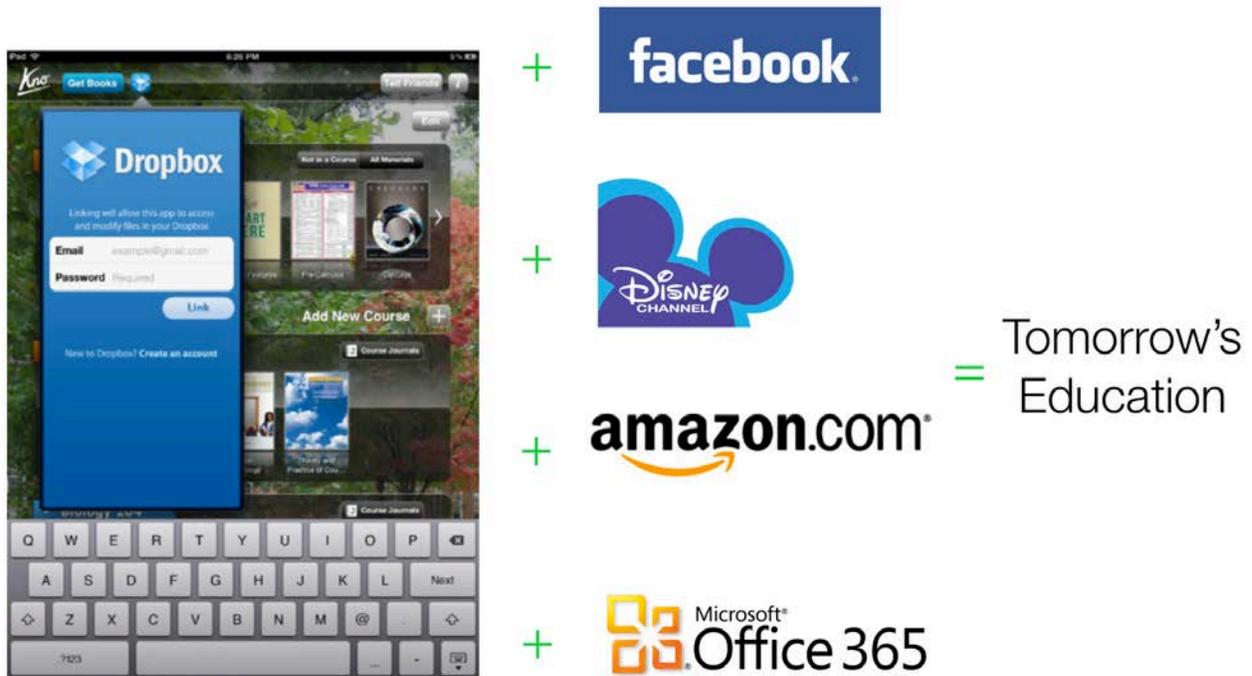
Platform

Microsoft created an operating system platform that others built upon. Apple built a mobile platform upon which 700,000 apps have been created and downloaded over 30 billion times. Facebook has created a social platform that enables companies like Zynga to become a \$3 billion market cap company with over 250 million users in 3 years.

Platforms that enable the development of an education innovation ecosystem will become increasingly important. Recently Microsoft introduced its Windows 8 platform, a radical update to its operating system for both PCs and mobile devices and will be introducing many different education applications in the coming years. Windows 8 will act as a link by supporting past products that were built for prior Windows to bridge the past to the present and the present to the future.

Education Convergence

The ecosystem of platforms combine the social aspect of Facebook, the entertainment magic of Disney, the adaptive power of Amazon and the integrated solutions of Microsoft to create tomorrow's education.



Additionally, the power of “app stores” will be an important and overarching force for the foreseeable future. With the tracks of IT laid over the past several decades, companies such as Microsoft, Apple and Google, the primary providers of app stores, give content providers the ability to reach tens of million of people swiftly without needing to create a traditional distribution network.

The implications are enormous as new education content - etextbooks, games, activities, videos - can be instantly sent to a large user base and updates can be pushed frictionlessly. Compare this to the status quo where textbooks are out-of-date the moment they hits the print room and the disruptive potential of this technology becomes readily apparent.

Latest Mobile Platform Universe⁵⁵

Features	Apple iOS6	Google Android Jelly Bean	Microsoft Windows 8
Apps	700,000	600,000	100,000
Maps	Proprietary service with 3D maps; missing street view feature	Google Maps with offline caching and mapping of the insides of notable locales	Bing Maps with standard navigation, 3D, offline, and routing features
Browser Sync	New iCloud tabs allows browser syncing between desktop and mobile	Chrome (world's most popular browser) allows tab, bookmark and search syncing	Currently not available
Facebook Integration	Fully integrated to update status and upload images from various apps	Great for Facebook sharing and syncing contacts	Seamlessly integrates with every Facebook feature
Voice Commands	Siri receives a boost and will be able to interface with car audio and navigation systems	Jelly Bean has a major speech recognition update	Less developed voice command but covers basic functions
Mobile Payments	No payment offering yet, but Passport feature is Apple's first step towards NFC integration	Google Wallet comes standard with NFC-based features	Wallet is Microsoft's digital payment system and uses secure NFC elements stored in SIM cards
Video Chat	FaceTime now allows calls over 3G or Wi-Fi	Google Talk and Google Hangout allows video chats between any Gmail users	Skype is arguably the most universal standard for video chat
Call Features	You can decline calls with preset SMS response and filter out calls	Allows prewritten text responses and filtering	Only has filtering and call block options
Messaging	iMessage works with all Apple devices but needs to add cross-device integration	Best native instant messaging platform via Gchat and Google Voice	Can send texts, Facebook and Skype messages from a single window
Smarter Icons	Icons can display notifications, but generally remain static	Little or no dynamic icons, but has widgets for real-time updates	Live Tiles display notifications but also can be shown in 3 sizes
Media Streaming	AirPlay intuitively allows media streaming on Apple devices	Uses the Nexus Q as its media streaming hub	SmartGlass serve as its media streaming portal to the Xbox

⁵⁵ Covert, Adrien. "Android Jelly Bean vs. iOS 6 vs. Windows Phone 8: The Ultimate Mobile Comparison". Gizmodo. <<http://gizmodo.com/5921789/android-jelly-bean-vs-ios-6-vs-windows-phone-8-the-ultimate-ultimate-comparison>>.

Special Forces: Chegg



Battle Plan: building a platform for students with applications such as textbook rental, note sharing, professor ranking, daily deals and college searches.

Return on Education: gives students the ability to obtain textbooks at a material discount and allows them access to essential services at the best market prices.

Claim to Fame: Chegg has cultivated an user base of 5 million students and is seeking to become the go-to source for all student products and services.

Fast Facts:

- CEO Dan Rosensweig previously was a Partner at Quadrangle Group and was the Chief Operating Officer for Yahoo.
- Has raised \$195 million in venture funding from Kleiner Perkins, Foundation Capital, Insight Venture Partners, TriplePoint Capital, Pinnacle Ventures, Primera Capital and GSV Capital.
- Has announced six acquisitions since 2010, notably CourseRank, Cramster and Zinch.



Outsourcing

Global competitiveness is driving the most successful enterprises to focus on what they excel at and to outsource the rest. In education, it's no longer acceptable to have a mediocre foreign language or online offering—you're either "all in or all out." Public/private partnerships will begin to emerge as the norm. There has been a mad scramble by universities to partner with MOOCs such as Coursera and edX. Blended Learning partnerships such as what Education Elements and Junyo have been able to form with charters and districts have huge momentum.

Moreover, the tightening of budgets and shrinking capital accounts are catalysts for institutions to find partners to be competitive. Additionally, the most progressive institutions will look for outsourcing opportunities to play offense.

Special Forces: Embanet



Battle Plan: delivers fully online degree programs with minimal initial capital investment from partner higher education institutions. Current partners include Wake Forest, Vanderbilt, Florida, USC, BU, George Washington, Howard, and many others.

Return on Education: increases student access to elite higher education courses while lowering the financial burden on universities.

Claim to Fame: a pioneer in the industry and is now a leading provider of online learning services for the world's premier schools, colleges and universities.

Fast Facts:

- Has received venture funding from Knowledge Universe (Michael Milken) and Technology Crossover Ventures.
- CEO and President Stephen Fireng was formerly Group President of Career Education Corporation's University and Art & Design Groups.

Open Source

Tom Sawyer was ahead of his time in getting others to paint his fence for him. The open source movement has proven to be powerful and disruptive in most industries, and is dearly embraced in the education industry. Creating value-added services and products is an approaching wave...being the “Red Hat” for education.

Special Forces: rSmart



Battle Plan: delivers an open platform for education that empowers students and educators to extend and reinvent education with capabilities that span teaching, learning, research, finance, and administration.

Return on Education: by leveraging a community development model working with world-class universities rSmart is creating flexible, scalable, and responsive open source software that is half the cost, and more accessible.

Claim to Fame: one of the only company in higher education that is leveraging a full spectrum of software components from the Sakai and Quali open source communities to deliver a comprehensive open platform for education.

Fast Facts:

- Co-Founder and Chairman John Robinson is a widely recognized visionary in higher education; for more than 35 years he has been serving colleges and universities worldwide with innovative software technology.
- rSmart currently has more than 50 customers that subscribe to its offerings, and has a very high retention rate (90%+).
- Has received funding from ASAHI Net and GSV Capital.

MIT was a leader in putting its courses on the web for free with its OpenCourseWare and MITx initiatives. Early adopters of free online curriculum include Harvard and Stanford.

While institutions have been understandably reluctant to grant a degree or even certification from these programs, as what you actually know becomes more important than where you got a degree from and as *Knowledge as a Currency* become the market standard, we will see an acceleration of students accessing this free resource.

Exhibit: Selected Colleges with Open Course



No Labels

Not all not-for-profits are good and not all for-profits are bad. People don't talk about "for profit" restaurants, or "not for profit" doctors; they care about the quality of the product or service. Increasingly, administrators, parents, students and politicians are becoming *agnostic* on the corporate structure but *religious* about outcomes. *Return on Education* will ultimately drive purchases and retention. It's critical for an effective learning society that we lose meaningless labels and focus on results.

Special Forces: Khan Academy



Battle Plan: providing free access to videos on a full collection of fundamental learning topics including core K-12 subject areas as well as finance, medicine, computer science and more.

Return on Education: giving students of all levels and ages free access a wide array of educational videos to help individuals learn at their own pace.

Claim to Fame: one of the most popular open source education project and has been backed by Google who is planning on translating it into the world's most popular languages. Teachers are also starting to use classroom time for problem solving and asking students to watch Khan Academy lectures at home, effectively flipping the lecture-homework model.

Fast Facts:

- Has received financial support from the Bill & Melinda Gates Foundation, Ann and John Doerr and Google.
- Has over 250 million YouTube views and 700,000 subscribers, making it the leading education “channel” online.

Brain Science

Significant scientific breakthroughs in brain research are poised to change the way the world approaches learning and education.

Over the past decade, research in neurobiology and cognitive psychology has dramatically advanced our understanding of how the human brain processes, learns and remembers information. We now have the ability to purposefully activate the molecular process to stimulate learning, trigger memory formation and increase retrieval.

In fact, research has pinpointed a series of techniques for presenting learning that can create a change in the brain - causing it to store information in long-term memory in a fraction of the time needed for traditional methods.

The key focus areas are neurobiology, cognitive psychology, and game studies. Neurobiology studies how the brain learns and forms memory at the cellular level. Cognitive psychology tries to understand how learning and memory combine to inform behavior. Game studies is uncovering data on memory formation triggered through outside influencers and game-like atmospheres.

Special Forces: Knowledge Factor



Battle Plan: leveraging insights from neurobiology, cognitive psychology and gaming studies, *amplifire* provides learners with a next generation learning technology that helps them acquire, retain and recall information far more effectively than traditional learning methods.

Return on Education: *amplifire* is easy to understand, easy to use and easy to leverage to the betterment of learners and students everywhere. It has the flexibility to fit into any textbook, study guide, classroom curriculum or organizational training program.

Claim to Fame: has spent more than a decade delving deeply into the vast body of brain research from institutions around the world, and has created a software platform that propels eLearning into the 21st century.

Fast Facts:

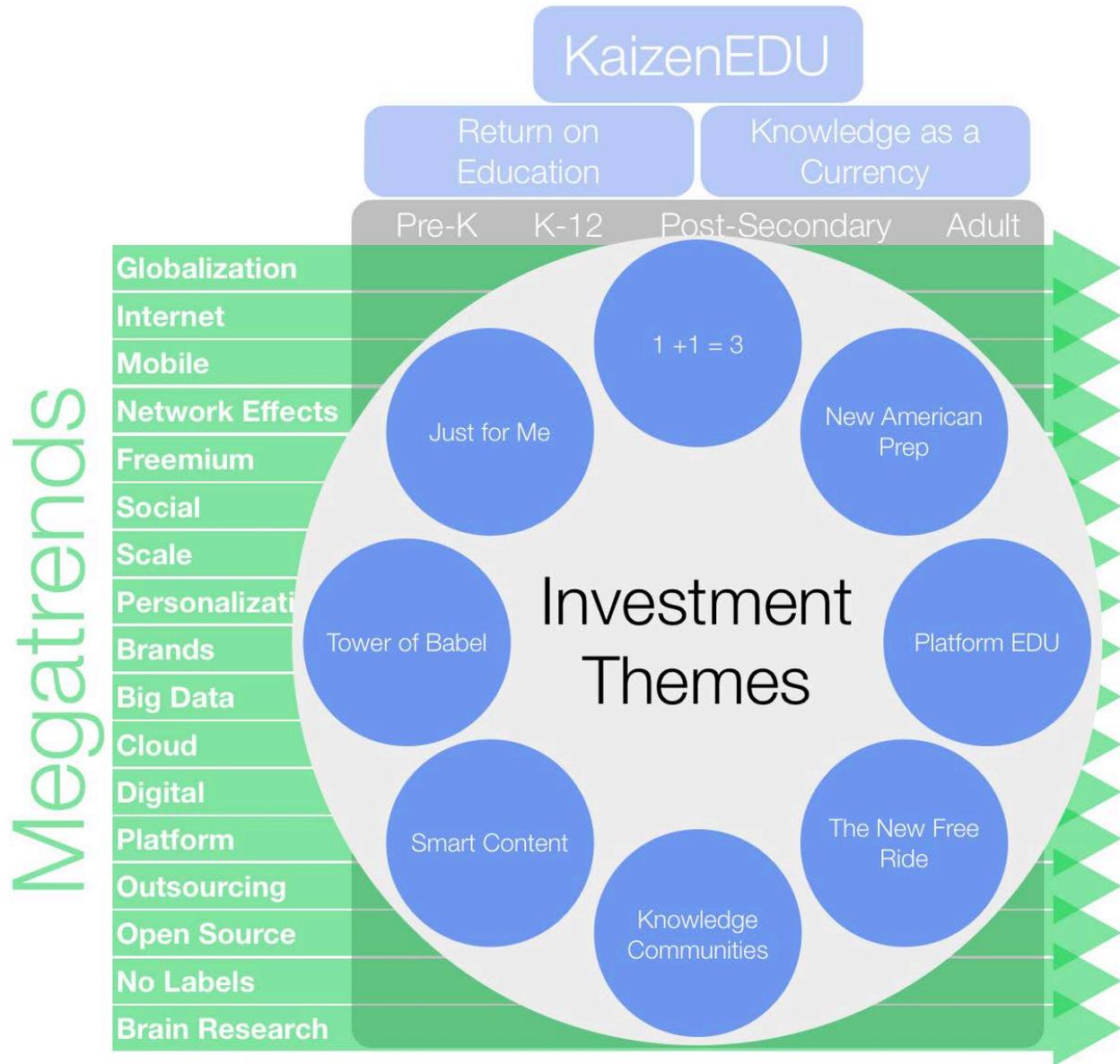
- Clients include GE, Tribune Co (PerformCG), DuPont Pioneer, among others.
- Has received venture funding from Leeds Equity Partners.

Weapons of Mass Instruction – Investment Themes

“The best way to predict the
future is to create it.”

- Peter Drucker

Weapons of Mass Education – Investment Themes



Against the backdrop of our education Megatrends, we have identified specific investment themes — actionable areas of investment that are experiencing the powerful tailwinds of our Megatrends. Within each of these themes, we have identified companies that have the potential for outsized investment returns.

Education Themes



Just For Me

Individualized learning that becomes more personalized with every click. Adaptive technology, like we've seen from consumer leaders such as Amazon, Pandora and Netflix, will become transformative in the education industry. Integrating data will allow teachers, parents and students to have a proactive learning experience—diagnosing, prescribing and dynamically reassessing based on the individual student. Ultimately, we believe courses will be disaggregated from the institution and be selected a la carte for a personalized education program.

Special Forces: DreamBox Learning



Battle Plan: provide an effective online learning platform for students by integrating rigorous curriculum, motivating learning environment and an intelligent adaptive learning™ engine that has the power to deliver millions of individualized learning paths, each tailored to a student's unique needs. DreamBox utilizes gaming protocols that encourage children to persist through challenge, and persevere to mastery.

Return on Education: DreamBox intelligent adaptive learning provides all students, regardless of zip code, with a quality educational experience that accelerates learning by maximizing every instructional minute in a cost-effective manner.

Claim to Fame: has created a data rich intelligent adaptive learning™ platform which captures, processes and responds to over 48,000 pieces of information per student per hour.

Fast Facts:

- Acquired in April 2010 by the Charter Fund in partnership with Reed Hastings, DreamBox Learning closed its Series A round of funding in December 2011 led by private investors Hastings, John Doerr and Deborah Quazzo, as well as GSV Capital.
- CEO Jessie Woolley-Wilson was formerly the President of Blackboard's K-12 Group and President of LeapFrog SchoolHouse.
- Won more than 20 top education and technology industry awards including the 2012 BESSIE Award for Best Early Elementary Math Website, awarded for innovative and content-rich websites that provide technology to foster educational excellence.
- Independent SRI International study found that students working on DreamBox for just 21 hours achieved gains equivalent to progressing 5.5 points in national percentile ranking.

1 + 1 = 3

Partnerships will proliferate as institutions grapple with a more dynamic and competitive marketplace. Public/private partnerships will develop, leveraging brand equity from established institutions and innovative offerings and investment capital from private

enterprise. Part outsourcing, part progressive joint venture, success will be driven by creating programs and services that are efficient, effective and excellent. MOOCs and Blended Learning providers are good examples of the 1+1=3 theme.

Special Forces: 2U



Battle Plan: bringing premier higher education programs online without sacrificing quality, academic rigor, faculty and student interaction, or job placement rates.

Return on Education: 2U's online degree programs radically increase the universities ability to reach more students globally as well as affords students greater flexibility to pursue degrees remotely.

Claim to Fame: 2U is a leader in the rapidly evolving School-as-a-Service (SaaS) sector. The Company has developed state-of-the-art technology platforms and works closely with university faculty to transform traditional classroom lectures into a compelling combination of online and real-world learning experiences. 2U is one of the only SaaS companies that provides field placement support to help students complete hands-on learning experiences in their own communities.

Fast Facts:

- Raised \$90mm of venture funding to-date from Redpoint Ventures, Highland Capital, Novak Biddle Venture Partners, Bessemer Venture Partners, GSV Capital, SVB Capital and WestRiver Capital.
- Co-founder and CEO Chip Paucek previously served as the CEO of Hooked on Phonics and Cerebellum Corporation, the company behind the award-winning Standard Deviants television program.
- 2U founder and Executive Chairman John Katzman previously founded and served as the CEO of The Princeton Review. He is a prolific thinker and writer on education innovation and serves on the board of various organizations, including the Woodrow Wilson Foundation and the National Association of Independent Schools.
- Since its founding in 2008, 2U has grown to over 400 employees and partners with six universities.
- 2U partnered programs have enrolled over 4,000 students in all 50 states and over 40 countries.

The New American Prep School

A white space that is being rapidly filled is the gap between what a person learned in school and what they need to know to be effective in business in today's ever changing world. Supplementing traditional schools with unique learning offerings is a gigantic wave. Filling up your "knowledge tank" to age 25 and driving off through life won't cut it anymore. To stay relevant, workers will need to learn continuously. Knowing a computer language is likely to be more valuable than knowing a foreign language, and understanding how different cultures operate in a global marketplace will be a critical 21st century life skill. We also look at non-traditional schools that are preparing children for the future world as well as online schools that are able to bring dropout students back into a learning environment.

Case Study: General Assembly



GENERAL ASSEMBLY

Battle Plan: building a campus for technology, design, and entrepreneurship to provide educational programming, space, and support to entrepreneurs.

Return on Education: gives entrepreneurs the core resources and knowledge necessary to build companies and dramatically brings down the typical learning curve facing young start-ups.

Claim to Fame: has created a multi-faceted campus to serve the needs of high-potential entrepreneurs and advance the startup ecosystem in New York and London.

Fast Facts:

- Hold educational programming open to the public and promote communal membership model that allows members to access the campus 24/7.
- Since launching in January 2011, memberships have been “sold out” and G.A. has recently opened a second larger NYC campus as well as a London campus. GA has received strong support for the governments where its campuses are located.
- Jake Schwartz is the CEO and a Founding Partner; he was the founder of The Office Space Guys and has an MBA from Wharton and a B.A. from Yale.
- Has received venture funding from Maveron, Learn Capital, Yuri Milner and Jeff Bezos.

Special Forces: Fullbridge



“At Fullbridge, we believe everyone wants to make a difference, and to put their unique interests and skills to work in a meaningful way, and that power in the 21st century flows not so much from credentials but from knowing how to do things well and how to make things happen in the world.”

Battle Plan: helping students bridge the gap between higher education and the professional world by delivering necessary workplace skills through a rigorous blend of e-learning, on-site coaching and peer projects more like an intensive internship - with a personal coach - than like more school. The program is designed to serve students, colleges and employers globally.

Return on Education: enabling students to become career-ready and a better sense of career directions that will draw fully on their interests and strengths, enabling them to contribute from day one. Participants are offered a choice of Business Challenge, a classic business track, or Fullbridge Entrepreneur, for those seeking more open-ended careers requiring mastery of an even more extensive set of skills.

Claim to Fame: operating the leading program that focuses on providing an intensive, transformative business program to address a crucial market gap. Graduates of Fullbridge, top college students in the U.S and Asia, call the program one of the most transformational educational experiences they have ever had, and many call it life-changing both in their newfound clarity of career direction and in the confidence their new skills give them as they move forward into the workplace. Employers note a significant difference in graduates along these dimensions as well.

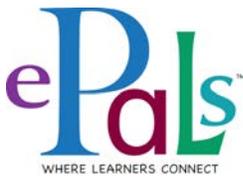
Fast Facts:

- Board members and advisors include John Katzman, founder and former CEO of Princeton Review and founder and Executive Chairman of 2U, and Ed Mathias, Managing Director of The Carlyle Group.
- Co-CEO & Founder Peter Olson is a senior lecturer at the Harvard Business School and former CEO of Random House. Co-CEO & Founder Candice Olson was Co-Founder and CEO of iVillage.com and was one of the first women to lead an IPO in the U.S.
- Has received funding from Tomorrow Ventures and GSV Capital.

Platform EDU

It's been 20 years since the Internet was commercialized, and we now have more than 2 billion Internet users around the world. Facebook has nearly 1 billion monthly users and there are over 365 million iPhones, iPads, and iPod Touches that have been sold in the past five years. Creating communication, collaboration and content platforms for learning is an enormous opportunity. Network effects not only create a powerful economic model but also a powerful learning model. From the development of education platforms with network effects, learning App Stores are being created for curriculum, games, assessment and services.

Special Forces: ePals



Battle Plan: creating one of the world's premier education media company connecting K-12 teachers, students and their parents globally with each other and with meaningful content for collaborative learning experiences. By creating safe social learning networks at local, national and global scale, ePals builds unique value in education publishing markets globally. By combining the world's largest safe social learning network with combination of safe and secure platform, quality media and global online distribution changes the value equation in the K-12 education publishing.

Return on Education: ePals supports the development of rigorous, core curriculum skills and prepares students for the Digital Century. Collaborative project-based learning drives the critical thinking and problem solving skills, global awareness, and cultural sensitivity key to success in higher education and in the workplace. Their cloud-based software solutions dramatically decrease costs for schools and districts.

Claim to Fame: ePals operates one of the world's leading safe social learning network in partnership with the most respected and trusted brands in education, including the Smithsonian and National Geographic.

Fast Facts:

- A highly-experienced management team including CEO Miles Gilburne, formerly served as Senior VP of Corporate Development for AOL and was on the AOL Time Warner board of directors, COO Ted Brodheim, formerly the Chief Information Officer of the NYC Department of Education, and former Chairman and CEO of Bertelsmann, Dr. Thomas Middlhoff.
- Has received funding from Steve Case, Yossi Vardi, Mitch Kapor, National Geographic, Microsoft and Dell.
- Signed partnerships with Dell and Microsoft to bring cloud based education products and productivity applications to students.
- Serves approximately 800,000 classrooms and reaches over 30 million of teachers, students and parents in 200 countries and territories.
- ePals products have won every important award in K-12 education, including 13 Parent's Choice Awards given in 2012.

The New Free Ride

Historically, free models in education didn't work because conventional wisdom was that you got what you paid for...if you paid a premium for something, it must be worth a lot and if you paid a little, it's not worth as much. The conventional indicator of value was the price tag. With emerging robust analytics for learner outcomes, the knowledge one possessed, ROE, and KNAAC, pricing models are going to be tossed on their head. MOOCs are great examples of this. Providing free or dramatically lower cost education products and services will be a tidal wave impacting the education market. Companies that enjoy network effects will accelerate the opportunities and can achieve significant and rapid scale. What you *know* replaces where you *go* and what you *paid*. Disruptive innovations are generally defined by providing 80% of the value at 20% of the costs...we see the opportunity for some of the New Free Ride models to deliver 150% of the value at zero cost to the student.

Special Forces: Quora



Battle Plan: creating a global question and answer platform that harnesses crowd-sourced information generated from subject experts and general public alike.

Return on Education: offers a freemium platform that gives users fast and easy access to information globally.

Claim to Fame: launched in January 2010, Quora is a pioneer of its category and aims to be the master database for answers to all substantive questions in the world.

Fast Facts:

- Has received \$61 million in venture funding from Benchmark Capital, Keith Rabois, Adam D'Angelo, Peter Thiel, and Matrix Partners.
- The founders of Quora, Charlie Cheever and Adam D'Angelo have been named among the top 30 under 30 entrepreneurs by inc.com.

Common “Free Service” Business Models⁵⁶

Business Model	Monetization Game Plan
Advertising model	Know as much as possible about the user and bring targeted ads.
Freemium model	Sell a free product and plan to convert customers to a paid plan.
Limited period promotion	Start with the free product for a promotional initial period and plan to charge it later. For instance, 37 Signals provides free 30 day trial offer for most products and then charge if you use later. This is a tough thing to master these days.
Sponsorship model	If your service indirectly helps the government and/or major organizations you could ask them to sponsor your service.
Wikipedia model	You could get donations from your users. Many wordpress plugins, open source tools and Wikipedia do this. This could be the future of newspapers.

⁵⁶ Balaji Viswanathan, Cofounder Zingfin.com and Quora

Business Model	Monetization Game Plan
Gillette model	Printers and razors are sold less than cost, as they plan to make high margin from selling a complementary product (cartridge/blades). The printer or blade you purchased will turn worthless if you don't buy the super-high margin complementary products from the manufacturer. On the web, for instance, you could create a cloud based spreadsheet/word processor that is free to edit/create documents, but charge money for exporting it as a file to the local machine. Or you could charge high for the iPhone app that can access the data natively.
Open Source Model	Sell the product for free and plan to make money on support, customization and installation. Most open source software follows this model.
Usage charge model	This is related to the freemium model. Give the product free for low usage, but charge when the user is exceeding the free limits (many storage applications such as Dropbox use this model).
Zynga model	Sell products through in-app purchases or to get forward in the game.
Credit card model	In this model, you make your product free for one side (consumers) and use the network effects to make the other side (merchants) pay. Facebook, Yelp and other online marketplaces are now getting on to this model.
Upsell/Cross-sell	Sell a free product & use that to promote a premium product in the same segment. For instance, if you run a finance website, you could give stock quotes free and sell premium analyst reports and financial planning tools.
Build a brand	Use the free service to get brownie points/good press and use the brand image to sell premium products (directly related or not) later.
Affiliate marketing	Sign up for affiliate programs related to your service and convert your users to customers of your affiliates.
Sell it to Google	Build a big user base that might attract a big buyer such as Microsoft or Google, who might use the user base to sell their premium products/services.
Make your next venture a success	If none of the previous stuff works, you could run a free venture to build your personal brand/get popular and hope to get funding for your next venture.

Taking a walk down memory lane, Andrew Carnegie, the great mogul and philanthropist of his time donated \$56 million between 1886 and 1919 to build 2,500 free libraries around the world. In today's term, that's over \$1.5 billion!⁵⁷ Contrast this with Khan Academy, arguably the most widely used online "library" today, with over 250 million views, was funded with a total of \$7 million from Bill Gates and several other backers.

⁵⁷ Wikipedia, 2012.



Coursera



KHAN
ACADEMY



ACADEMIC EARTH



The next generation textbooks

Knowledge Communities

Students trust learning from a peer more than a teacher and learn more from sharing what they know with a friend. Creating "learning tribes" around academic interest will be a powerful force. Expert networks where students can sign up for a 15 to 60 minute "tutoring" session or query the community are important adjuncts to the ongoing education experience. KaizenEDU, the need for continuous learning, makes knowledge communities highly relevant and efficient for the perpetual student.

Special Forces: Maven



Battle Plan: building one of the world's first connected knowledge community by enabling users to help each other address business challenges of all sizes.

Return on Education: providing lightning fast access to specialized expertise and knowledge for a fraction of the cost as compared to traditional consulting services.

Claim to Fame: proprietary "microconsulting" platform provides instant access to highly qualified experts from every background via paid knowledge sharing interactions.

Fast Facts:

- Wyatt Nordstrom is Maven's CEO and co-founder, starting Maven in 2008. Prior to Maven, Wyatt was at ThinkEquity, Gerson Lehrman Group, and Applied Materials.
- Has received over \$3 million in venture funding from Accel Partners and GSV Capital.
- Strategic alliance with Business Connect China, the leading provider of expert consultation services in the China market.
- Approximately 10 million people in the U.S. fall into the Maven category, representing a \$5 billion per year opportunity.

Smart Content

As we've seen in music, newspapers and traditional books, educational textbooks are the last media "ten pin" to fall. Interactive content and educational games will provide students with a richer learning experience and the ability to tap into other learners or experts with a click. Content goes from *dead text* to *interactive* and *dynamic*, creating dramatically superior value proposition.

The cost of learning materials will fall, always be current and cost a fraction of what they do today. The iPad has become the most rapidly adopted technology in the history of

education and will be the platform most content is built on with instant distribution through the App Store.

Special Forces: Kno



Battle Plan: developing a digital learning environment for students to read textbooks, take notes, and share materials with friends and teachers. Kno is also developing a services platform to connect students globally through tutoring, collaboration, and education assessment tools.

Return on Education: providing eTextbooks at 30-50% lower cost and driving the adoption of tablets in schools which both lowers long-term cost to students and provides a richer and more dynamic learning experience.

Claim to Fame: has built an impressive set of learning products supported across multiple devices and platforms. These products combine the benefits of tablets, social networks, web technologies and digital textbooks. Kno currently offers more than 250,000 textbooks, which can be annotated, highlighted, and read on the web or Facebook.

Fast Facts:

- Has received \$76 million of venture funding from Andreessen Horowitz, First Round Capital, Ron Conway / SV Angel, TriplePoint Capital, Intel Capital, and GSV Capital.
- Founded by Osman Rashid, with prior experience as founder and CEO of Chegg. He was the Ernst & Young 2009 Entrepreneur of the Year for Northern California region.
- Marc Andreessen is a member of the Board of Directors and Salman Khan is a member of the Educator Advisory Board.
- Digital textbooks are expected to make up 25% of the total U.S. textbook market in the next 3-4 years.

TYPES OF STUDENTS: AN OVERVIEW

<p>MEDICAL & NURSING Read the most and highlight the most throughout the term</p>  <p>KNO SUPERLATIVE: Most diligent students</p>	<p>BUSINESS Most dramatic increase in reading at the end of the term</p>  <p>KNO SUPERLATIVE: Most likely to cram</p>	<p>MATH Least active readers, most direct navigation</p>  <p>KNO SUPERLATIVE: Most likely to get to "the point"</p>
<p>SCIENCE Most consistent behavior throughout the term</p>  <p>KNO SUPERLATIVE: Most likely to get a good night's sleep during Finals</p>	<p>SOCIAL SCIENCE Read the least, but search the most</p>  <p>KNO SUPERLATIVE: Most likely to procrastinate</p>	<p>ENGINEERING Read the most at end of term and use search a lot throughout the term</p>  <p>KNO SUPERLATIVE: Most likely to be searching for answers</p>

⁵⁸ Kno, 2012.

Special Forces: Adaptive Curriculum



Battle Plan: provide online solutions in Math and Science for students grade 5-12 and educators around the world. The company's premier product is a web-based digital learning system designed to engage students in hands-on learning, with an intuitive interface and tools that provide personalized instruction.

Return on Education: developing standards-based online Math and Science software that is engaging students on their terms, leading to subject mastery.

Claim to Fame: the Adaptive Curriculum math and science solutions are used by millions of students in the United States, Europe, and Asia and are available in multiple languages.

Fast Facts:

- CEO Jim Bowler previously served as CEO of Epsilen, a global eLearning company. Prior to that he was the President of Harcourt Connected Learning, an online professional development company and the CEO of Classroom Connect.

What elements of gaming can we harness for educational purposes?

PROGRESSION – See success visualized incrementally

 Levels: Ramp up and unlock content.	 Points: Increase the running numerical value of your work.
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INVESTMENT – Feel pride in your work in the game

 Achievements: Earn public recognition for completing work.	 Appointments: Check in to receive new challenges.
 Collaboration: Work with others to accomplish goals.	 Epic Meaning: Work to achieve something sublime or transcendent.
 Virality: Be incentivized to involve others.	

CASCADING INFORMATION THEORY – Unlock information continuously

 Bonuses: Receive unexpected rewards.	 Countdown: Tackle challenges in a limited amount of time.
 Discovery: Navigate through your learning environment and uncover pockets of knowledge.	 Loss Aversion: Play to avoid losing what you have gained.
 Infinite Play: Learn continuously until you become an expert.	 Synthesis: Work on challenges that require multiple skills to solve.

⁵⁹ Edudemic. Sep. 2, 2012. <<http://edudemic.com/2012/09/the-100-second-guide-to-gamification-in-education/>>

According to the MIT paper, "Moving Learning Games Forward," games in schools today can be used as...

	Authoring Platforms: Game is used to produce an artifact, be it another game, a model, visual text, or written text.	Ex: Students produce a model in <i>StarCraft</i> .
	Content Systems: Games deliver content about a particular subject area.	Ex: Students gain knowledge of Caribbean history by playing <i>Pirates</i> .
	Simulations: Students use games to test theories about systems and tinker with variables.	Ex: Students gain a systemic understanding of engineering problems by working with a limited budget and available materials in <i>Bridge Builder</i> .
	Trigger Systems: Games are used as a jumping point for discussion.	Ex: <i>Dungeons & Dragons</i> is used to explore probability.
	Technology Gateways: Students use games to familiarize themselves with technology.	Ex: Instead of taking a class on how to use PCs or mobile devices, students simply engage in their favorite game.
	Exemplars of Point of View: Games allow students to take on different identities.	Ex: Students learn to think like a city mayor in <i>SimCity</i> .
	Documentary: Students use games to document their learning process and reflect on it.	Ex: Students reflect on their playing to recognize patterns in their own performance and decision-making.
	Texts to be Critiqued: Students critique the ideology behind the game.	Ex: <i>Animal Crossing</i> is analyzed as an expression of late 20th century capitalism.
	Research Assignments: Students design games themselves and in doing so, research the subject matter of the game.	Ex: Students decide to make a game about the Great Depression and learn history in the process.

⁶⁰ Edudemic. Sep. 2, 2012. <<http://edudemic.com/2012/09/the-100-second-guide-to-gamification-in-education/>>

Tower of Babel

The Megatrends of globalization and the Internet are catalyzing the escalating relevance of language. Importantly, as students grow up in a globally connected world, they will be expected to become global citizens, able to communicate and adapt across cultures and geographies. The Internet facilitates frictionless interactions between cultures and languages.

Competency in computer language is going to emerge as more important than being able to speak foreign languages. Coding jobs are likely the equivalent of manufacturing jobs in the 1950's-1970's...well paying jobs that don't require prestigious college degrees. Having that skill set will be important for knowledge workers of the future. Globalization and the growth of the Internet have rapidly adopted English as the world's business language. In our experience, it is more likely to find somebody speaking English in the business community in Shanghai than at the airport in Houston, Texas.

Special Forces: Tynker



Battle Plan: building a Creative Computing Platform designed to teach children computational thinking and programming skills in a fun, intuitive and imaginative way (contact info@tynker.com to participate in the alpha launch).

Return on Education: goal of providing every child with a solid foundation of STEM (Science, Technology, Engineering and Math) thinking abilities to prepare them for 21st century degrees and careers - in fun and an easily accessible low cost online channel.

Claim to Fame: aims to become the first innovative computer programming learning environment for young students by engaging them in fun and creative activities such as building mobile games, creating music, crafting e-books and building fictional robots

Fast Facts:

- Founded by a team of successful entrepreneurs – Krishna Vedati, Srinivas Mandyam, and Kelvin Chong – when they realized that their own children had no alternatives to developing STEM excellence and computational computing skills.

Companies by Themes



Investing in The Revolution - The 4 Ps Framework

“Complexity is your enemy. Any fool can make something complicated. It is hard to keep things simple.”

- *Richard Branson*

Investing in The Revolution - The 4 Ps Framework

While the Megatrends have created the necessary foundation for change, it is imaginative entrepreneurs and their faithful investors that must march forward to bring innovative solutions to market. The good news is that America remains beyond challenge the epicenter for innovation and entrepreneurship.

In the same way a teacher might notice star students in his or her classroom, we are looking for the companies that will become the *stars of tomorrow* by delivering the best education products and services possible.

Professional investing sounds complicated on the surface, but the best investors can make complicated ideas seem simple. Warren Buffett, whose annual Berkshire Hathaway reports are a must-read for any investor, writes in a language that's folksy and easily understood. Peter Lynch talked about being able to explain an investment so a sixth grader could understand.

With simplicity as the objective, we use the 4 Ps - *People, Product, Potential* and *Predictability* - as the key elements for identifying and investing in the stars of tomorrow in education. Finding stars that exhibit the 4 Ps isn't simple, but they are the key to discovering the leading education companies and achieving long-term investment success.

“Here’s to the crazy ones. The misfits. The rebels. The troublemakers. The round pegs in the square holes. The ones who see things differently. They’re not fond of rules. And they have no respect for the status quo. You can quote them, disagree with them, glorify or vilify them. About the only thing you can’t do is ignore them. Because they change things. They push the human race forward. While some may see them as the crazy ones, we see genius. Because the people who are crazy enough to think they can change the world, are the ones who do.”

- *Apple Inc.*

In the same way that a great educator can make all the difference in a classroom, we believe that 50% of the secret to success in investing in tomorrow’s best companies is evaluating the people running a company. There is no shortage of interesting ideas, but it’s always the people that make the difference. In politics, sports or business, winners will find a way to win and our goal is to identify the people that can execute and stick with them.

Often it’s the vision and passion of an entrepreneur that ignites the business opportunity. Sam Walton of Wal-Mart had a vision of bringing value and convenience to rural America.

Larry Page and Sergey Brin wanted to democratize all of the world's information. Mark Zuckerberg set out to create a more open and connected planet.

Education Mavericks and Pioneers

Wendy Kopp	CEO and Founder of Teach for America
Chris Whittle	CEO of Avenues: The World School; Founder of Edison Schools
Don Fisher	Past Chairman of the Board of Trustees of the KIPP Foundation
Matthew Pittinsky	CEO of Parchment; Co-founder of Blackboard
Miles Gilburne & Nina Zolt	Co-founders of ePals; Miles serves as Chairman and CEO
Michael Crow	President of Arizona State University
Marjorie Scardino	CEO of Pearson PLC
John G. Sperling	Founder of University of Phoenix
Michael Milken	Leading education philanthropist and founder of Knowledge Universe
John Katzman	Founder of The Princeton Review, 2U and Noodle
Dennis Keller & Ron Taylor	Co-founders of DeVry University
Bob Whitman	Chairman and CEO of Franklin Covey
Elliot Sainer	Co-founder and CEO of Aspen Education Group
Steve Shank	Retired Chairman and CEO of Capella Education
Richard Barth	CEO and President of KIPP Foundation
Jeb Bush	43rd Governor of Florida; initiated significant education change and innovation including creating Florida Virtual School
Marguerite Kondracke	Retired President and CEO of America's Promise Alliance; Former Founder and Chairman of Bright Horizons Family Foundation

The best entrepreneurs and leaders can take a vision and turn it into a phenomenal success. Examples of this are everywhere. When Bill Campbell joined Intuit as CEO in 1994, its revenues were \$200 million—in 2000 when he became chairman, revenues had grown to \$2 billion. When Jack Welch became CEO of General Electric in 1981 it had revenues of \$26 billion. When he left in 2001 it had revenues of \$126 billion – that's \$100 billion increase in 20 years! And finally, when Steve Jobs returned to Apple in 1996, the company was on the brink of bankruptcy without a hit product. In 2011, when he stepped down as CEO, Apple was the largest company on the planet and had reshaped the computer, music, mobile phone and tablet industries forever.

The goal is to find a great leader at the head of a great team. After all, we've never heard an investor say "they were bullish on the long term outlook for a company despite the mediocre management team."

Obviously, nobody ever wants to invest in average people, but how can you tell? Unfortunately, it's not simple and it requires a lot of legwork. Many of the young and innovative companies don't have long histories, but the people often do.

Special Forces: Franklin Covey



Battle Plan: provides consulting and performance optimization (CPO) delivering principle-based curriculum and effectiveness tools in management skills, relationship skills, and individual effectiveness.

Return on Education: provides high ROI solutions to professionals. Its training and consulting services are designed to inspire organizations, communities, and individuals worldwide.

Claim to Fame: a leader in Consulting and Performance Optimization (CPO) management, working with approximately 90% of the Fortune 100 and more than 75% of the Fortune 500 companies.

Fast Facts:

- Has 46 direct and licensee offices providing professional services in 147 countries.
- CEO Bob Whitman was formerly the President and Co-CEO of the Hampstead Group, a private equity firm. Bob has also completed the Hawaii Ironman World Triathlon Championship race twelve times.
- The 7 Habits of Highly Effective People by Stephen R. Covey, published in 1989, has become one of the top-selling business books of all time.

There are a number of questions a potential investor must ask in order to properly evaluate a company's people. What's their prior work experience? What's their reputation within the industry? Are they building a culture where everybody shares the vision and believes they're on a mission? What's management and employee turnover been? What's the track

record for developing and promoting talent? Is there passion to build a significant lasting company or to build it up and “flip it”? How much stock does management own? Do they do what they say they are going to do? Are they honest and forthright? Do they under promise and over deliver? Is there a proper balance between short-term expectations and building long-term value? Are they systematic and strategic in building their business?

Notice that I didn’t list where management went to school as a key criterion. Often investors and the public are enamored with Ivy League degrees or the equivalent. While academic background can be relevant, and certainly Yale, Princeton, and Stanford have their fair share of business success stories, it’s definitely not a prerequisite. In our worldview, where knowledge is a currency, the best management teams are measured by their relevant and deep understanding of their business and industry rather than by the number of framed diplomas on the wall.

Sam Walton went to the University of Missouri; Howard Schultz, Northern Michigan; Warren Buffett, the University of Nebraska; and some of the most notable didn’t even finish college, such as Steve Jobs, Mark Zuckerberg, Bill Gates, and Larry Ellison.

Ultimately, a lot of little things will add up to one big thing to determine whether or not management is world-class. Often, this is indeterminable at first, but over time, evaluating how management executes against its promises and opportunities is the key to finding the Megawinners.

“The first man gets the oyster; the second man gets the shell.”

- *Andrew Carnegie*

Product – What's the Claim to Fame?

In searching for great growth companies disrupting the education industry, we are looking to invest in companies that are leaders in what they do. Attractive companies need something that makes them special – they need a claim to fame, a magical product or an unbeatable service. Starbucks is the preeminent provider of gourmet coffee. Dropbox provides a seamless collaboration experience that works like magic. Twitter is the world's most current and on-demand news and direct information source.

“Me too” companies, businesses that participate in the leader's industry, but due to market share, growth and quality are imitators rather than innovators, are of zero interest to us. In the business world, it is ultimately the survival of the fittest – we want to be involved with the education companies that not only survive, but thrive, during their corporate evolution. Ultimately, companies that aren't leaders fall into oblivion.

“Everybody talks about great companies. Great companies start with great products.”

- Bill Campbell, Chairman of Intuit and Board Member of Apple

Special Forces: Blackboard



Blackboard

Battle Plan: developing a software platform and online learning community to connect students, teachers, parents and administrators that enables learning assignments and content management.

Return on Education: creating an online and mobile educational experience that reaches and engages more students to allow remote, personalized and “always-on” learning.

Claim to Fame: was an early pioneer of online education software and has become a diversified platform for a variety of constituents, including higher education, K-12, professional, and government.

Fast Facts:

- Blackboard went public in 2004 with a market capitalization of approximately \$360 million. In 2011, Blackboard was acquired by Providence Equity for about \$1.6 billion.
- Venture investors included Pearson, Dell, AOL, Carlyle, and Novak Biddle.

Companies that dominate a sector and help shape its future are leaders. Companies that may be smaller than the gorilla but have better products, better and more sustainable margins, and/or higher and more visible growth can become leaders. Watch out for them. The best of all situations is a “one of a kind” company that has no real competition. Facebook is a “one of a kind” company with 1/8th of the people in the world using its platform. Apple is a “one of a kind” company with its insanely great products and applications ecosystem. SpaceX is another “one of a kind” company – just think about it. In evaluating a company’s leadership position within an industry, there are many things to analyze. The fact is that while it’s exceptionally difficult to find truly world-class management teams, it’s just as difficult to find companies that have a truly great or unique

product. The only way to find them is to do a lot of digging. You have to kiss a lot of frogs before you find a prince.

Potential – How Big Could this Become?

“Before you build a better mousetrap, it helps to know if there are any mice out there.”

- Mortimer Zuckerman, Chairman, U.S. News World Report

Our framework for finding the education stars of tomorrow, companies that have the biggest potential, is to identify problems and pain in the marketplace. We then analyze Uber-themes that are creating “tailwinds” of opportunity. For the Knowledge Economy, the stars of tomorrow will be found at the intersection of Uber-themes of Return on Education, KaizenEDU and the Megatrends.

To find winners, it’s essential to invest in companies that have great People and a leading Product. In order to have gigantic winners, you also need huge Potential.

There are numerous nice little companies that are clipping along, but they will always remain nice little companies because of the size of the market they are in. Moreover, a company could be in a relatively large market today, but the market is shrinking. You could have had the best buggy whip company in the world in 1900, but not exist in 1910. Facsimile machines are in that boat. So are old media like newspapers and catalogs. Even low skill receptionists and legal clerks are going the way of the dinosaurs as a result of the rise of ZocDoc, OpenTable and LegalZoom. Simply put, the home run ball is going to be hit where small companies have the potential to be big companies.

The classic investment opportunity is where there is a problem – the bigger the problem, the bigger the opportunity. There is no bigger problem in the global marketplace and knowledge-based economy than education...education makes the difference for how an

individual does, how a company does and how a country does. The market doesn't have to be big today (or even exist!) to have enormous potential. As an example, eLearning wasn't a market 15 years ago. Now it's a \$90 billion market globally and growing.

Megatrends in education that have provided a window to the future include: globalization, Internet, mobile, network effects, freemium, social, scale, personalization and adaptive, brands, big data, cloud, digital, platform, outsourcing, open source, no labels and brain research.

Special Forces: The Minerva Project



THE MINERVA PROJECT

Battle Plan: rethinking the role of a higher education institution through an elite university, the first elite American university launched in 100 years. Minerva's philosophy transforms every aspect of the university-student relationship in anticipation of students' changing needs in an evolving world.

Return on Education: students are selected to Minerva without regard to lineage, athletic ability, state or country of origin, or capacity to donate. Minerva is committed to making the experience affordable and to provide long-term career support for its alums.

Claim to Fame: across a full life cycle of admission to instruction to post graduation support, the Minerva Project is rethinking the role of an elite institution of higher learning.

Fast Facts:

- Larry Summers, former President of Harvard University and Treasury Secretary, has joined as an adviser.
- Has raised \$25 million from Benchmark Capital, the largest-ever seed round funding for Benchmark.
- CEO Ben Nelson was formerly the CEO of photo-sharing site Snapfish.

In having a framework for determining where the world is heading guided by Megatrends, it's equally important to understand where it's not going. Investing in a buggy whip after Henry Ford created the Model T wasn't going to be fruitful – no matter how good a buggy

whip it was. Negatrends are secular shifts in society, the market and/or politics that will result in a shrinking market opportunity. Mom and Pop shops (tutoring, test prep, local experts) are a Negatrend as they become noncompetitive against the national or global knowledge platforms. Megatrends that negatively impact Mom and Pop shops are: brands, globalization, cloud computing and network effects.

Unskilled workers are a Negatrend influenced by the knowledge economy, the Internet and outsourcing. Other Negatrends are: mass marketing (Internet and brands), pay phones (the Internet), closed economies (globalization), and middlemen (Internet and globalization). Regrettably, some negative trends that aren't Negatrends because the market is increasing (not shrinking) include terrorism, identity theft and pirating.

As we look to the future, companies that benefit from the 4 Ps, and more specifically Megatrends, will be the big winners.

Predictability – How Visible is the Growth?

“Weather forecast for tonight: dark.”

- *George Carlin, Comedian*

One of the biggest challenges for a young, fast-growing company is delivering operating results that are predictable. Investors reward management teams that under promise and over deliver and punish companies that habitually miss expectations – often to extremes that seem illogical on the surface.

The critical question is how do you distinguish between a fad and a trend? Is it Starbucks or Krispy Kreme? Amazon.com or eToys? Whole Foods or Webvan? Disney or Discovery Zone? Facebook or MySpace?

Predictability is somewhat of a relative term. Some business models are much more predictable than others. A service provider that has 10 year, non-cancelable contracts with a MOE (Ministry of Education) is much more predictable than an adaptive learning

game company that needs to produce successive hit games and rapid software updates to keep their core customers over time.

The key to determining a company's predictability and its ability to perform against expectations is partially business model, but also partially a function of the first 3 P's – People, Product, and Potential.

Special Forces: Charter Schools USA



Battle Plan: successfully develops and operates high performing charter and turn-around public schools for states, non-profits and school districts using connex12 software in new and renovated schools built by Red Apple Development for grades pre-K through 12.

Return on Education: provides school management services to 48 charter schools in 5 states serving 40,000 students with plans to grow to 100 schools in 10 states in 3 years.

Claim to Fame: with 95% plus satisfaction rate from parents and demonstrated results on state and national assessments that outperform traditional public schools in communities it operates over the last 7 years, the company leads charter education management nationally in quality and growth.

Fast Facts:

- Recently awarded the first Southern Association of Colleges and Schools (SACS) district accreditation for an education management company by AdvancEd.
- President and CEO Jonathan Hage founded the company and previously worked for Jeb Bush where he worked on the first charter legislation and school in Florida.
- Opened the first municipal charter school and first charter-in-the-workplace.
- Opened or took-over 18 schools for the 2012-13 school year.
- Projected to become the largest education management organization in the U.S. in 2013-14.

Great managements set expectations that are achievable and are fanatical about achieving results. Apple doesn't have the most predictable business model given the rapid change

in technology, but the management at Apple is obsessive about delivering on their promises. They are systematic about how they run their business. Winners execute.

“Real artists ship.”

- *Steve Jobs*

Having a product that is exceptional is essential to predictability. Technology businesses are notoriously unpredictable, but once you use Dropbox to store your virtual assets, you are hooked. Tweeters look at their Twitter accounts more frequently than their watches. We love businesses that are addictive but don't cause cancer!

Potential is critical for predictability because if a company's market isn't growing, its growth is hostage to variables that impact visibility. Even if a company is the leader, and taking market share, if the pie is getting smaller, it's challenging to have predictable growth.

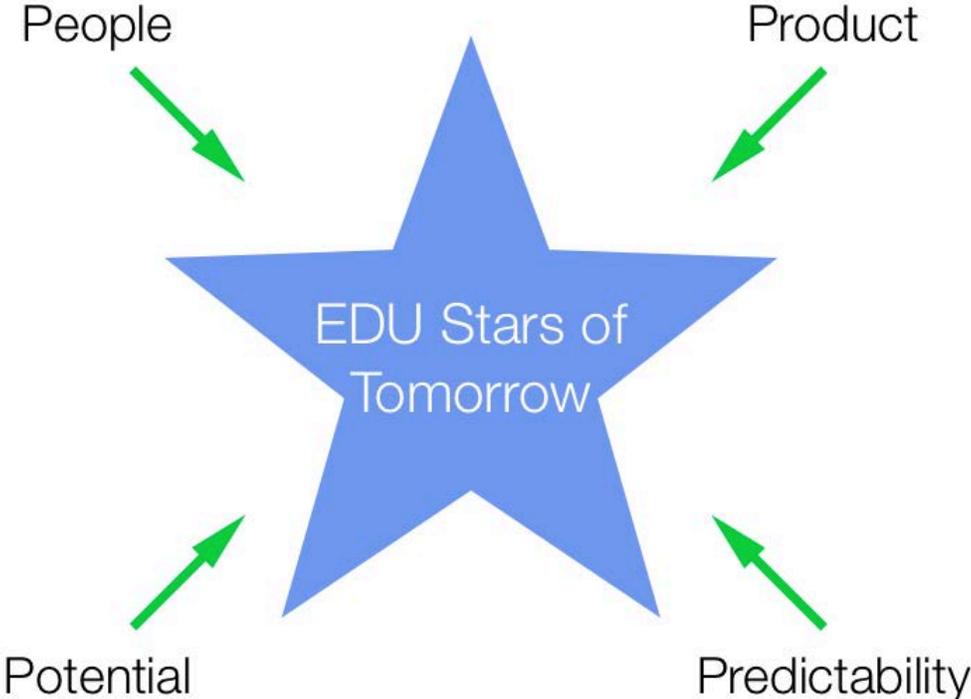
Recurring revenue is the holy grail of predictable, visible growth. A company like Salesforce.com, which has over 90% of its revenues from existing customers, is a great example of this. Business Services outsourcing companies, drug companies where you have a patient that needs a drug to be healthy, education companies like Avenues: The World School that will have students in their programs for up to 13 years are all great examples of companies with recurring revenues. Recurring revenue businesses almost always have big premiums to their multiples because of their visibility.

For example, there are terrific growth companies in the education technology sector where a company won't have revenues for a number of years – but because of the People, the Product, and the Potential, it could be a compelling investment.

In pre-revenue companies, the first 3 Ps take precedence, but key milestones a company can perform against give investors evidence that it's on track to capture the opportunity.

The 4 Ps may seem a bit corny and unsophisticated – they are! But part of the secret to investing success is to make complex things simple, and use a systematic framework to

achieve your objectives. The 4 Ps are the foundation we've built in our effort to identify and invest in the stars of tomorrow.



Education Market Snapshot

“Capital is pretty efficient and goes to where the best returns are.”

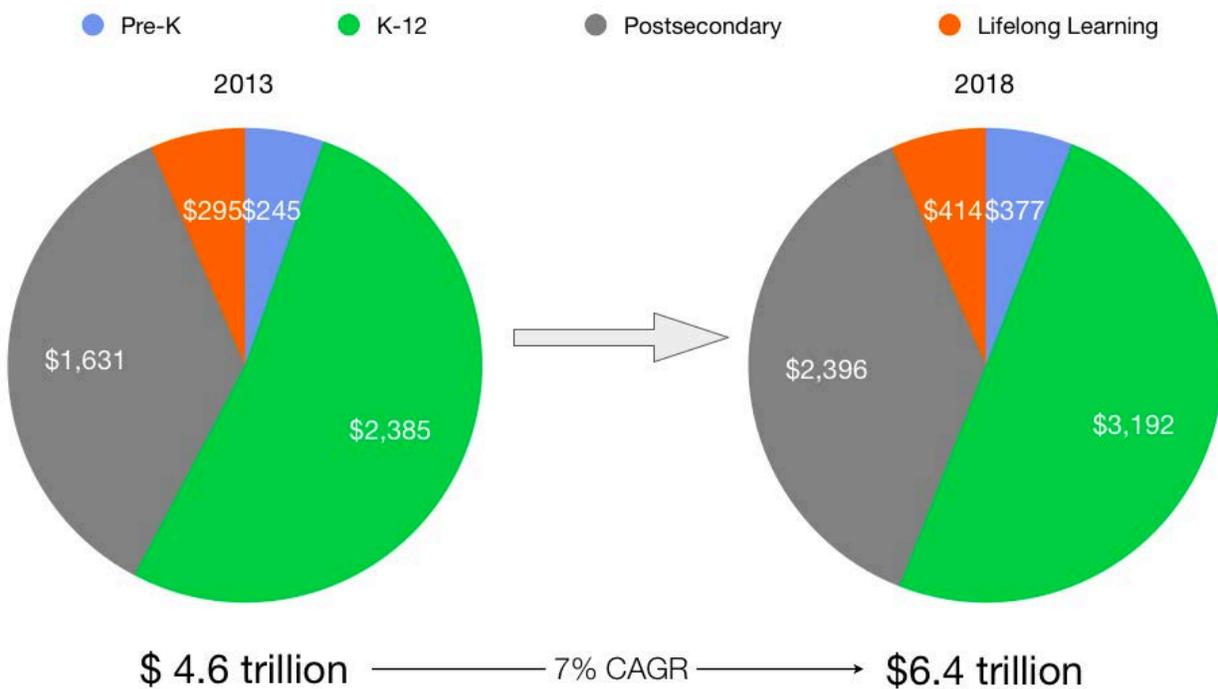
- Reed Hastings

Education Market Snapshot

It's almost a cliché that the education market is so gigantic. While this is obviously true, a more accurate characterization is that it's a fragmented, cottage industry *with a lot of cottages*. Accordingly, the \$4.6 trillion market in 2013 is in reality hundreds of sub-markets, influenced by age groups and geography.

Size of Global Education Market, 2013 and 2018⁶¹

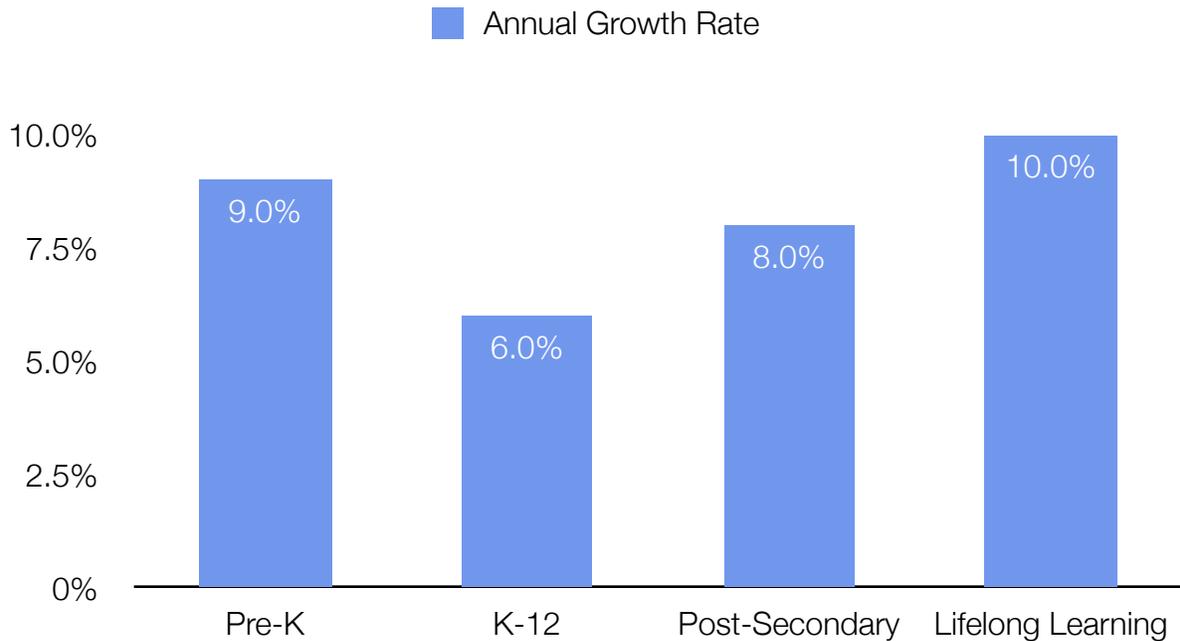
(in billions)



A simple snapshot shows healthy growth amongst the four traditional segments of Pre-K, K-12, Postsecondary and Lifelong Learning, with Pre-K actually having the strongest projected growth. To put this into context, given the \$245 billion size of the global Pre-K market, 9% growth provides \$22 billion of market opportunity in the next 12 months and \$132 billion in the next 5 years.

⁶¹ Candlestick Research, 2012.

Fast Growth of Global Education Market, 2013-2018⁶²



As a percentage of GDP, the U.S. spends approximately 9% on education, which is amongst the top countries in the world. Given the size of America’s economy, on an absolute basis, the U.S. spends dramatically more than any country in the world on education. Not such a good fact is that in terms of research and development expenditures, the U.S. invests only 0.2% of its education budget on R&D versus the top tech companies that routinely spend more than 10%. For example, Facebook spends 12.0%, Google, 13.5%, Microsoft, 13.2%.⁶³ In other words, *one company*, Microsoft, spends approximately \$10 billion on R&D every year, which is *five times* more than what the *entire* U.S. government spends on education R&D.

⁶² Candlestick Research, 2012.

⁶³ Company filings, as of June 30, 2012.

Education Expenditures as a Percentage of GDP⁶⁴

	Country	Ed. Expenditure (% of GDP)	Reported Year
1	Thailand	14.0%	2010
2	Costa Rica	13.4%	2009
3	Kenya	13.1%	2008
4	Iran	11.5%	2009
5	Burkina Faso	9.2%	2010
6	Poland	9.1%	2010
7	United States	8.7%	2010
8	Canada	7.4%	2008
9	Luxembourg	5.9%	2008
10	Puerto Rico	5.6%	2007
11	Finland	5.6%	2008
12	Saudi Arabia	5.6%	2008
13	United Kingdom	5.5%	2008
14	United Arab Emirates	5.2%	2008
15	Norway	4.9%	2008
16	Jamaica	4.9%	2008
17	Sudan	5.2%	2007
18	Russian Federation	4.9%	2009
19	Chile	4.8%	2010
20	Philippines	4.8%	2008
21	Bangladesh	4.8%	2008
22	Belgium	4.8%	2008
23	Nigeria	4.7%	2011
24	India	4.7%	2010
25	Israel	4.6%	2008
26	Algeria	4.3%	2008
27	China	3.6%	2010
28	Indonesia	3.4%	2008
29	Brazil	2.6%	2009
30	Hong Kong	2.5%	2009

As much as we would like to think that this is just another government problem, the truth is that middle-class Americans don't always have their priorities right either. Leading up to the Great Recession, many Americans operated under the belief that their priorities should be a big house and big car. As a result, half of the typical American family's disposable income went to pursue those two nonproductive ends. Contrast this to Asia, where a

⁶⁴ UNESCO Institute for Statistics

middle-class family spends only 16% on housing and transportation, but an astonishing 15% on private tutoring and supplemental education for their children, often a single child. If we think we can compete globally in the knowledge race by spending half our disposable income on fancy cars and McMansions, we're at best naïve. And the tragedy is that our children and their children will pay the price.

Consumer Spending as Percentage of Household Budget⁶⁵

United States		Asia	
Housing	33%	Food	23%
Transportation	18	Supplemental education	15
Food	13	Housing	10
Insurance / pensions	11	Clothing	8
Health care	6	Other	8
Entertainment	5	Transportation	6
Apparel and services	4	Health care	5
Supplemental education	2	Communication	5

⁶⁵ Milken, Michael. "Where's Sputnik?" *The Milken Institute Review*. 2011.

Special Forces: Global Education Learning



Battle Plan: focuses on capitalizing on the enormous opportunities in the early education market in China.

Return on Education: articulated a highly differentiated roll-up strategy across early education products, services, learning centers, and retail concepts, tapping into the global opportunity of China.

Claim to Fame: aims to become the marketplace's "Procter & Gamble" and the single, trusted brand in early education in China, by providing innovative educational services.

Fast Facts:

- Chairman Tom Kalinske has an exceptional background in developing educational and consumer concepts, including leadership roles at Knowledge Universe, Leapfrog, Sega, and Mattel.
- CEO Anthony Chang has a very strong and diverse background comprising entrepreneurial, operating, strategic, and venture capital experience.
- Has received funding from Alsop Louie, TL Ventures and GSV Capital.

While the U.S. has nearly the highest GDP per capita in the world, the personal investment in education has been woefully low and looking at some key technology determinants of future prospects, we don't have the edge we once had. Not only does Korea have higher achievement on the PISA studies but it has higher Internet penetration, higher broadband and higher mobile phone usage. Even the Brits, who are rarely considered to be at the forefront of anything, are ahead of the USA in the technology arms race.

2012 World Stats⁶⁶

Country	Population (in millions)	GDP (\$ in billions)	GDP / Capita	Penetration Rates		
				% Internet	% Broadband	% Mobile
USA	313.8	\$16.5	\$47,921	78%	27%	104%
UK	62.3	\$2.3	\$36,138	84%	33%	123%
France	65.4	\$2.2	\$33,734	77%	34%	90%
Germany	81.9	\$3.1	\$37,943	83%	33%	130%
Spain	46.2	\$1.4	\$29,994	66%	24%	111%
Brazil	192.4	\$2.3	\$11,093	42%	7%	133%
Russia	143.1	\$2.4	\$17,236	44%	11%	155%
India	1210.2	\$4.4	\$3,704	10%	1%	75%
China	1347.4	\$11.3	\$8,405	38%	9%	80%
Japan	127.6	\$4.4	\$34,459	80%	27%	95%
Singapore	51.8	\$0.3	\$58,691	77%	2%	144%
Vietnam	87.8	\$0.3	\$3,269	34%	4%	79%
Korea	45.6	\$1.5	\$31,702	83%	39%	108%
Malaysia	28.3	\$0.4	\$15,319	62%	7%	106%
Turkey	74.7	\$1.0	\$12,865	46%	10%	92%
Australia	22.9	\$0.9	\$41,684	90%	24%	100%
Canada	34.8	\$1.4	\$40,496	82%	31%	74%
Argentina	40.1	\$0.7	\$16,821	67%	10%	126%
South Africa	50.6	\$0.6	\$11,362	14%	1%	101%

Country	% under 15	PISA (M/S/R)	% high school	% college
USA	20%	31/23/16	70%	41%
UK	17%	27/15/24	74%	37%
France	18%	21/26/21	70%	29%
Germany	13%	15/12/19	85%	26%
Spain	15%	33/35/32	52%	30%
Brazil	25%	57/53/53	41%	11%
Russia	15%	37/38/42	90%	54%
India	33%	65/65/65	60%	6%
China	17%	4/11/22	14%	9%
Japan	13%	8/4/7	100%	44%
Singapore	17%	1/3/4	92%	46%
Vietnam	25%	NA	27%	6%
Korea	16%	3/5/1	80%	39%
Malaysia	30%	53/51/52	79%	23%
Turkey	26%	42/42/40	31%	18%
Australia	19%	14/9/8	71%	37%
Canada	16%	9/7/5	88%	50%
Argentina	26%	55/56/58	81%	27%
South Africa	30%	NA	70%	13%

⁶⁶ Candlestick Research, 2012.

“Gentlemen, we have run out of money. It is time to start thinking.”

- *Sir Ernest Rutherford, Nobel Laureate*

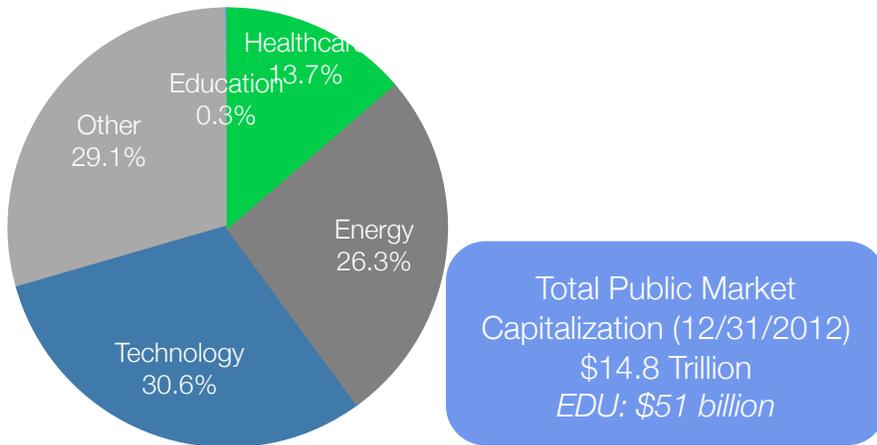
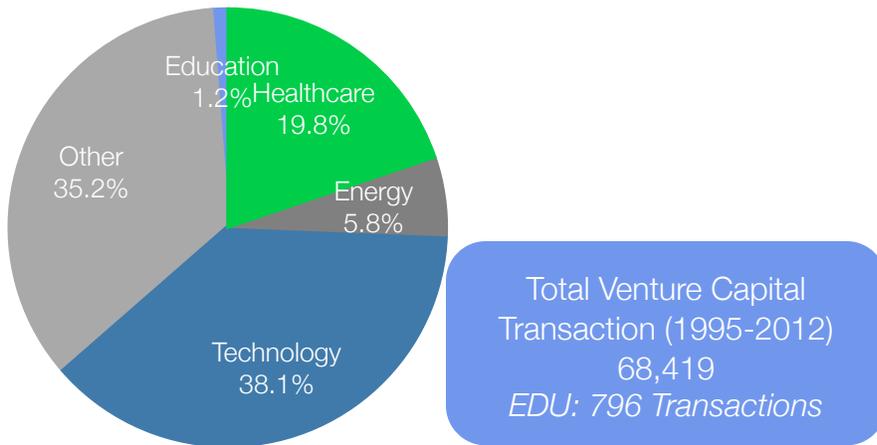
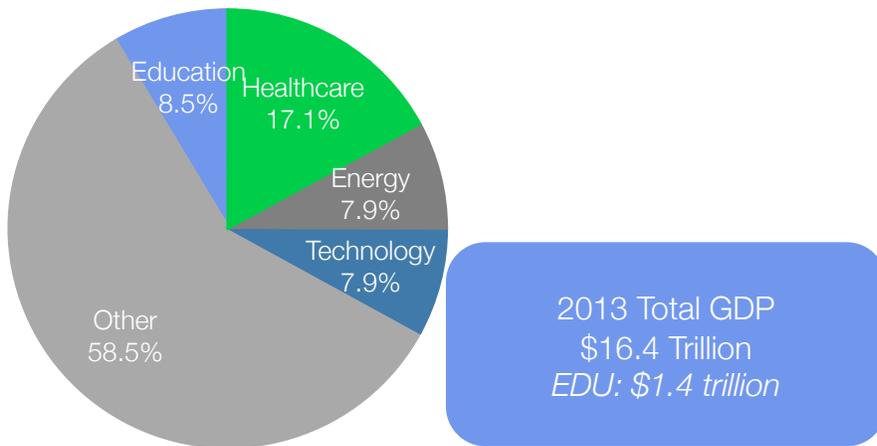
Conventional wisdom is that one of the biggest impediments to innovation in the education market is the lack of money...schools are strapped, R&D is lacking and investors are skittish about investing in the category.

Looking at a snapshot of today, it's factual that while education is 8.5% of GDP, it is only 0.3% of the total U.S. Capital Market and just 1.2% of venture capital funding. That said, there has been a substantial increase in venture capital funding in education and the investors are the ones who are always early and usually right.

We believe there will be a dramatic “catch-up” with the gap between percentage of the economy that education represents and the market value for education companies narrowing significantly.

Education and Capital⁶⁷

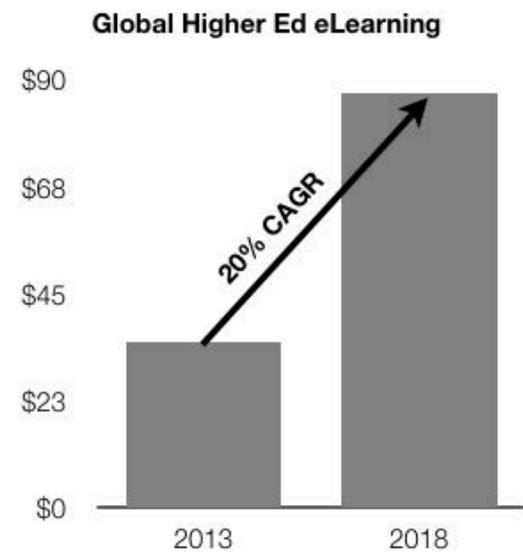
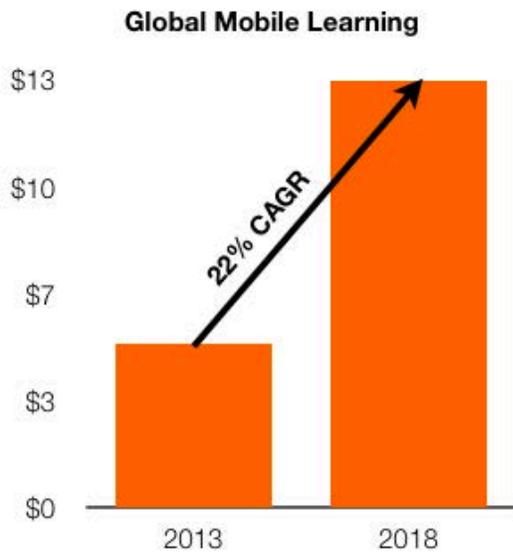
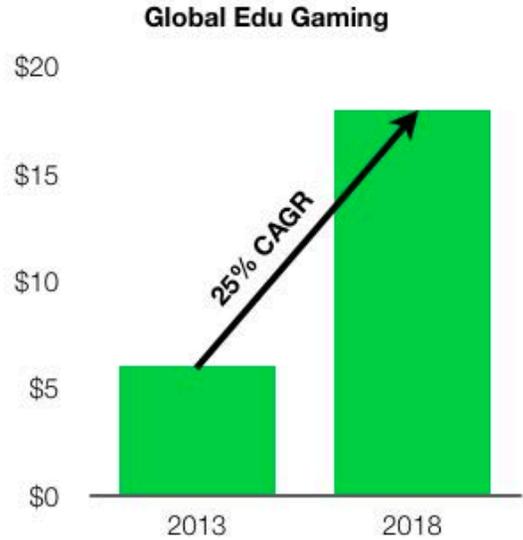
● Healthcare
 ● Energy
 ● Technology
 ● Other
 ● Education



⁶⁷ GSV Advisors and Candlestick Research, 2012-2013.

Key Areas of High Growth⁶⁸

(\$ in billions)



Moreover, at over \$11,000 spent per kid annually in K-12, if you do the math, you quickly realize it's not a function of spending enough money but how it's spent. If there are 25 students in typical classroom, that equates to \$275,000 per class where the average

⁶⁸ GSV Advisors and Candlestick Research, 2012.

teacher makes approximately \$66,000⁶⁹. Add in textbooks, bus services, physical equipment, and technology and you can't come anywhere close the total number.

The question becomes where does it all go? The answer...75% of the budget is consumed by bureaucracy. You can't think of another service business in the World where 75% of the dollars are spent outside of where the service is being rendered...unless it's being kept alive by government.

“Capital isn’t scarce; vision is.”

- Sam Walton

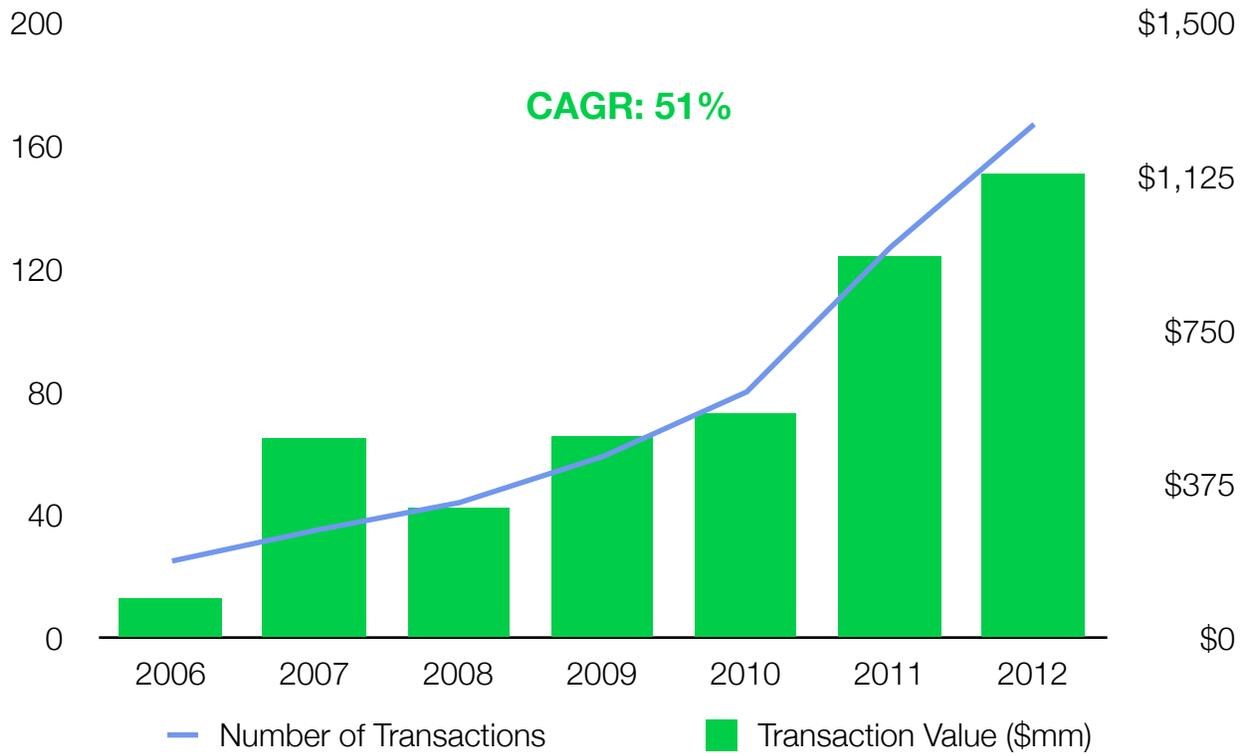
While not at the level of other key industries such as energy, health care and information technology, since 2006, the amount of venture and growth capital invested in the education industry has increased significantly to \$1.1 billion in 2012⁷⁰, growing at a CAGR of 51% since 2006.⁷¹

⁶⁹ "Profile America: Facts for Features". United States Census Bureau, 2011-2012. <http://www.census.gov/newsroom/releases/archives/facts_for_features_special_editions/cb11-ff15.html>.

⁷⁰ DeSantis, Nick. "A Boom Time for Education Start-Ups". *The Chronicle of Higher Education*, March 2012. <<http://chronicle.com/article/A-Boom-Time-for-Education/131229>>.

⁷¹ GSV Advisors and Candlestick Research, 2012.

Growth of Investment in Education⁷²



⁷² GSV Advisors and Candlestick Research, 2012.

Moreover, the investors that are participating in the space are Tier 1 venture firms such as Accel, Benchmark, Bessemer, Greylock, Highland Capital, Kleiner Perkins, and Sequoia...the firms that are always early and usually right.

Top Tier VC's, Super Angels and Growth Investors Have Re-Entered the Market

	<ul style="list-style-type: none"> ▪ Fidelis College (2011) ▪ Knewton (2008-2010) ▪ LearnVest, Inc. (2010-2011) ▪ peerTransfer (2011) 		<ul style="list-style-type: none"> ▪ Alltuition (2011) ▪ Altius Ed (2009) ▪ Apangea Learning (2011) ▪ Avenues: The World School (2012) ▪ Capella Education (2003) ▪ Chegg (2011) ▪ CorpU (2012) ▪ Dreambox Learning (2011) ▪ Fingerprint Play (2011) ▪ Fullbridge (2012) ▪ Global Education Learning (2012) ▪ GoingOn (2009) ▪ Grockit (2011) ▪ HotChalk (2010) ▪ Kno (2011) ▪ Maven (2012) ▪ MyLanguage 360 (2010) ▪ rSmart (2011) ▪ Stormwind Studio (2011)
	<ul style="list-style-type: none"> ▪ EnglishCentral (2009) ▪ Grockit (2010-2011) ▪ Simpletuition (2009) 		
	<ul style="list-style-type: none"> ▪ Hyperink (2011) ▪ Kno (2009) ▪ Science Exchange (2011) 		
	<ul style="list-style-type: none"> ▪ 2Tor (2009-2012) ▪ Cornerstone OnDemand (2007-2009) ▪ FlatWorld (2010) ▪ LearnBoost (2010) ▪ Piazza (2012) ▪ Knewton (2009-2011) 		
	<ul style="list-style-type: none"> ▪ MyEdu (2010) 		<ul style="list-style-type: none"> ▪ Edmodo (2011) ▪ Treehouse (2011-2012) ▪ UniversityNow, Inc. (2012)
	<ul style="list-style-type: none"> ▪ Grockit (2007-2011) ▪ Edmodo (2011) ▪ The Minerva Project (2012) 		<ul style="list-style-type: none"> ▪ 2Tor (2010-2012) ▪ BetterLesson (2011) ▪ Campus Live (2011)
	<ul style="list-style-type: none"> ▪ Altius Ed (2010) ▪ CampusLive (2011) ▪ LearnBoost (2010) ▪ Udacity (2012) 		<ul style="list-style-type: none"> ▪ Desmos (2011) ▪ EduLender (2011) ▪ Inkling (2010-2011) ▪ Magoosh (2011) ▪ MindSnacks (2011) ▪ Motion Math (2011)
	<ul style="list-style-type: none"> ▪ Airy Labs (2011) ▪ Chegg (2008) ▪ Tree House Education (2008-2011) 		<ul style="list-style-type: none"> ▪ Piazza (2012) ▪ SendHub (2012) ▪ UniversityNow, Inc. (2010-2012)

Top Tier VC's, Super Angels and Growth Investors Have Re-Entered the Market



- Callaway Digital (2010)
- Chegg (2008 - 2012)
- Codecademy (2012)
- Coursera (2012)
- StudyPlaces (2008)



- 2Tor (2009-2012)
- Capital Schools (2009-2010)
- Parchment (2011-2012)
- Fidelis College (2011)
- PlaySay, Inc. (2011-2012)
- Spectrum K12 (2008)
- Starfish Retention Solutions (2008)
- UniversityNow, Inc. (2010-2012)



- Acceptly (2012)
- Desmos (2011)
- Edmodo (2010-2011)
- Formative Learning (2011)
- LearnZillion (2012)
- MasteryConnect (2011)
- OneSchool (2012)
- ShowMe (2011)
- Verbling (2012)



- BookRenter (2010-2011)
- iProf (2011)
- Lumos Labs (2011)



- Altius Ed. (2009-2010)
- General Assembly (2011)
- KidZui (2010-2011)
- Latimer (2010)
- LiveMocha (2009-2011)
- peerTransfer (2011)



- 2Tor (2009-2012)



- Coursekit (2011)



- Lumos Labs (2011)



- InKling (2010-2011)
- Piazza (2011)
- TutorVista (2006-2008)
- Tutorspree (2011)



- Apangea (2011)
- BetterLesson (2011)
- Moodlerooms (2010-2011)



- 8D World (2009-2010)
- Academia.edu (2010-2011)
- Altius Ed. (2009-10)
- peerTransfer (2010-2011)
- Skillshare (2011)



- BetterLesson (2009)
- Beyond12 (2010)
- ClassDojo (2011)
- Educreations (2012)
- Education Elements (2012)
- EdSurge (2012)
- Engrade (2012)
- eSpark (2012)
- GoalBook (2012)
- GreatSchools (1999)
- Grockit (2011)
- Junyo (2011)
- LearnZillion (2011)
- Mastery Connect (2011)
- Mytonomy (2012)
- Presence Learning (2011)



- Everfi (2010)
- Fullbridge Inc. (2012)
- Instructure (2011)



- Codeacademy (2011-2012)
- Edmodo (2011)
- Skillshare (2011)



- Coursera (2012)
- EverFi (2010)



- Ameritas (2011)
- EDEX (2011)
- Synergis Education (2011)
- UNow (2012)



- iParadigms (2008)

Special Forces: NewSchools Venture Fund



Battle Plan: nonprofit venture philanthropy firm working to transform public education for low-income children by raising philanthropic capital and using the funds to support education entrepreneurs.

Return on Education: through funding and guidance of entrepreneurial organizations, NewSchools aim to make sure every child receives an excellent education.

Claim to Fame: has created a model to invest in education entrepreneurs who are transforming public education, was an early investor in some of the most important organizations, ranging from Wireless Generation to Khan Academy, and helped to create the charter management organization market.

Fast Facts:

- Board Members include Ted Mitchell (President and CEO), Brook Byers (KPCB), John Doerr (KPCB), Laurene Powell Jobs (Emerson Collective, College Track).

Investment Portfolio			
Achievement Preparatory Academy	Alliance for College-Ready Public Schools	Aspire Public Schools	BetterLesson
Beyond 12	Center to Support Excellence in Teaching	Charter Board Partners	ClassDojo
DC Preparatory Academy	DC School Reform Now!	DSST Public Schools	E.L. Haynes Public Charter School
Education Elements	Edward W. Brooke Charter School	EnCorps	Engrade
Excel Academy Charter Schools	Explore Schools Inc.	Friends of Choice in Urban Schools	Friendship Public Charter Schools
Future is Now Schools	Goalbook	GreatSchools	Grockit
Junyo	KIPP DC	Khan Academy	Leading Educators
LearnZillion	MATCH Public Charter Schools	MasteryConnect	Matchbook Learning
New Classrooms	New Leaders	New Paradigm for Education	New Schools for New Orleans
New Teacher Center	North Star Academy Charter School of Newark	Presence Learning	ReNEW Charter Management Organization
Reading Partners	Relay Graduate School of Education	Rocketship Education	Roxbury Preparatory Charter School
Scholar Academies	TEAM Charter Schools	Teaching Channel	Unlocking Potential
Urban Teacher Center			

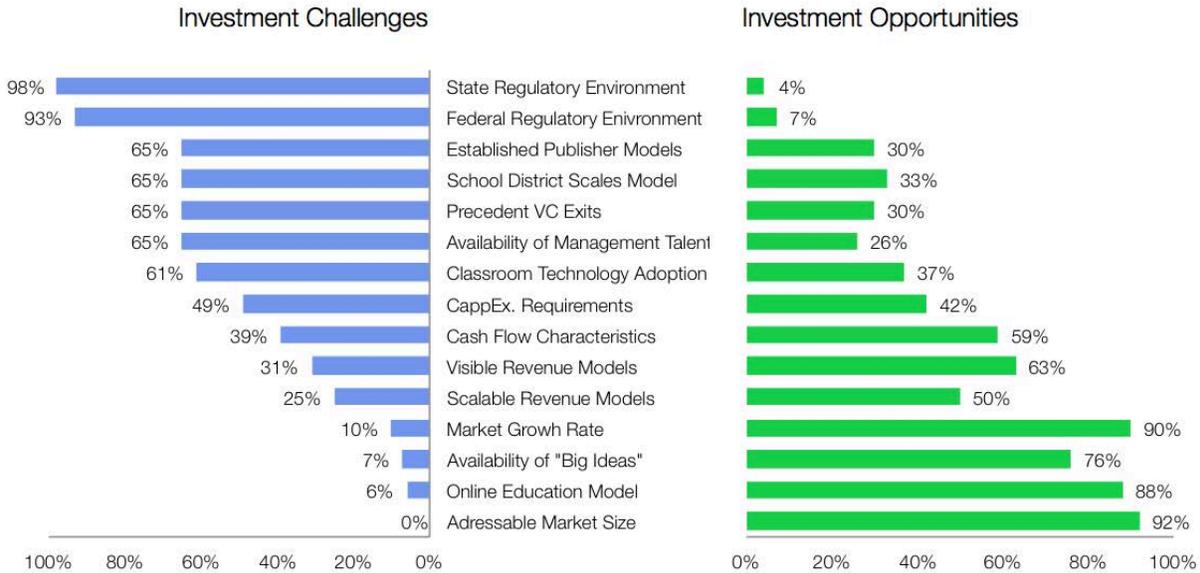
Additionally, there has been accelerated strategic activity which encourages both investors and entrepreneurs to take risk as the exit options have improved. Also, strategic partners have returned to the market.

Strategic Investments in Education

 CAPELLA UNIVERSITY	▶ Sophia (2011-2012, acquired in 2012)		▶ ePals (2011)
	▶ ePals (2011)		▶ Inkling (2011) ▶ Unigo (2011)
	▶ Airy Labs (2011) ▶ EnglishCentral (2009-2010) ▶ Smarterer (2012) ▶ Sticky (2011)		▶ Knewton (2011) ▶ Tabula Digita (2009) ▶ TutorVista (2009-2011, acquired in 2011)
	▶ Kno (2011) ▶ DimensionU / Tabula Digita (2010) ▶ Global Talent Track (2009) ▶ Kaltura (2010) ▶ Vriti Infocom (2008-2010)		▶ Flatworld (2010) ▶ UniversityNow, Inc. (2012)
	▶ Web Int'l English (2010)		▶ Fingerprint Digital (2011)

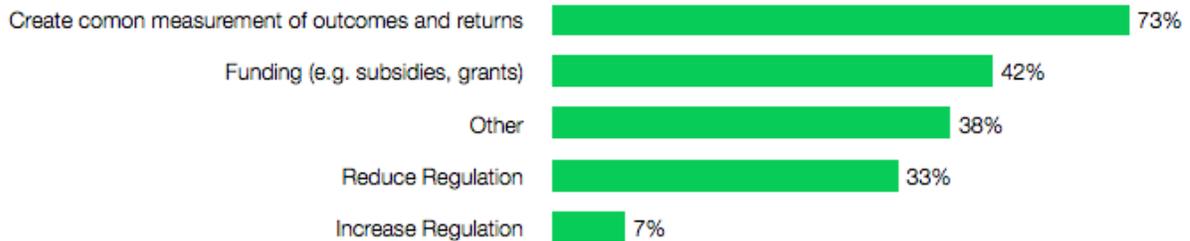
Not surprisingly, in a survey that GSV Advisors conducted interviewing over 1,300 participants in the education ecosystem including investors, the biggest attraction to the education market was its “size” and the biggest detraction was the “regulatory issues”.

Perceived opportunities and challenges among education market investments

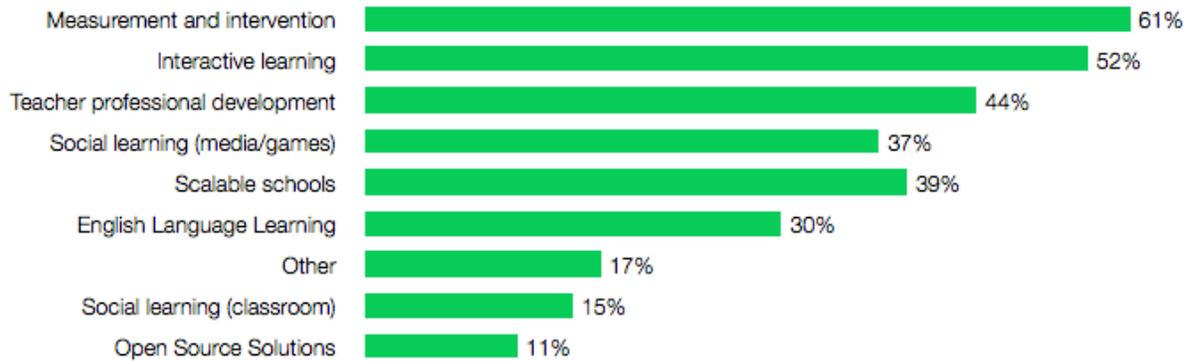


While our clear conclusion from our analysis was that the education industry wasn’t being stifled by insufficient capital from investors, it was equally clear that providing transparent information on education effectiveness would accelerate investment and the innovation it was funding.

Perceived actions government and/or foundations could take to make education a more attractive industry to invest in



Perceived functional areas that would most benefit from additional capital sources

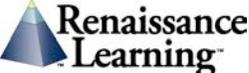


A part of what has driven increasing investment activity is a growing list of successful, high-multiple exits for leading education companies. Additionally, while the publishers and in particular, Pearson, have been heretofore the only real active acquirer in the space, the list of buyers has broadened.

Notable M&A Exits⁷³

Company	Date	Enterprise Value	Acquirer	Key VCs
 eCollege.com	7/31/2007	\$504mm	Pearson	Public
 skillssoft	2/12/2010	\$1.1bn	Advent, Bain, Berkshire Partners, Stockbridge	Public
 SynapticMash	7/21/2010	\$13mm	Promethean	Raycliff Capital, Vantage Partners
 wireless generation	11/22/2010	\$430mm	News Corp.	SeaVest Venture
 GlobalScholar	12/15/2010	\$160mm	Scantron	Knowledge Universe, Ignition Partners, KUE Digital International

⁷³ CapitalIQ and company filings.

Company	Date	Enterprise Value	Acquiror	Key VCs
	4/26/2011	\$230mm	Pearson	Ascend Venture, NYC Investment Fund, SeaVest, Carlyle, Velocity Financial
 Blackboard	7/1/2011	\$1.6bn	Providence Equity Partners	AOL Ventures, Carlyle, Dell Ventures, Kaplan Ventures, Microsoft, Oak Hill, Pearson
	8/3/2011	\$97mm	Apollo Group	Draper Triangle, NewSchools
	8/16/2011	\$476mm	Permira Advisers	Publicly traded at time of LBO
	9/15/2011	\$400mm	Pearson	Apollo, Sterling Partners
	3/5/2012	\$301mm	PLATO Learning	Publicly traded at time of LBO
	3/26/2012	Undisclosed	Blackboard Inc.	Kaplan Ventures, Longworth Venture, New Markets Venture
	7/22/2012	\$116mm	Penguin Group	Gazelle TechVentures, JV Partners
	10/2/2012	\$220mm	John Wiley & Sons, Inc.	Frontenac Company, Salt Creek Ventures

A new development to support the education innovation ecosystem has been the rise of incubators and accelerators. Leaders such as Plug and Play and Y Combinator have seen an increase in the number of education startups that they support. Dedicated education incubators have also emerged, such as Imagine K12 and ASU's education and economic innovation hub at SkySong.

“Be bold. If you’re going to make an error, make a doozy and don’t be afraid to hit the ball.”

- Billie Jean King

Incubators Coming Out of the Woodwork



Incubators	Markets
1871	Chicago
500 Startups	Silicon Valley, National
DreamIT Ventures	New York, Philadelphia
Excelerate	Chicago
General Assembly	New York, London
Imagine K12	Silicon Valley
Lightbank	Chicago
NestGSV	Silicon Valley, Global
Plug and Play	Silicon Valley
SkySong (ASU)	Phoenix, Tempe

Incubators	Markets
Startup Weekend	National
TechCrunch Disrupt	New York, Silicon Valley
Techstars	National
Y Combinator	Silicon Valley

Special Forces: NestGSV



Battle Plan: incubates and accelerates innovation in the startup ecosystem. NestGSV is the world’s first “ecobator”, creating an entire ecosystem to support the growth of startups.

Return on Education: provides full life cycle support for startup companies (mentoring, education, legal, financial, access to partners).

Claim to Fame: has the ability to be a major source of startup incubation and acceleration activity worldwide. Campuses are planned for major cities around the globe, providing support for potentially thousands of startups coming through the NestGSV doors.

Fast Facts:

- Flagship campus spans over 75,000-square feet, has the capacity to host 500 startups and is located in the epicenter of Silicon Valley in Redwood City, CA.
- Led by CEO Kayvan Baroumand, the former Chief Operating Officer of Plug and Play Tech Center, and former President of AlwaysOn, a leading new-media company in Silicon Valley.
- Has received venture funding from GSV Capital and angel investors.

Another positive development is the next generation of innovative education companies that are being created by ex-employees of the pioneers of the education industry. A major catalyst in other rapidly-expanding industries has been the successful spawning from parent enterprise to multiple offspring.

Fairchild and Hewlett-Packard were the collective “Abraham” of Silicon Valley with their offsprings including Intel, Apple, and Cisco. The Paypal mafia has become notorious for its involvement in many of the new big idea companies that are reshaping Silicon Valley, including Facebook, Palantir, Tesla, SpaceX, LinkedIn and many more.

PayPal™ “Mafia”

Peter Thiel



Palantir
Facebook
Clarium

Max Levchin



Slide.com
Yelp

Elon Musk



Tesla
SpaceX
Solar City

Reid Hoffman



LinkedIn
Greylock
Twitter

Roelof Botha



Sequoia Capital
Youtube

David Sacks



Yammer
Geni.com

Chad Hurley



Youtube

Steven Chen



Youtube

Premal Shah



Kiva.org

Russel Simmons



Yelp

Keith Robias



LinkedIn
Slide.com
Square

Dave McClure



500 Startups

Improved Investor Dynamics: The “PayPal Effect” in Education

Kaplan Family



Jonathan Grayer, former Chairman & CEO of Kaplan; Chairman & CEO of Weld North, LLC.

<p>Mark Coggins CEO Kaplan Asia Pacific</p> 	<p>William MacPherson CEO</p> 
<p>Jeffrey Conlon & Beth Hollenburg</p> 	<p>Josh Reibel CEO</p> 
<p>Sari Factor CEO</p> 	<p>Charles Thornburgh Founder & CEO</p> 
<p>Jose Ferreira Founder & CEO</p> 	<p>Rob Waldron President & CEO</p> 
<p>Steve Fredette Executive Chairman</p> 	<p>Alan Tripp Founder & CEO</p> 

Edison Schools Family



Chris Whittle, Founder and former CEO of Edison Schools;
CEO of Avenues: The World School

<p>Chris Cerf Commissioner of Education</p>		<p>Dr. Leory D. Nunery II School District of Philadelphia</p>	
<p>Justin Cohen President</p>		<p>Joel Rose Founder</p>	
<p>Kathy Hamel</p>		<p>Jim Shelton U.S. Department of Education</p>	
<p>Deborah Kenny Chairman</p>		<p>Adam Tucker</p>	
<p>Deborah McGriff Partner</p>		<p>Gene Wade Co-Founder & CEO</p>	
<p>Richard Barth President</p>		<p>Anthony Kim CEO & Founder</p>	

Blackboard Family



Michael Chasen,
Co-founder, former
President & CEO of
Blackboard



Matt Pittinsky,
Co-founder,
Chairman & former
CEO of Blackboard;
Founder & CEO of
Parchment

<p>Toby Gibby</p> 	<p>Greg Davies CEO</p> 
<p>David Yaskin CEO & Founder</p> 	<p>Lou Pugliese CEO</p> 
<p>Jessie Woolley-Wilson President, CEO & Chairman</p> 	<p>Patrick Supanc President</p> 
<p>Matt Pittinsky Founder & CEO</p> 	<p>Stephen Gilfus Founder & CEO</p> 

Teach for America Family



Wendy Kopp, Founder and CEO

<p>Mike Feinberg and Dave Levin Co-Founders, KIPP</p>		<p>Adam Geller Founder at Edthena</p>	
<p>Zeke Vanderhoek Founder & Chairman, Manhattan GMAT</p>		<p>Steven Francisco Founder, Innovation Teaching</p>	
<p>Alex Grodd Founder & CEO, BetterLesson</p>		<p>Matt Pasternack & Kim Jacobsen Co-Founders, Junyo</p>	
<p>Axel Shalson Founder & President, Red Schoolhouse Software</p>		<p>Jen Medbery CEO, Kickboard</p>	

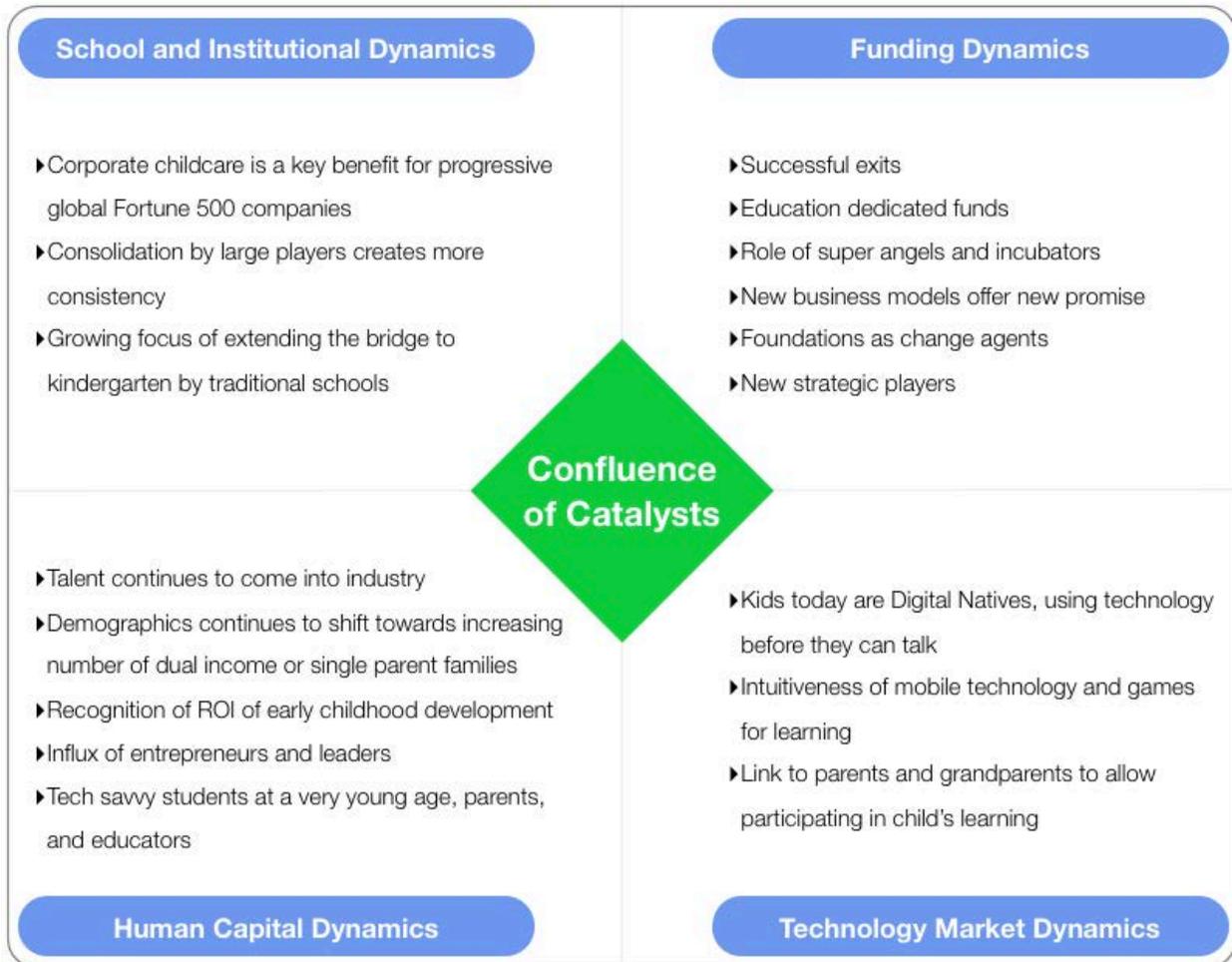
Pre-K Market

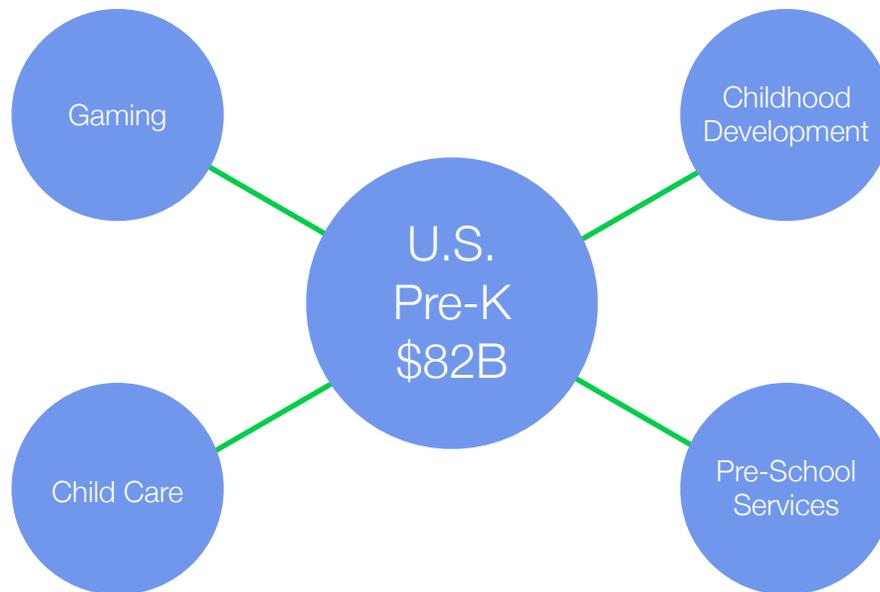
“The world is more malleable than you think and it’s waiting for you to hammer it into shape.”

- Bono

Pre-K Market

Confluence of Catalysts





It's safe to say there are no “silver bullets” to fix the education system in the United States. It's too complex, too large, and different people have different opinions on what “fix” means.

However, Logic 101 says that if a child comes into kindergarten without the foundation to learn, the chances of that child getting left behind are very high. In fact, studies have shown that children who come into kindergarten unprepared are likely to stay behind *forever* with the consequences being more likely to drop out of school, more likely to be unemployed, and more likely to be in prison.

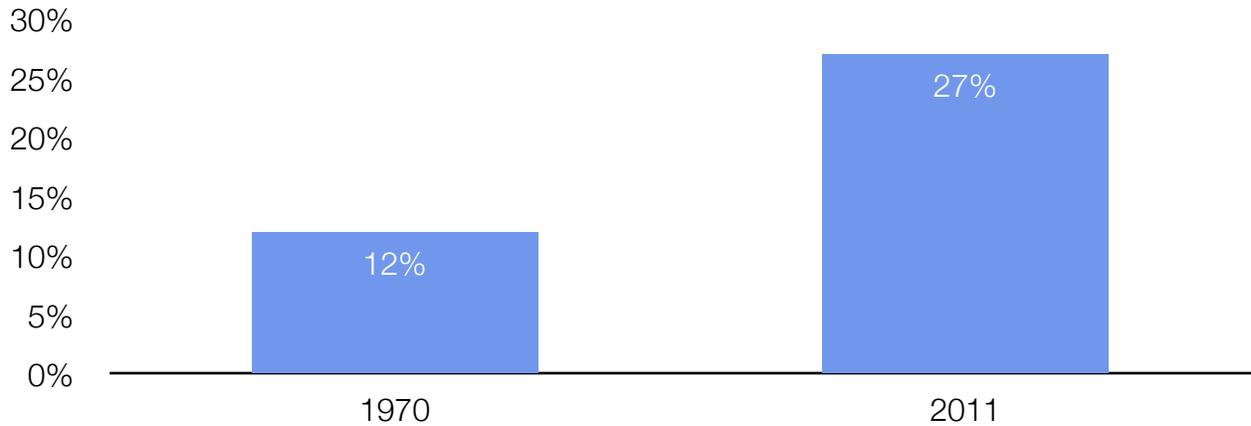
In other words, all the debate about school choice, STEM curriculum, rewarding great teachers, and bringing technology into the classroom, etc. is “whistling in the wind” because we've already lost that young student....and we're unlikely to ever bring them back.

Family Structures and Education Mismatch

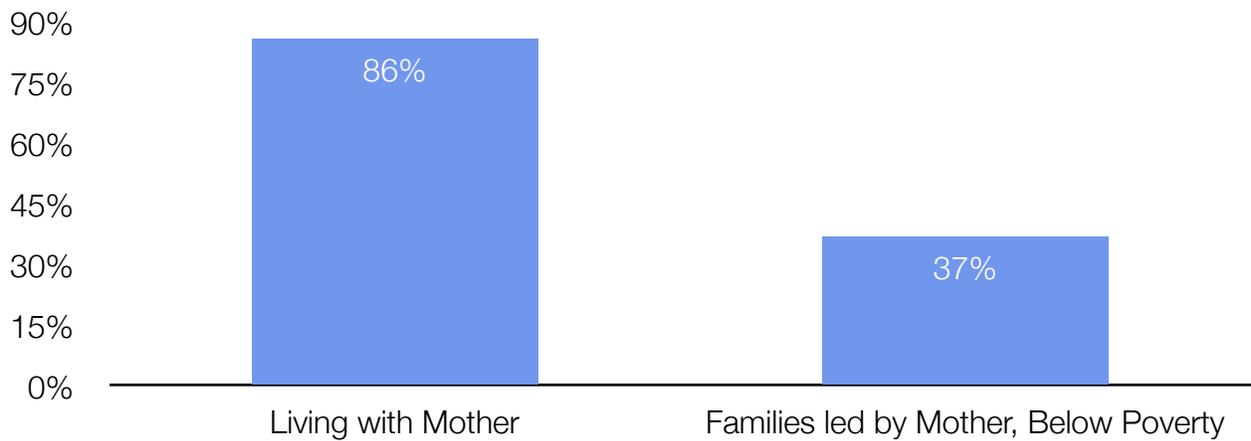
We said we want a revolution, but there are some serious structural challenges we need to address before the revolution can occur. The family structures that once supported children's early childhood learning have undergone a radical shift since the 1960s. Ward and June Cleaver have rapidly become a quaint artifact of days gone by. June as a stay-

at-home mom was the norm—with 66% of mothers staying at home in the 1940s and 1950s compared to just 18% today⁷⁴.

Children Living in One-Parent Families⁷⁵



Of Those One-Parent Families



⁷⁴ Mosisa, Abraham; Hipple, Steven. "Trends in Labor Force Participation in the United States". Bureau of Labor Statistics, October 2006.

⁷⁵ GSV Advisors, 2012.

As families have coped with rising costs and flat incomes, more households have been forced to become dual-income households. In 2010, 64% of all married couples with children younger than 18 years old were dual career couples.⁷⁶

Moreover, when you add it all up, *80% of all children* entering kindergarten are products of either a dual income family or a single parent.

Preschool Programs for Children of Working Parents

We need to account for social changes when we design schools and programs. The shift from single to dual income families reflects both women's liberation and necessity for many Americans to survive with a rising cost of living. As a result, more kids are in expensive daycare or miss the early learning stage altogether. A re-imagined public school system would begin at age three and cost concerns would cease as a limitation on early childhood education.

The net-net of these changes to the family structure over the past sixty years is that the early learning education that was often provided by a stay-at-home mother is now being outsourced to a child care center or a nanny. It should be no shock that professional parents in NYC spend tens of thousands of dollars on pre-school consultants and coaches.

⁷⁶ "Statistical Abstract of the United States, 2011-2012". *The National Data Book*. U.S. Department of Commerce, July 2011.

America's Promise Alliance



General Colin Powell and Alma Powell's foundation that strives to provide opportunities for all Americans:

America's Promise Alliance focuses on ending the high school dropout crisis and ensuring that students graduate ready for college and the 21st century workforce. Its Grad Nation campaign, launched in 2010, is the centerpiece of these efforts.

The Five Promises are the fundamental resources that young people need to succeed. The focus of America's Promise Alliance is built around the framework of ensuring that more young people experience more of the Promises. Critical to this objective is making sure every child is ready to enter school.

Five Promises

- 1 Caring Adults
- 2 Safe Places
- 3 A Healthy Start
- 4 Effective Education
- 5 Opportunities to Help Others

Children who receive at least four of the Five Promises are much more likely than those who experience only one or zero Promises to succeed academically, socially and civically. They are more likely to avoid violence, contribute to their communities and achieve high grades in school.

Receiving at least four of the Five Promises also appears to mitigate gaps across racial and economic boundaries. To experience the full power of the Promises, young people must experience these critical supports throughout their lives — in their families, at schools and out in their communities.

While government has been slow to truly understand the issues with early childhood learning, large Fortune 500 Corporations were early adopters of solutions to help their employee families. Corporate Child Care centers have been used as a key recruiting and retention tool and have grown rapidly.

Special Forces: Bright Horizons Family Solutions



Battle Plan: supports corporations, hospitals, universities, government agencies and service firms with critical child care services and early childhood education, a radical concept when the company was founded.

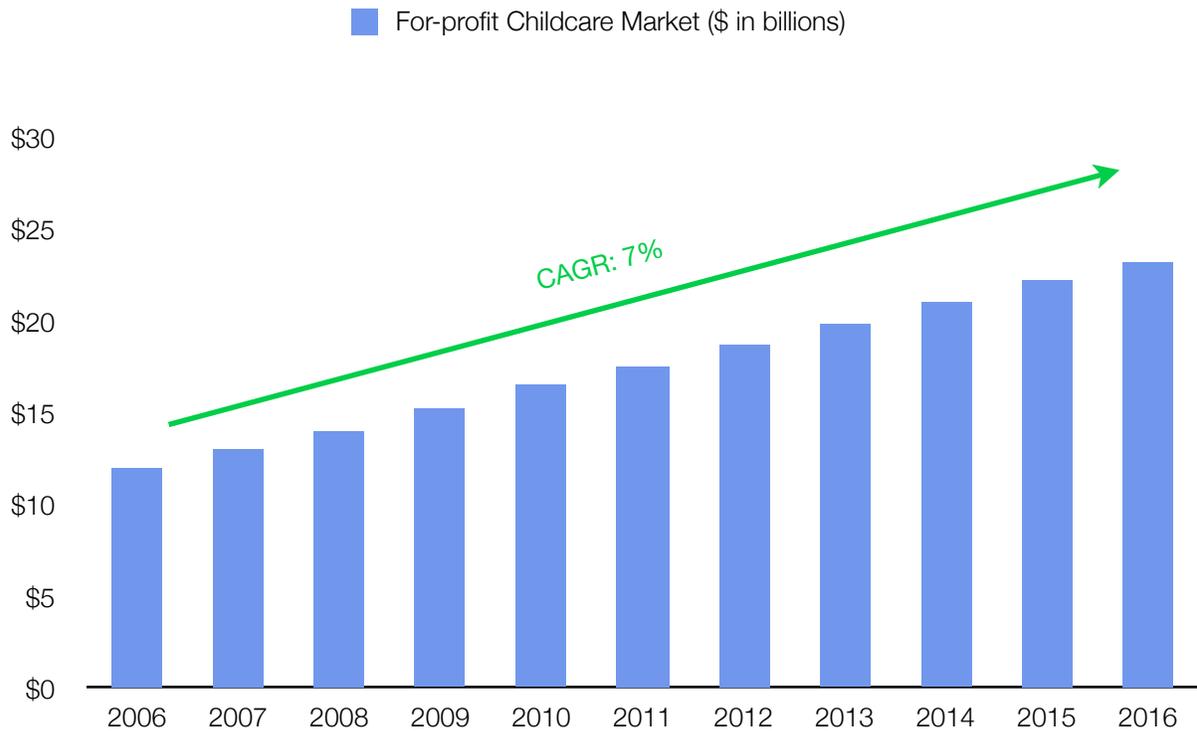
Return on Education: provides high-quality education and programming for early childhood, a crucial development period for children and allows working parents or single parent to give their kids access to early development programs.

Claim to Fame: currently the largest provider of employer-sponsored child care and has more than 100 of the Fortune 500 companies as its clients. Bright Spaces, a program formed by Bright Horizons' foundation, has created more than 250 locations and serves 10,000 children in crisis and their families every month.

Fast Facts:

- Bright Horizons Family Solutions was formed through a merger in 1998 between Massachusetts-based Bright Horizons (founded in 1986 by Linda Mason and Roger Brown) and Corporate Family Solutions (founded in 1987 by Bob Keeshan, former Tennessee Governor and current U.S. Senator and former Secretary of Education Lamar Alexander and Marguerite Kondracke).
- Corporate customers include BNP Paribas, Johnson & Johnson, Cisco, etc.
- Has been named as a "100 Best Places to Work in America" 13 times.
- Operates more than 700 child care centers worldwide, including more than 600 across the U.S. and more than 100 in the U.K., Ireland, and the Netherlands.
- Publicly traded on the Nasdaq under BFAM until it was acquired by Bain Capital in May 2008 for \$1.3 billion.

Steady Growth of the For-Profit Childcare Market⁷⁷



The Childcare industry has grown from church basements and “Mom and Pop” neighborhood baby sitting centers to an increasingly institutional and professional service. Additionally, organizations like Head Start and Ounce of Prevention Fund provide meaningful support for impoverished early education students.

Ten years ago, the top 50 childcare providers were less than 5% of the overall market. Today, while still ridiculously fragmented, the top 10 players are 6.8% of the \$19 billion market due to organic growth and consolidation. It is noteworthy that the “giant”, Knowledge Beginnings, is only 2.2% of the market.

⁷⁷ Source: BMO Capital Markets estimates and Barnes Reports

Leaders Consolidating the Industry⁷⁸

Company	Headquarters	Capacity	Market Share
Knowledge Beginnings / Universe	Portland, OR	218,300	2.2%
Learning Care Group	Novi, MI	156,110	1.6%
Bright Horizons Family Solutions	Watertown, MA	80,000	0.8%
Goddard Systems	King of Prussia, PA	45,000	0.5%
Primrose Schools	Acworth, GA	41,000	0.4%
Kids R Kids International	Duluth, GA	38,500	0.4%
Nobel Learning Communities	West Chester, PA	28,500	0.3%
Child Development Schools	Columbus, GA	22,874	0.2%
Phoenix Children's Academy	Scottsdale, AZ	21,000	0.2%
The Sunshine House	Greenwood, SC	20,023	0.2%
Top 10		671,307	6.8%

We expect the childcare industry to continue to consolidate with the leading operators such as Knowledge Beginnings and Learning Care Group continuing to buy local centers. The leading national players have many advantages including scale, the ability to attract, develop and retain talent, and the potential to create partnerships and invest in innovation.

⁷⁸ Source: Child Care Exchange and BMO Capital Markets, as of January 2011.

Special Forces: Knowledge Universe



Battle Plan: focuses on true life-long learning through early-childhood, primary and secondary education as well as higher education.

Return on Education: addresses the 21st century need of knowledge workers and education for people of all ages, and increasing access to education for traditionally undereducated demographics.

Claim to Fame: recognized as a world-class company providing educational resources, infrastructure, and positive impact on life-long learners.

Fast Facts:

- Knowledge Universe has a network of more than 3,000 locations worldwide, employing over 40,000 education professionals.
- Operates early childhood education centers, international schools, colleges, large on-line schools and school management systems, which together touch over five million students daily.
- Co-founded by Mike and Lowell Milken and led by CEO Peter Maslen, formerly the President of Starbucks Coffee International.

In 1999, Knowledge Universe initiated Knowledge Beginnings, which is now the leading private provider of early childhood education and care in the U.S. The company now has over 1,600 locations around the country. The company acquired KinderCare, one of the largest network of childcare centers, for \$1 billion in 2005.



The early adoption of education technology for pre-schoolers is a key fundamental to help bring all children into school prepared to learn. Some will say that it's "unhealthy" to have kids under the age of 5 learning from a computer, but children today are *digital natives* and technology is as natural to them as going on the swing was for the prior generation.

The opportunity to have highly engaging, highly educational content downloaded from an app via the iPad is huge. The ability to provide parents, grandparents and other interested adults real time information on what the child is doing, what they have learned and prescriptions for other educational programs to help their students develop has the potential to help solve an enormous problem.

Special Forces: Fingerprint



Battle Plan: creating a full suite of engagement digital, particularly mobile, games for students ages 3-9 to teach music, reading, history, geography and many more subjects. Reaching parents and grandparents through Apple's App Store encourages them to get involved with their children's learning process.

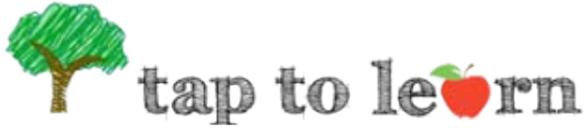
Return on Education: Fingerprint's games are a low cost way for students to engage in a large number of subject areas and provide students and parents a way to assess progress on learning.

Claim to Fame: one of the pioneers providing a full set of games on nearly every important early childhood learning topic.

Fast Facts:

- Kids and students have played over 20 million minutes of games on Fingerprint's platform.
- Fingerprint's team, via prior experiences, has generated over 500 million downloads, 200 video games, 100 interactive books, and 12 technology patents.
- Has received venture funding from K2 Labs, Reed Elsevier Ventures, and The Rose Family Foundation.

Special Forces: Tap to Learn



Battle Plan: building great educational games and applications for tablet and mobile devices.

Return on Education: capturing the trend of self-learning and distilling a large amount of educational content (books, notes, literature, videos) into simple-to-understand material for kids.

Claim to Fame: creating applications based on the philosophy of “time effectiveness” where key concepts are reinforced. Tap to Learn has over 2 million downloads in the past year.

Fast Facts:

- Features over 30 learning applications, many of them receiving 4 stars or better in the Apple Apps Store.
- Funded by both Y Combinator and Imagine K12.

Special Forces: eSpark



Battle Plan: develops a custom learning plan based around iPad applications for students based on a diagnostic or their current standardized test scores. Students login to the eSpark iPad app and dive into the best educational games, instructional videos, and audiobooks that have been selected for them based on their individual learning needs.

Return on Education: students (on average) grow 1.25-1.4 grade levels in their goal domain in eight weeks.

Claim to Fame: over ten studies have been conducted to-date where student cohorts have been evaluated to look at their achievement pre- and post-eSpark use. In every case, eSpark has been shown to create dramatic gains of up to 5x more growth on student achievement.

Fast Facts:

- Founder and CEO David Vinca was formerly a teacher (using computer simulations) and spent four years as a management consultant for ZS Associates.
- Has received venture investment from NewSchools Venture Fund.

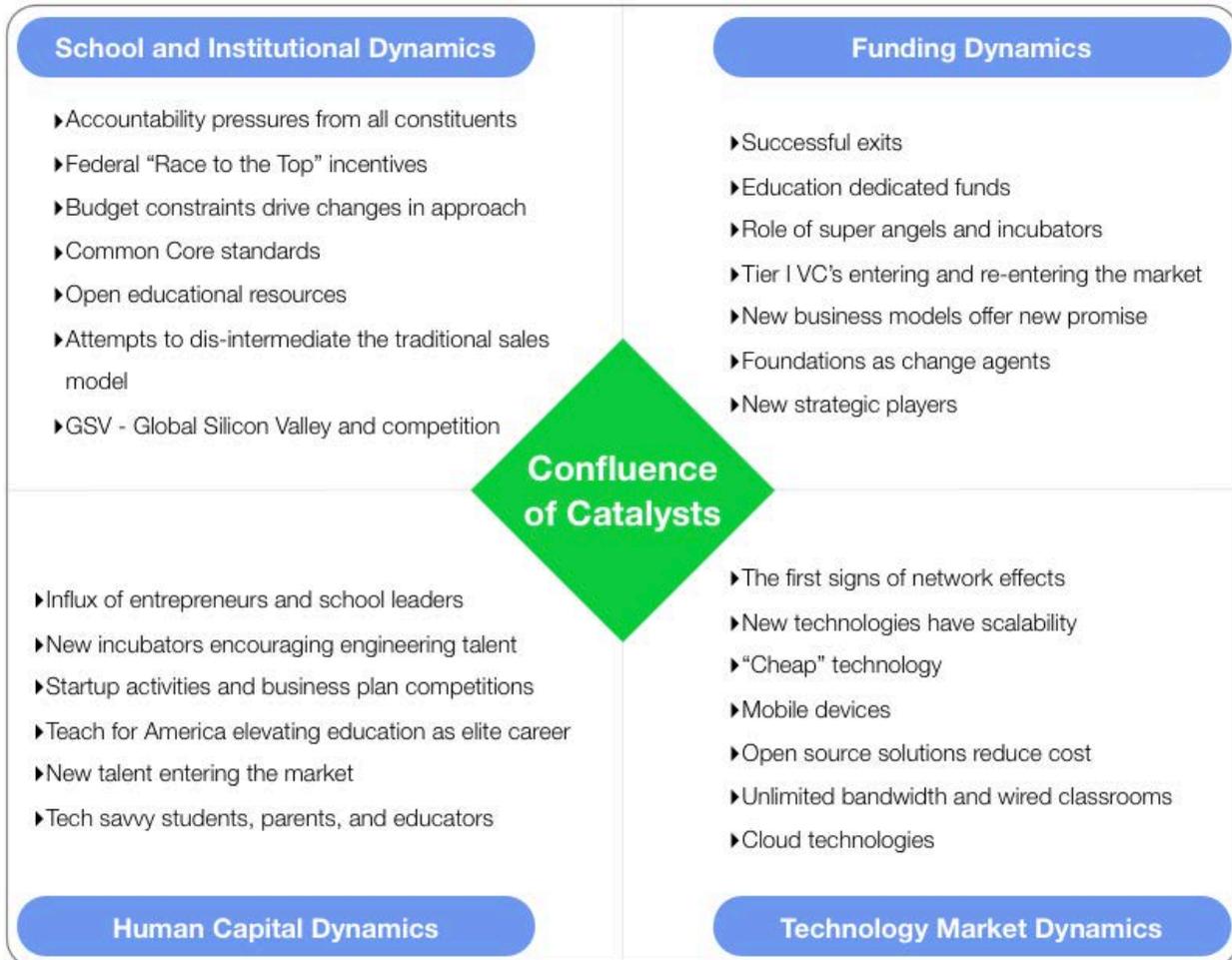
K-12 Market

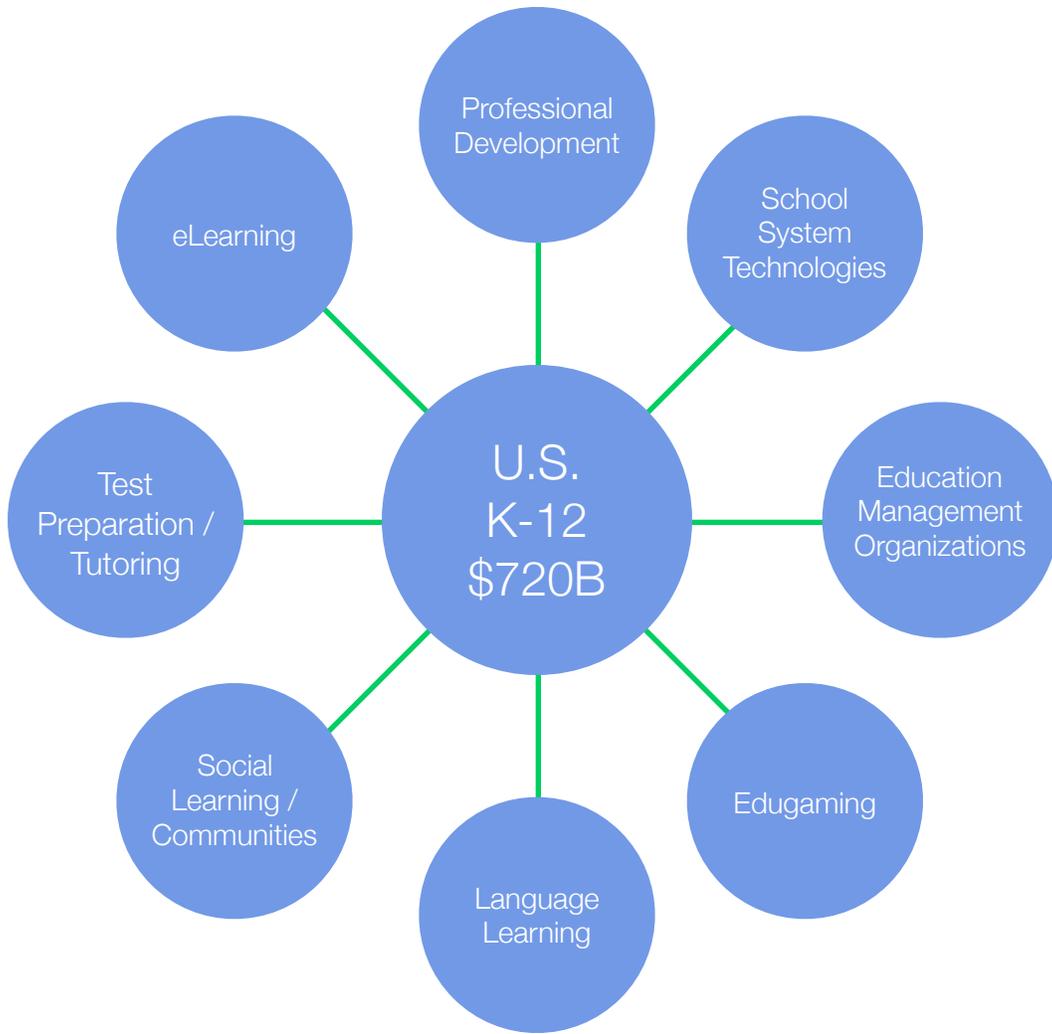
“You may have to fight a battle more than once to win it.”

- Margaret Thatcher

K-12 Market

Confluence of Catalysts





“We conclude that, in the field of public education, the doctrine of "separate but equal" has no place. Separate educational facilities are inherently unequal.”

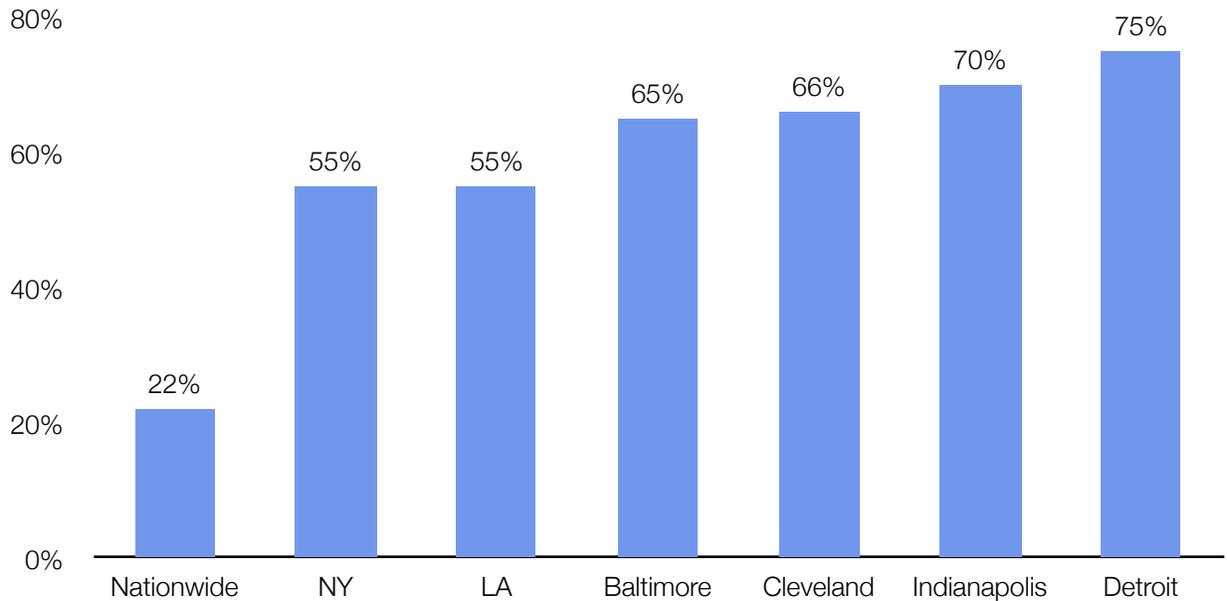
- *United States Supreme Court, Brown vs. Board of Education*

Before Occupy Wall Street (OWS) made the nightly news, highlighting the growing frustration of many Americans, civil rights leaders fully grasped the consequences of inequality of access to quality education. Despite the landmark 1954 Supreme Court case of *Brown vs. Board of Education*, the bottom-line results in our most populous cities show that something drastically wrong is going on.

It shouldn't take a movie like *Waiting for Superman* to point out how unfair the present system is—it would only take a walk down the halls of some of these schools to understand why we're getting such poor results. Having visited urban schools in major cities—no partitions on bathroom doors, metal detectors, plagues of violence and poverty—it's not a mystery why half of the kids decide that they don't want to show up for school. Studies show that students struggle the most in communities where they have no choice of education. While almost 25% of all high school students do not graduate on time,⁷⁹ in districts with high levels of racial or socioeconomic segregation and high rates of poverty, dropout rates are closer to 50%.

⁷⁹ "Diplomas Count 2011: Beyond High School, Before Baccalaureate". *Education Week and the Editorial Projects in Education*. EPE Research Center, June 2011.

Urban Centers are Dropout Factories



And many of our largest cities, there are more dropouts than graduates. In Detroit, Michigan, once famous for making cars, now is incredibly adept at manufacturing dropouts with 75% of students entering 9th grade leaving the system.

Remarkably, there are 2,000 high schools out of over nearly 20,000 that account for over 50% of the total dropouts in the country. These schools have essentially become dropout factories.⁸⁰ If a hospital had a similar rate of failure—half of the patients died—they'd close down the hospital!

In schools, where high school dropouts become sub-optimized producers at best, and at worst, gigantic costs to society through crime and public assistance...these students essentially become “the living dead.” The dropouts in 2011 alone will cost the country approximately \$325 billion in lost income over the course of their lifetimes.⁸¹ Comparing high school dropouts and graduates, a single high school graduate yields a public benefit of over \$292,000 in lower government spending and higher tax revenues. If we could cut

⁸⁰ Swanson, Christopher. "U.S. Graduation Rate Continues Decline". *Education Week*, June 2010.

⁸¹ "The High Cost of High School Dropouts". *Alliance for Excellent Education*, November 2011.

the number of dropouts in half, the government would likely see a total of \$45 billion in savings and additional revenue.⁸²

Special Forces: The American Academy



Battle Plan: online educational services partner to public high schools by providing a leading national online platform for high school dropout recovery (“DR”).

Return on Education: targeting the 5-6 million American teenagers who have dropped out, or are otherwise unable or unwilling to attend traditional public high schools. TAA additionally operates an accredited, private, online high school that serves both high school age and adult students worldwide.

Claim to Fame: TAA's NoDropouts™ program provides online and alternative educational services to high schools in the U.S. with a catalog of more than 200 courses, state-licensed teachers, local advocacy and support, laptops with Internet access, and available tutoring 24/7.

Fast Facts:

- Has raised \$12 million in funding from New Markets Venture Partners, Austin Ventures, and Signal Peak Ventures.
- Serves nearly 3,000 students and has more than four dozen school district partners.

Charter schools have sprung up to offer public school choices in these high-risk communities. Many private companies and organizations have assumed management of public schools. Initially, minorities in these communities pushed back. They didn't like outsiders coming in to run their schools or the possibility of these individuals skimming the schools' best students. Gradually though, many parents saw the opportunities their kids were gaining and joined a movement to achieve education equality.

In 2009, Al Sharpton and Newt Gingrich teamed up and traveled the country to promote

⁸² H. Levin, et al., “The Costs and Benefits of an Excellent Education for All of America's Children” (New York, NY: Center for Cost-Benefit Studies of Education Teachers College, Columbia University), 2007.

education reforms, including those that Education Secretary Arne Duncan and New York City Mayor Michael Bloomberg were pushing. Gingrich remarked, "...education has to be the number one civil rights issue of the 21st century. And we can't get it done as a partisan issue."⁸³

Politician	Office	Claim to Fame
Michael Bloomberg	Mayor, NYC	Private/public partnerships; merit pay; technology and individualized learning; smaller schools
Corey Booker	Mayor, Newark	Small school initiative; magnet schools; charter schools
Bob Wise	Fmr Governor, West Virginia	College scholarships; charter curriculum; bonuses for National Board Certification
Jeb Bush	Fmr Governor, Florida	Merit pay; pre-K programs; PSAT scholarships; top results and gains in NAEP and AP tests
Arne Duncan	Secretary of Education	Race to the Top
Adrian Fenty	Fmr Mayor, Washington DC	Direct reporting to Mayoral Office; teacher qualifications; school consolidation
Rahm Emanuel	Mayor, Chicago	Longer school days; executive officers instead of Board of Ed

“Don’t tell me there is something in America we cannot do. We are a nation born from innovation; innovation of our ideals, innovation at agriculture, innovation at industry, innovation in science and technology. Why has the one sector of our society most in need of innovation been left in the agrarian age and that is education? No more!”

- Cory Booker, Mayor of Newark, NJ

⁸³ Minors, Zach. "Arne Duncan, Al Sharpton and Newt Gingrich Join Forces". U.S. News, August 2009.

Politicians Are Getting Involved

In the past, all the politicians said how important education was but in truth, it wasn't something that many people voted on so it fell to the bottom of the pile of policy priorities.

Education is now a voting issue. In a 2012 College Board survey, education was ranked as one of the top 3 voting issues. Political leaders, especially up-and-coming politicians, are getting involved. Joel Klein, the former chancellor of New York City's public school system, and Al Sharpton formed the Education Equality Project (EEP) in 2008. The EEP members included big-city mayors who were close to Obama (former Chicago Mayor Richard Daley, former D.C. Mayor Adrian Fenty, and Newark's Mayor Cory Booker), top civil rights leaders (Roger Wilkins, Harold E. Ford Jr.), and the nation's leading school superintendents.

Now a part of Stand for Children (a leadership, development and training nonprofit), EEP is a high-profile education reform group challenging the sacred cows of teacher unions and tenure. It has begun to split the civil rights movement away from the automatic adoption of all things union.⁸⁴

⁸⁴ Whitman, David. "The Looming Battle of Education Reform". *The Huffington Post*, December 2008.

Special Forces: Florida Virtual School



Battle Plan: an accredited, free, public, online e-learning school serving students in kindergarten -12th grade aiming to deliver a high quality, technology-based education that provides mission critical skills and knowledge.

Return on Education: serves and provides a variety of custom solutions for schools and districts to meet student needs – thus giving flexible yet supportive learning options to their students.

Claim to Fame: a nationally recognized e-Learning model, FLVS was founded in 1997 and was the country's first statewide Internet-based public high school. At the close of the 2011-12 school year, Florida Virtual employed nearly 2,000 staff and faculty and served more than 1,000,000 students in Florida, the remaining 49 states and 57 countries worldwide.

Fast Facts:

- In July, 2012, FLVS was named in the Top 25 Cool Schools in the United States by P&C Magazine and Scholastic.com.
- McGraw Hill recognized Julie Young, President and CEO, for achievements in education and awarded her the Harold W. McGraw Hill, Jr. Prize in Education for 2011.
- President and CEO Julie Young serves on various boards and was recognized by Technology & Learning Magazine as one of the Top 30 influencers in Ed Tech, along with Bill Gates and Steve Jobs. In 2003, she was inducted into the U.S. Distance Learning Association "Hall of Fame."

“In the first place, God made idiots. That was for practice.
Then he made school boards.”

- Mark Twain

New York, Florida, West Virginia, and New Orleans Lead the Way

In New York City, Mayor Bloomberg, with the help of Joel Klein, made education a primary issue of his work and legacy and the Mayor has been willing to take the bullets for it. Former Florida Governor Jeb Bush and Lieutenant Governor Frank Brogan have also become transformational leaders of the education reform movement.

They outlined both student education goals and the methods they would use to reach these goals. They instituted annual testing and more controversial programs from merit pay increases to ending social promotions to providing letter grades for each school to make performance transparent, and offered PSAT testing scholarships and pre-kindergarten.

The results were impressive. In 1998, Florida fourth-graders ranked at the bottom nationally in National Assessment of Educational Progress (NAEP) scores in reading and math. By 2009, they had scored above the national average in both categories. Minorities have made significant progress: Florida's fourth-grade Hispanic students equaled or surpassed the performance of all students in 31 states, and fourth-grade African American students in Florida outperformed African American students in all but three states. At the upper grade levels, high school graduation rates increased 21%, even as requirements got tougher. The number of African American and Latino students passing AP tests increased more than 360%.⁸⁵

In West Virginia, Governor Bob Wise took a similar route. During his time in office, 2001 to 2005, he proposed and signed legislation to fund a college scholarship program, established a charter education curriculum in all state schools, created the Governor's Helpline for Safer Schools, and proposed salary bonuses for teachers who achieved National Board Certification. The proposal helped to triple the rate of certified teachers in the state and West Virginia experienced a significant increase in the number of students completing high school and entering college.

⁸⁵ Cannon, Carl M. "Jeb Bush and Florida's Education Success". *Real Clear Politics*, September 2011.

New Orleans saw Hurricane Katrina as an opportunity veiled in a crisis; it was a chance to start fresh and reinvigorate and upgrade its school system. In 2005, Louisiana's public schools ranked 46th in the federal government's various state-by-state rankings of student achievement, and the schools in Orleans Parish, encompassing the city of New Orleans, ranked 67th out of the 68 parishes in the state. The superintendent of education hired Paul Vallas, former superintendent of Philadelphia public schools, to take over. By 2008, 57% of the New Orleans schools had been reopened as non-union charter schools.⁸⁶ In January 2010, Arne Duncan declared on ABC News:

I've spent a lot of time in New Orleans and this is a tough thing to say but I'm going to be really honest. The best thing that happened to the education system in New Orleans was Hurricane Katrina. That education system was a disaster. And it took Hurricane Katrina to wake up the community to say that we have to do better. And the progress that it made in four years since the hurricane is unbelievable.⁸⁷

⁸⁶ Tough, Paul. "A Teachable Moment". *The New York Times*. August 2008.

⁸⁷ Anderson, Nick. "Education Secretary Duncan Calls Hurricane Katrina Good for New Orleans Schools". *Washington Post*. January 2010.

Innovative Superintendents⁸⁸

Superintendent	District	Claim to Fame
Heath Morrison	Washoe County School District (NV)	Graduation rate up from 56% to 70% in 2 years; community outreach
Diane Frost	Asheboro City Schools (NC)	Sharply narrowed math achievement gap; record high graduation rates of 84%
Lorraine Lange	Roanoke County Public Schools (VA)	Laptop initiative
Susan Smith Bunting	Indian River School District (DE)	Delaware Vision 2015 initiative; RTT trailblazer
Marc Johnson	Sanger Unified School District (CA)	Professional learning communities; top gains in state in academic achievement
Tom Trigg	Blue Valley Unified School District (KS)	Student collaboration with local business leaders
Mary Alice Heuschel	Renton School District (WA)	Dramatic dropout reduction; all-time high graduation rates of 93%
Penny Fisher	Greenville County School System (SC)	Virtual schools and twilight schools; integrated engineering curriculum

Similarly, in an interview we conducted with John White, Louisiana Superintendent of Education and Former New York City Deputy Chancellor, in August 2011, he commented on the appearance of opportunity and the barriers in creating change:

I am always surprised by the low hanging fruit of opportunities for technology in education, and how little is actually explored. I attribute this to the following: the culture of 'no' within this bureaucratic industry; structural issues of K-12 purchasing, provisioning, processes and restrictions on funding (i.e. what the money can and can't be spent on) limiting investments in infrastructure; and the needs of schools are generally neither articulated nor entirely evident.

⁸⁸ Sources: GSV Advisors

Special Forces: New Orleans / John White



After Hurricane Katrina had wiped out much of New Orleans, the city actively used it as an opportunity to rebuild its education system. John White became the Head of Recovery School District in 2011 and subsequently, Louisiana State Superintendent of Education in 2012. Paul Vallas, Paul Pastorek and Leslie Jacobs were also key partners.

Battle Plan: in Katrina, the Louisiana Legislature placed the vast majority of public schools under the state-run Recovery School District. John White's current aims for Louisiana are to raise standards for student and teacher performance, build a system of choice (charter, private, etc.) and relieve the burdens placed on school districts by empowering the adults and removing bureaucratic barriers to change.

Return on Education: created a hybrid model where charter schools outnumber district-operated schools approximately seven-to-one, a change which resulted in a new-found emphasis on innovation and school autonomy.

Claim to Fame: today, the once academically and financially bankrupt system is nationally recognized as a potential model for urban school system transformation.

Before	After
2005: 35% of students in New Orleans Public Schools were performing at grade level	2011: 56% of students were performing at grade level
2005: 22% of NOPS were academically acceptable	2011: 51% academically acceptable 2016: estimated 92% will be academically acceptable

Fast Facts:

- In 2011, 90% of public school parents surveyed strongly agreed that it is important to be able to choose their child's school.
- During the 2011-12 school year, there were 88 public schools open in New Orleans, including 22 traditional direct-run schools and 66 charter schools. The majority of public school students, 78 percent, were enrolled in charter schools.

Education Spending is Having Little Positive Effect on Achievement

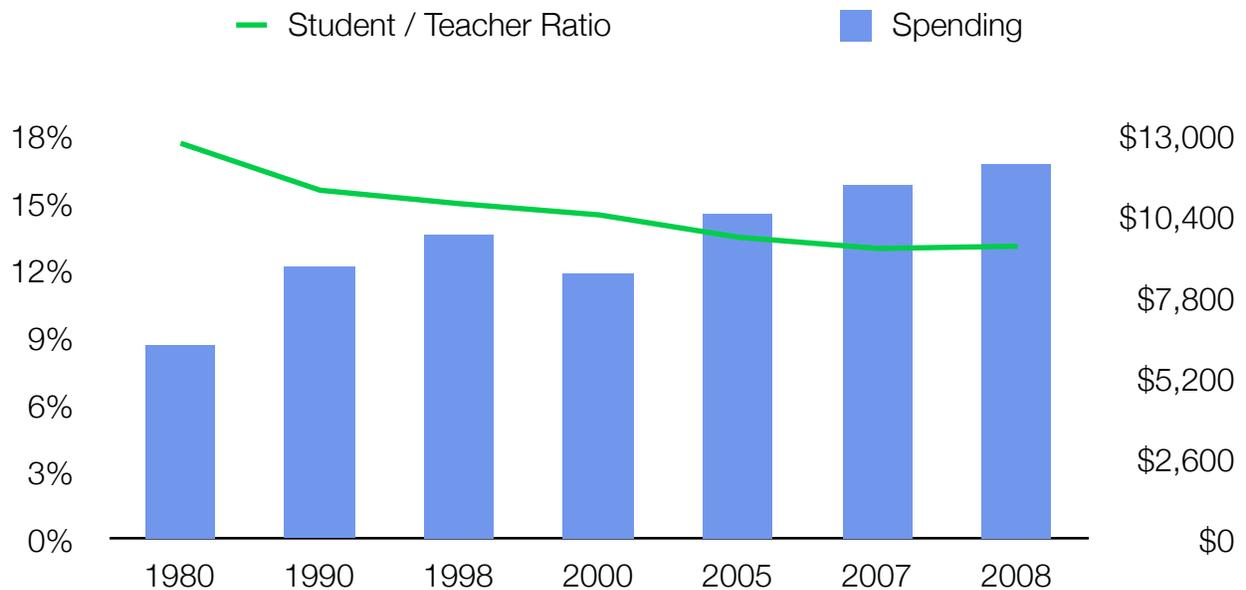
“What’s dangerous is not to evolve.”

- Jeff Bezos

For those who believe that the primary problem in education is insufficient spending, the facts will prove inconvenient.

A big wave was to decrease the teacher per student ratio, which was achieved over the last 30 years, falling from 18:1 to 14:1. Accordingly, spending during that same period more than doubled on an inflation adjusted basis. Regrettably, over the past 30 years, academic achievement has declined.

Spending and Student/Teacher Ratio Not Correlated⁸⁹

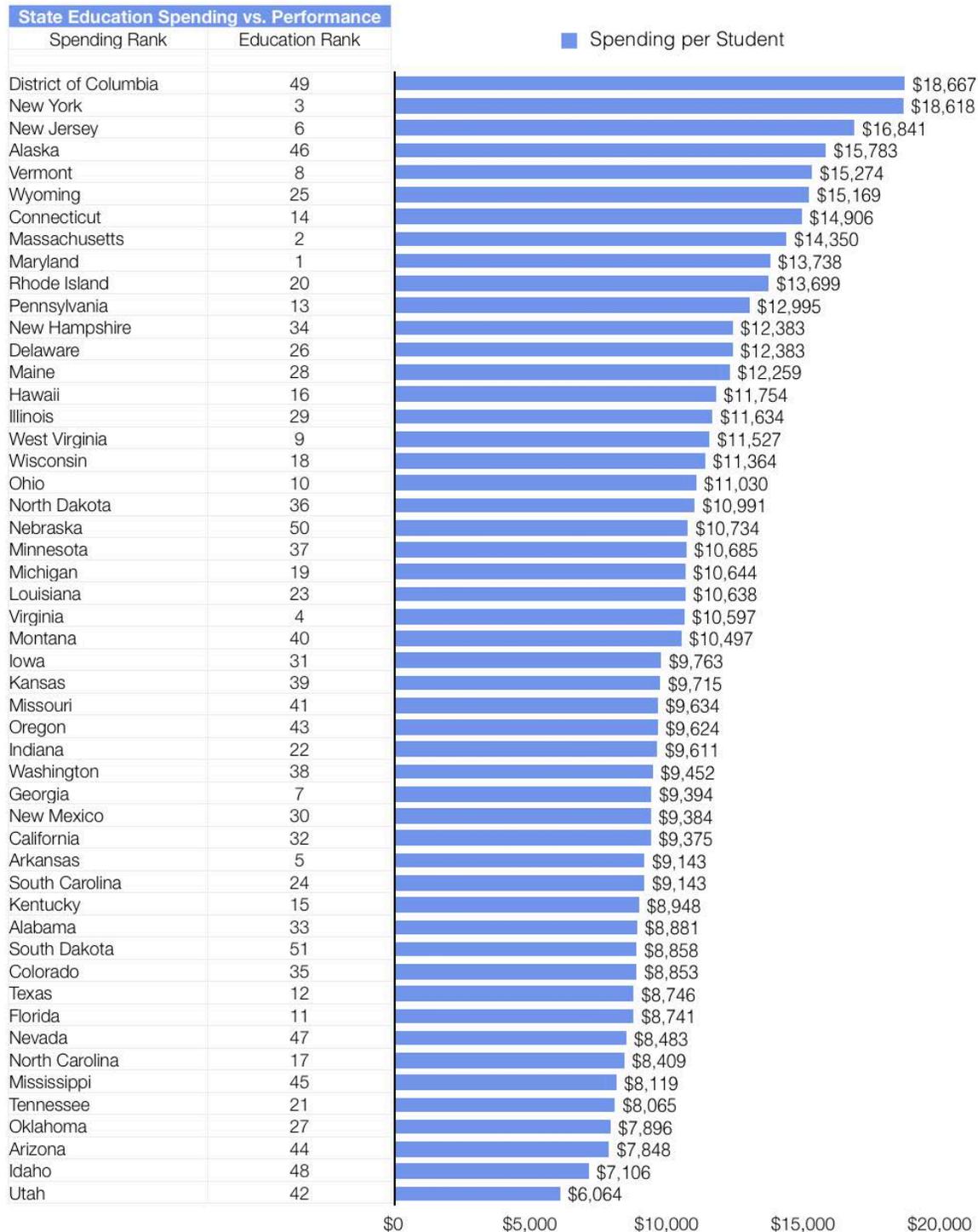


⁸⁹ National Center for Education Statistics, 2010

Since the PC revolution in the early 1980s, nearly every labor intensive service industry in the U.S. has achieved significant increases in productivity *while public education has become half as productive, spending twice the money per student to achieve the same results.*

There is no statistically significant correlation between what a state spends per student and academic achievement. For example, the District of Columbia spends more per child than any state yet it ranks 49th out of 51 jurisdictions for academic performance. On the other side of the coin, Florida spends \$8,741 per student, ranked 43rd in spending but is 11th in academic achievement. Texas ranked 42nd in spending but 12th in academic achievement.

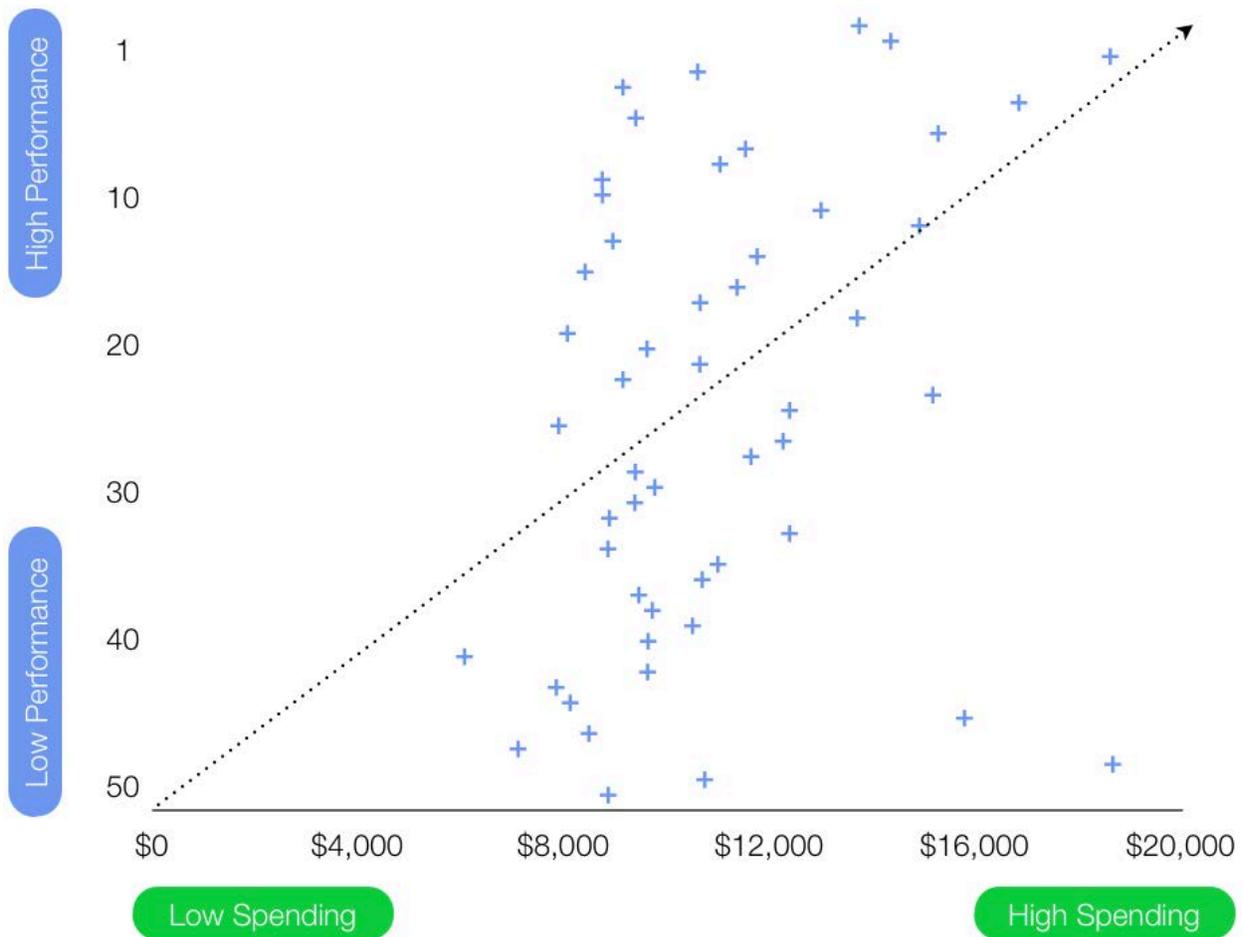
State Expenditure vs. Academic Performance^{90,91}



⁹⁰ "Public Elementary-Secondary Education Finance Data". United States Census Bureau, 2010.

⁹¹ "Report Awards Grades for Education". Education Week. EPE Research Center, January 2012. <http://www.edweek.org/media/qualitycounts2012_release.pdf>.

There is zero correlation between state spending per student and academic achievement.



Despite increased spending on education, American students are lagging behind their counterparts in other industrialized nations. The average reading, mathematics and science scores among 15-year old students in 2009 shows that U.S. students are not even close to the top ten and are trailing such economic and cultural powerhouses as Estonia, Slovenia, and Hungary. (China, as a country, did not report nor did India.)⁹² The most damning fact is that while American 4th graders were very competitive with leading countries, by 8th grade they had fallen off a cliff—in other words, the system was making kids dumber as they got pushed from grade to grade.

⁹² "PISA 2009 Results". Program for International Student Assessment. U.S. Department of Education, December 2009.

Remarkably, the United States' spending on education per student as a country is ranked second behind Switzerland⁹³, and spending has grown 6.8% per year, almost 1% more than healthcare. Nonetheless, the results have gotten worse! If Team USA placed 31st in medal count at this summer's London Olympics, it would be front page news and heads would roll. Unfortunately, while these PISA results were released almost three years ago, they remain confined to cocktail conversation among urban elites.

2009 PISA Scores by Country⁹⁴

Reading	Score	Math	Score	Science	Score
1 Shanghai-China	556	1 Shanghai-China	600	1 Shanghai-China	575
2 Korea	539	2 Singapore	562	2 Finland	554
3 Finland	536	3 Hong Kong-China	555	3 Hong Kong-China	549
4 Hong Kong-China	533	4 Korea	546	4 Singapore	542
5 Singapore	526	5 Chinese Taipei	543	5 Japan	539
6 Canada	524	6 Finland	541	6 Korea	538
7 New Zealand	521	7 Liechtenstein	536	7 New Zealand	532
8 Japan	520	8 Switzerland	534	8 Canada	529
9 Australia	515	9 Japan	529	9 Estonia	528
10 Netherlands	508	10 Canada	527	10 Australia	527
11 Belgium	506	11 Netherlands	526	11 Netherlands	522
12 Norway	503	12 Macao-China	525	12 Liechtenstein	520
13 Estonia	501	13 New Zealand	519	13 Germany	520
14 Switzerland	501	14 Belgium	515	14 Chinese Taipei	520
15 Poland	500	15 Australia	514	15 Switzerland	517
16 Iceland	500	16 Germany	513	16 United Kingdom	514
17 United States	500	17 Estonia	512	17 Slovenia	512
18 Liechtenstein	499	18 Iceland	507	18 Macao-China	511
19 Sweden	497	19 Denmark	503	19 Poland	508
20 Germany	497	20 Slovenia	501	20 Ireland	508
21 Ireland	496	21 Norway	498	21 Belgium	507
22 France	496	22 France	497	22 Hungary	503
23 Chinese Taipei	495	23 Slovak Republic	497	23 United States	502
24 Denmark	495	24 Austria	496	24 Norway	500
25 United Kingdom	494	25 Poland	495	25 Czech Republic	500
26 Hungary	494	26 Sweden	494	26 Denmark	499
27 Portugal	489	27 Czech Republic	493	27 France	498
28 Macao-China	487	28 United Kingdom	492	28 Iceland	496
29 Italy	486	29 Hungary	490	29 Sweden	495
30 Latvia	484	30 Luxembourg	489	30 Latvia	494

⁹³ deRugy, Veronica. "Losing the Brains Race". Reason.com. March 2011.

⁹⁴ "What Students Know and Can Do: Student Performance in Reading, Mathematics and Science". PISA 2009 Database. OECD, 2009.

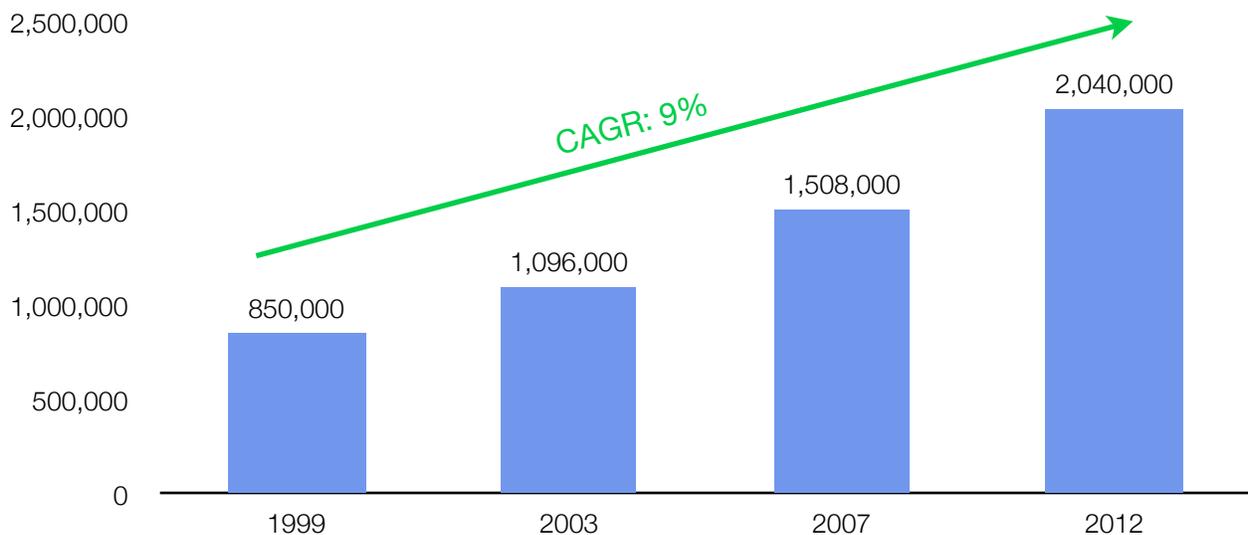
Reading	Score	Math	Score	Science	Score
31 Slovenia	483	31 United States	487	31 Austria	494
32 Greece	483	32 Ireland	487	32 Portugal	493
33 Spain	481	33 Portugal	487	33 Lithuania	491
34 Czech Republic	478	34 Italy	483	34 Slovak Republic	490
35 Slovak Republic	477	35 Spain	483	35 Italy	489

Among all OECD countries, U.S. students ranked 31st in mathematics, 23rd in science, and 17th in reading. American students did, however, *rank #1 in confidence*.⁹⁵ Unfortunately, self-confidence does not always lead to professional or national success.

Homeschooling and Charter Schools

We've tried several different methods to improve the quality of education in the U.S. Many parents thought they could do a better job teaching their children and began homeschooling. The number of home-schooled students in the United States has grown by a 9.1% CAGR from 1999 to 2010 to a total of 2 million students.

Home-schooled Students in the U.S.^{96,97}



⁹⁵ *Waiting for Superman*, 2010.

⁹⁶ Ray, Brian D. "2.04 Million Homeschooled Students in the United States in 2010". *National Home Education Research Institute*, January 2011.

⁹⁷ "5 Million Homeschooled Students in the United States in 2007". *US Department of Education, National Center for Education Statistics*. December 2009.

Special Forces: K12



Battle Plan: distributes K-12 online schooling and curriculum to state and local governments. Aims to provide rich and challenging materials, combined with parental involvement, to bring students a rigorous learning experience.

Return on Education: gives students an individualized learning plan that's customized to fit each person's learning strengths through an online portal containing both free and paid content.

Claim to Fame: K-12 is the one of the largest online K-12 service provider in the world. The company had over 1.8 million course enrollments and 250,000 full-time online students in 2010-2011.

Fast Facts:

- Over 210 courses covering most AP classes, languages and elective courses.
- 92% of parents are satisfied with K12's curriculum quality and 92% of parents are satisfied with students benefiting academically.

Other parents supported charter schools that offer innovative teaching and curriculum models. Minnesota established the first charter school in 1991. Since then, the number of charter schools has grown to 5,600 in fall 2011 with an estimated enrollment of 2 million students.⁹⁸

⁹⁸ "Chartering a better course". *The Economist*, July 2012.

Special Forces: The Center for Education Reform



Battle Plan: a leading voice for structural and sustainable changes that can dramatically improve educational opportunities for generations to come. The organization's guiding purpose is to improve the accuracy and quality of discourse and decisions about education reform, leading to fundamental policy changes.

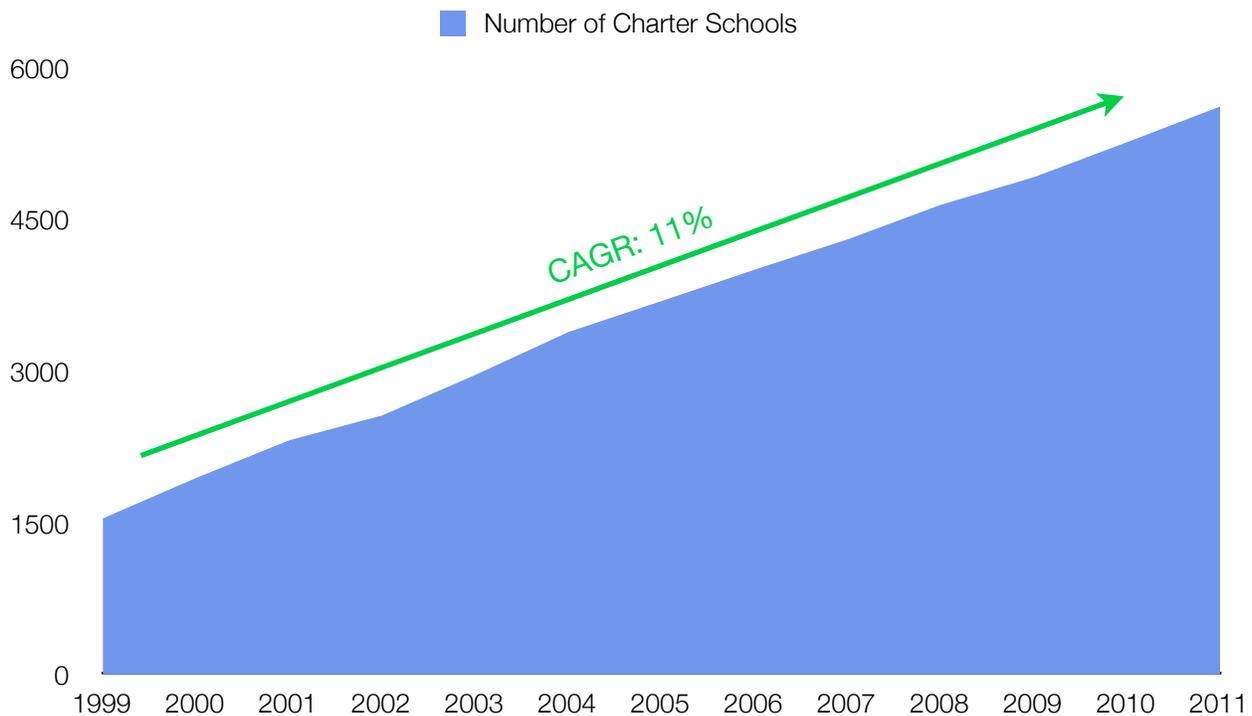
Return on Education: works with leaders at the state and local level to cultivate lasting changes to laws by providing a wealth of talent and resources including, local market analysis, access to new partners and allies, detailed campaign planning & coordination, coalition building and grassroots support.

Claim to Fame: a national organization founded in 1993, CER works to ensure that all parents have access to excellent schools for their children. CER has been a pioneer in education reform, and was working on standards, teacher quality, school choice and accountability before those concepts became popular. CER set out to make these education reforms mainstream and accessible to ordinary people and in less than 20 years has succeeded in spawning a new generation of activists and leaders.

Fast Facts:

- President and CEO Jeanne Allen was formerly an appointee in the U.S. Department of Education and co-authored "The School Reform Handbook: How to Improve Your Schools" (1995). She has been working in the education field for over 25 years.
- CER has been cited or quoted in more news articles than any other single education person - a reach totaling more than 1 billion impressions in the media since its founding.

March of Progress⁹⁹



Charter schools have become a nationwide phenomenon. As of fall 2011, 41 states and the District of Columbia have charter schools. Only Alabama, Kentucky, Maine, Montana, Nebraska, North Dakota, South Dakota, Vermont, Washington and West Virginia lack charter school laws. The U.S. Department of Education notes that in 2010, approximately 5% of all public schools were charter schools, up from 1% in 1999.¹⁰⁰

Despite growing at 7.5% since 2006, the number of charter schools is still falling behind the strong demand from students and parents. There are now 600,000 students on waiting lists for charter schools and only the lucky ones will get a chance to go through a lottery.¹⁰¹ Clearly, the demand is far greater than the supply of these schools as students and parents are all fighting to have a choice when it comes to education.

⁹⁹ "Schools Overview". *National Alliance for Public Charter Schools*, 2012.

¹⁰⁰ "Charter Schools". *The Center for Education Reform*. <<http://www.edreform.com/issues/choice-charter-schools/facts/>>.

¹⁰¹ "Chartering a Better Course". *The Economist*, July 2012.

Special Forces: National Heritage Academies



Battle Plan: for-profit charter school management organization providing a K-8 model that prevents the learning loss which often occurs in the transition from elementary to middle school.

Return on Education: built a curriculum with a strong emphasis on math, reading, science, and social studies—the foundation for college readiness. Most schools are located in under-resourced communities.

Claim to Fame: partners with local school boards to build and manage no-cost public charter schools. They currently partner with school boards at 74 schools in eight different states.

Fast Facts:

- Founder and Chairman J.C. Huizenga has been widely recognized for his accomplishments in business as well as his leadership in school reform and worldwide philanthropy. He serves on the boards of the National Council of Education Providers and the Education Industry Association.
- NHA instructs over 40,000 students each year.

Special Forces: Kunskapsskolan



Battle Plan: building a personalized learning school for students in Sweden. The school and teachers will adapt to a student's goals, ambitions and potential - not the other way around.

Return on Education: students receive not only individual attention, but are encouraged to pursue their potential while the teachers adopt and learn the subject areas that interest their students. The school doesn't charge any fees and is financed through a state school voucher system.

Claim to Fame: changing the century old classroom model and reversing the roles of teachers and students. Also creating a global community of schools to allow students to access curriculum from around the world.

Fast Facts:

- Founded in 1999 and currently operates 38 secondary schools for 13,000 students.
- Kunskapsskolan is Sweden's largest non-governmental school, with 22 elementary schools and ten gymnasium schools. Its schools are some of the top performers in Sweden.
- Currently running three schools in the U.K. within the UK Academy program (all inclusive state schools operated by an independent operator); expanded to the U.S. three years ago led by its flagship school, the Innovate Manhattan Charter School.
- Active in India with its first school planned to open in April 2013.
- All schools are operated according to local (national) standards and curriculum in Sweden, UK and India and NYS and Common Core standards in the U.S.

Beyond offering a differentiated education model, charter schools created competition for traditional public schools and accountability for educators and administrators.

Top 10 Charter Communities¹⁰²

Top 10 Charter Communities						
School District	Charter Market Share	Charter	Non-charter	All	% of Total Enrollment	
1 New Orleans, LA	61%	22,481	14,335	36,816	2.1%	
2 Washington, DC	38%	27,660	45,051	72,711	4.2%	
3 Detroit, MI	36%	50,139	89,488	139,627	8.1%	
4 Kansas City, MO	32%	8,834	18,839	27,673	1.6%	
5 Dayton, OH	29%	6,204	15,075	21,279	1.2%	
5 Flint, MI	29%	5,270	12,774	18,044	1.0%	
6 Gary, IN	28%	4,509	11,798	16,307	0.9%	
7 DeSoto, TX	27%	2,434	9,069	11,503	0.7%	
7 St. Louis, MO	27%	9,584	26,311	35,895	2.1%	
8 Central Dauphin, PA	26%	3,767	10,900	14,667	0.8%	
9 Albany, NY	24%	2,589	7,979	10,568	0.6%	
10 West Chester, PA	23%	3,585	11,800	15,385	0.9%	

The Gates, Walton Family, and Broad Foundations, along with many others, have approached education with market-based goals like choice, competition, deregulation, accountability, and data-based decision-making. They've used charter schools, standardized testing, merit pay for teachers, and performance data as means to achieve these goals. While good intentioned and with many positive things to point to, the outcomes weren't conclusive enough to sway the *Flat Earth Club*.

For sure, the cheerleaders for status quo (which ensures the disastrous situation to perpetuate) has their own research to promote their indefensible position.

Stanford's 2009 study of charter schools, called "the most comprehensive study ever done", concluded that 83% of charters perform either worse or no better than traditional public schools. A 2010 Vanderbilt University study showed definitively that merit pay for teachers does not produce higher test scores for students. A National Research Council report confirmed multiple studies that show that standardized test scores do not measure

¹⁰² National Alliance for Public Charter Schools, 2010

student learning adequately. After years of experimentation in large school systems such as New York and Chicago, Gates and Broad and others haven't shown enough progress or new models for success to end the debate and scrap the old model.¹⁰³

Unfortunately, the Stanford study failed to compare the results of children who won charter-school lotteries with those who did not, an experiment where the only difference between winners and losers should be the schooling they receive. When studies were completed on that premise, charters were better. One lottery study in NYC found that by eighth grade, charter-school students were 30 points ahead in math.¹⁰⁴

While there are many other arguments to be made for the flaws in the aforementioned negative analysis, our biggest problem is that while the researchers are gloating in "proving" new ideas don't work, what is conclusive without a shadow of a doubt is that the current system will destroy our country.

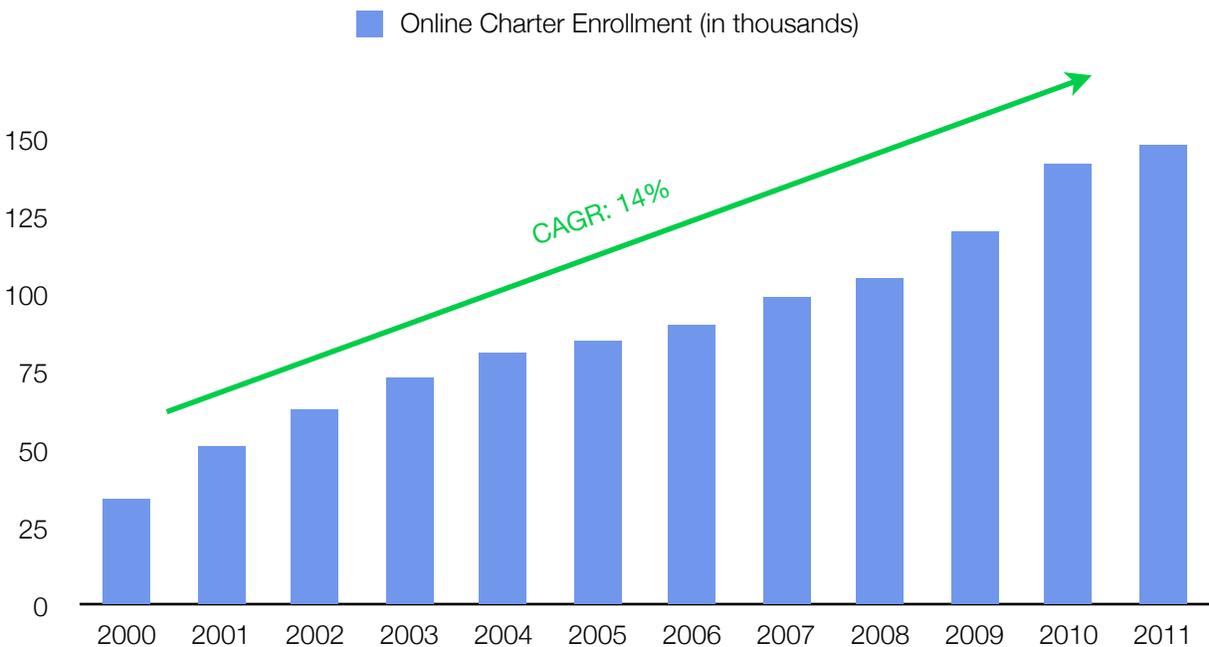
Appropriately, Al Shanker, former President of the United Federation of Teachers observed:

"It is time to admit that public education operates like a planned economy. It's a bureaucratic system where everybody's role is spelled out in advance, and there are few incentives for innovation and productivity. It's not a surprise when a school system doesn't improve. It more resembles a Communist economy than our own market economy."

¹⁰³ Barkan, Joanne. "Got Dough? How Billionaires Rule Our Schools". *Dissent Magazine*. Winter 2011.

¹⁰⁴ "Chartering a Better Course". *The Economist*, July 2012.

Full-Time Online Charter School Student Enrollment Growth¹⁰⁵



The U.S. government has had its own initiatives such as President George W. Bush's *No Child Left Behind* and, more recently, President Obama's *Race to the Top*. President Bush signed The No Child Left Behind Act (NCLB) in 2002 which reauthorized and amended the Elementary and Secondary Education Act of 1965. NCLB set standards-based education reform that included establishing measurable goals and testing students' basic skills in order to improve education outcomes.

While NCLB has succeeded in raising scores for young minority students (and white students), critics claim that since both groups progressed, the "achievement gap" wasn't closed. We are not making this up.

Additional criticisms came from "mavens" such as Bruce Fuller, an education professor at the University of California, Berkeley who commented, "We're lifting the basic skills of young kids but this policy is not lifting 21st-century skills for the new economy."¹⁰⁶ I guess

¹⁰⁵ iNACOL, *Center for Education Reform*, 2012

¹⁰⁶ Dillon, Sam. "No Child' Law Is Not Closing a Racial Gap". *The New York Times*. April 2009.

you don't need to read, write, or do math to perform "21st-century skills for the new economy."

As part of his initial stimulus program after taking office, President Obama introduced the \$4.3 billion *Race to the Top* (RTTT) competitive grant program. RTTT was meant to reward and encourage states that use innovative methods to increase student achievement. While it is too soon to tell the results, some RTTT critics complained that the first round of the competition only affected 3% of the country's black students and less than 1% of Latino students.¹⁰⁷ RTTT also favored those states that had the resources to complete the extensive application.

The fact is that *Race to the Top* prompted 48 states to adopt Common Core standards and stimulated a number of initiatives that have moved the ball forward.

Re-Imagining the School Calendar

"Good artists copy. Great artists steal."

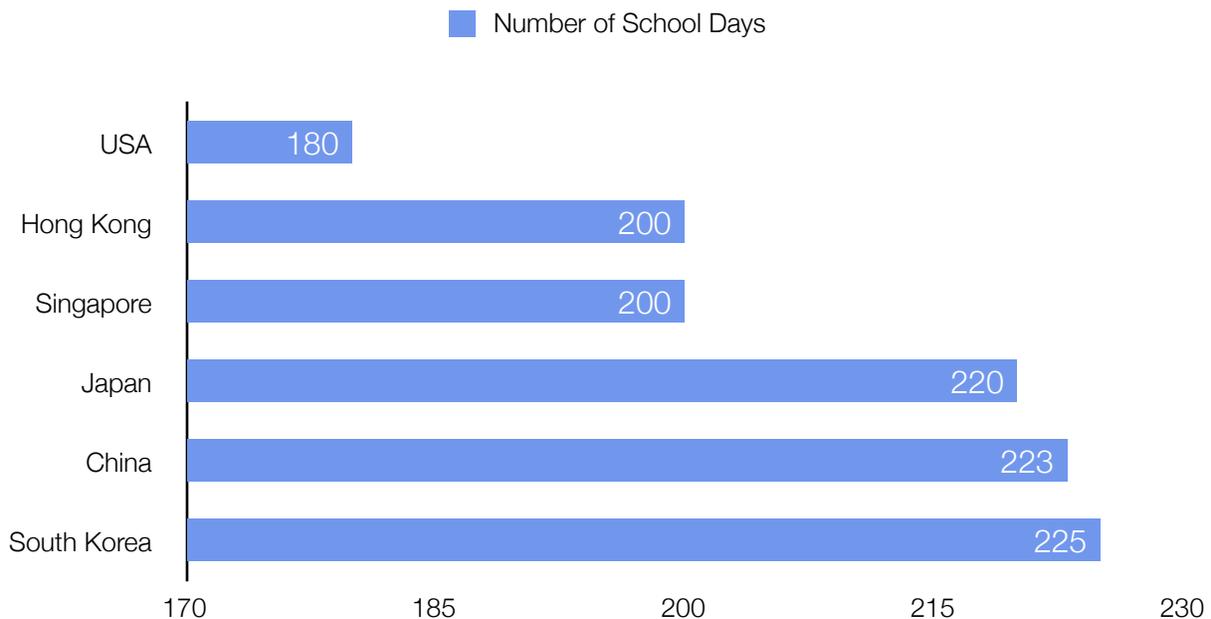
- Pablo Picasso

While society and the global economy have radically changed over the past 236 years, our failing school system still bases its calendar on a model used when George Washington was president. Three-month summer vacations and school days that end at 2:30 pm don't work for working parents or the greater economy that must accommodate their schedules. Most children are no longer needed to help in the fields.

A key tactic in our battle plan is the reconceptualization of the modern school model. To start, let's look at who's winning the education race.

¹⁰⁷ "Obama Takes on Critics of Education Plan". MSNBC, July 2010. <http://www.msnbc.msn.com/id/38467475/ns/politics-white_house/t/obama-takes-critics-education-plan/#.T_cS_HDQ27I>.

Simple Math¹⁰⁸



We don't even have to borrow ideas from faraway countries, but instead, we can look to successful programs in our own backyard. KIPP (Knowledge is Power Program) now has 125 schools in 20 states and D.C. serving over 39,000 students, and over 84% of graduates have enrolled in college. The typical KIPP school day starts at 7:30 a.m. and ends at 5:00 p.m.—and students attend Saturday school twice a month, with at least three weeks of mandatory summer school.¹⁰⁹

According to a 2010 Mathematica Policy Research study, the vast majority of KIPP middle schools are achieving significant academic gains in math and reading, while serving a student population that has lower entering test scores and a higher percentage of low-income students than neighboring public school districts.¹¹⁰

Charter schools such as KIPP and Rocketship have been “incubators of innovation” being early adopters of technology and Blended Learning programs. Being unencumbered by

¹⁰⁸ PISA 2009 Database.

¹⁰⁹ “KIPP 2011 Report Card”. KIPP Foundation, 2012.

¹¹⁰ “Student Characteristics and Achievement in 22 KIPP Middle Schools”. Mathematica Policy Research, Inc. June 2010.

the “red tape” that many traditional public schools face, charter schools can focus on delivering Return on Education.

Special Forces: KIPP (Knowledge is Power Program)

KIPP!

Battle Plan: creating a national network of free, open-enrollment, college-preparatory public schools that gives underserved students a unique experience that prepares them for success in college and in life.

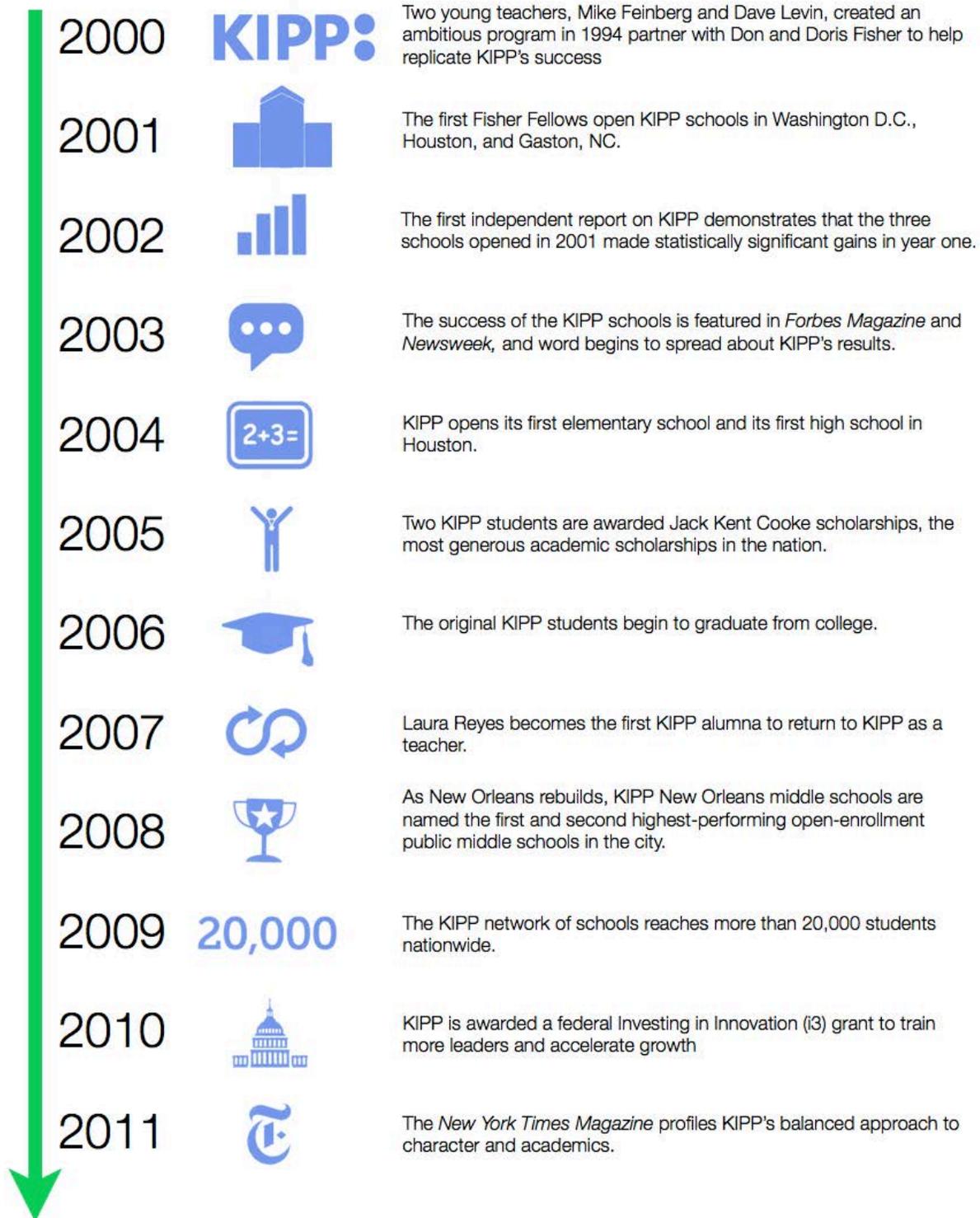
Return on Education: revolutionizing the public school experience for disadvantaged students and providing a model for other charter schools, particularly with initially low performing students.

Claim to Fame: a pioneer organization that challenges the conventional wisdoms in education by proving that demographics do not define destiny and by giving their minority students the opportunity to excel.

Fast Facts:

- Founded in 1994 by two TFA alums, Dave Levin and Mike Feinberg, and replicated nationally with the support of Gap Inc. co-founders Doris and Don Fisher.
- In fall 2012, there will be 125 KIPP schools in 20 states and the District of Columbia serving more than 39,000 students with 2,000 alumni in college.
- Nationally, more than 90% of KIPP middle school students have graduated high school, and more than 80% of KIPP alumni have gone on to college.
- CEO Richard Barth was a former executive of Edison Schools and Chairman John Fisher has been a leader in the education innovation movement for the past two decades.

KIPP Achievement Timeline¹¹¹



¹¹¹ "2011 Report Card". Knowledge is Power Program, 2012.

Special Forces: Rocketship Education



Battle Plan: the leading blended school system in the United States.

Return on Education: serves 3,500 students at its 7 schools in San Jose. Rocketship pays high-performing teachers 1.5 times as much as teachers in surrounding districts, is the highest performing low-income school system in California, and the highest growth system in the country with a 50% CAGR over the last 5 years, fueled by efficient and philanthropy-free blended model.

Claim to Fame: with 90%+ low-income students, outperforms Palo Alto and the other wealthiest school systems in California - “double student performance and double teacher pay”.

Fast Facts:

- Co-founder and CEO John Danner previously was co-founder of successfully IPO'd software company NetGravity after which he served as a public school teacher for three years before starting Rocketship.
- Will open in Milwaukee and San Francisco in 2013 and ten cities by 2017.
- Has 30 charters in San Jose, with plans to open all 30 by 2017.
- Plans to operate in the 50 largest urban areas by 2025.

Teachers in the Trenches

While we see Teachers Unions as an opponent to innovation in schools, we look at teachers themselves as a critical ally in our fight. We don't begrudge the union, after all, their job is to protect its dues paying members. Unfortunately kids and parents don't pay dues.

To have great schools and great academic results, we need great teachers. At the top of our list, to attract, develop and retain the best talent to the teaching profession we need to create an incentive system where compensation is aligned with students' academic goals and achievements.

There is no greater need in society than to attract the best and the brightest to teach in our schools and to accomplish this, we need to treat teachers more like professionals and less like commune workers. It needs to be our goal that to get hired in the teaching profession you finish in the top one-third of your class and demonstrate that you are proficient in the subject that you are teaching. Better teachers in high demand subjects should be paid more than mediocre teachers in subjects where there is excess supply.

It's important for America and our students that teachers who can't teach are provided an opportunity to a different career. It's also important that we provide resources, training, and coaching to help teachers improve and be the best that they can be.

Special Forces: Teachscape



Battle Plan: provide educators with online and mobile tools, professional learning content and expert services to measurably increase teacher effectiveness and student achievements.

Return on Education: delivering some of the best teaching tools, including software for classroom observation, online learning content, and professional support services, to give educators low cost solutions that give them the opportunity to maximize their effectiveness with students.

Claim to Fame: partnering with the best service and tool providers in the education world since its founding in 1999, Teachscape now serves thousands of teachers, schools, districts and the state departments of education.

Fast Facts:

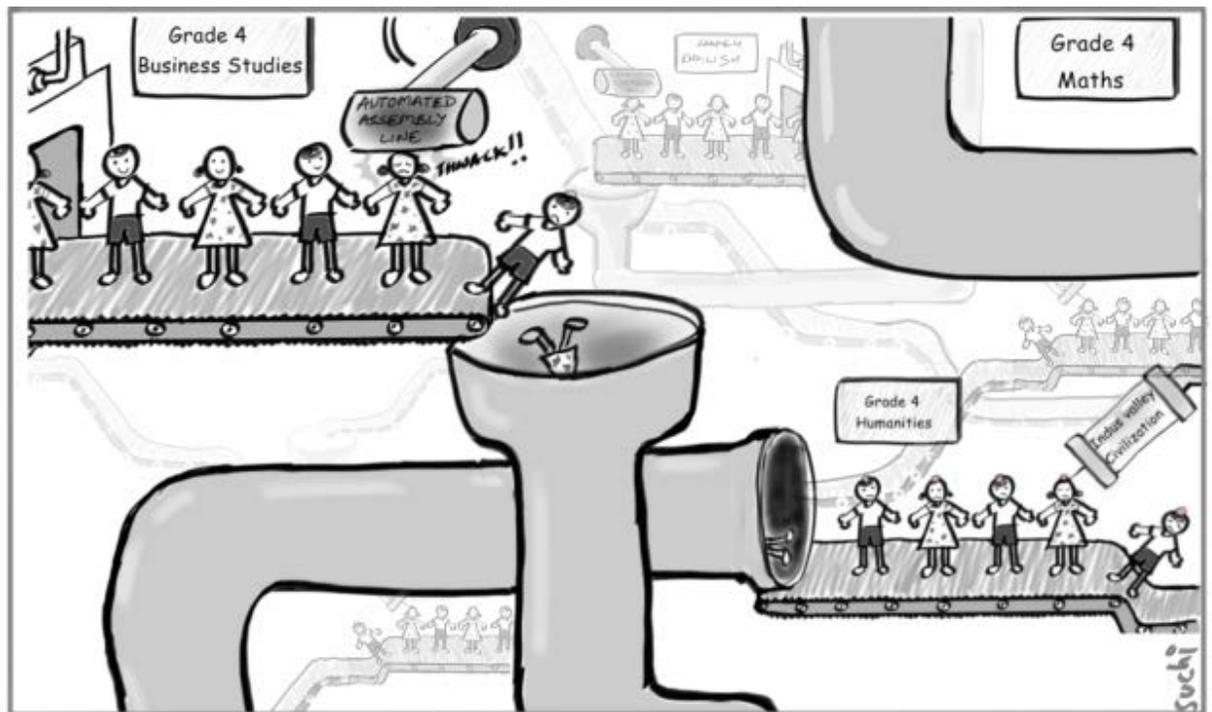
- Founder Mark Atkinson was a former Emmy Award winning producer for ABC and CEO Kathy Yates was the former COO of CBS MarketWatch.
- Partnership with The Danielson Group, a leader in promoting teacher effectiveness.
- Received numerous awards from Bessie, AEP, EdTech, EdNet, EDDIE for online productivity, teacher training, software tools and more.
- Has invested \$80 million developing programming, tools, and the platform for teachers.
- ABS Capital invested \$16 million in Teachscape in 2009.

“It’s a miracle that curiosity survives formal education.”

- *Albert Einstein*

Step one is to advance our school calendar and school day beyond a model that our Founding Fathers would recognize. Step two is to architect an educational model that adapts to optimize learner needs and outcomes, and integrates innovative tools and technologies. Children enter kindergarten at age 5 and graduate high school at 17 or 18. They progress to different stations within the factory where inspectors—teachers and administrators—make sure students have spent the required allotted time at each station. One of our first missions in the Second American Revolution is to dismantle the antiquated factory model currently in existence, in which students are simply being “Inspected by No. 9.” The reality is that, increasingly, the leading knowledge workers of today are “Made in China,” “Made in India,” and “Made in Korea.” Elementary through high school still includes students sitting in rows of individual desks in a classroom. Our factory education system doesn’t account for students’ varying learning styles—all students follow the same path and receive the same treatment. Teachers broadcast the curriculum to 20, 30 or 40 children and, later, determine students’ performance ex post facto through testing. This isn’t the best way to educate students, but it has been the dominant method we’ve used to fulfill a promise of free public education for every child.

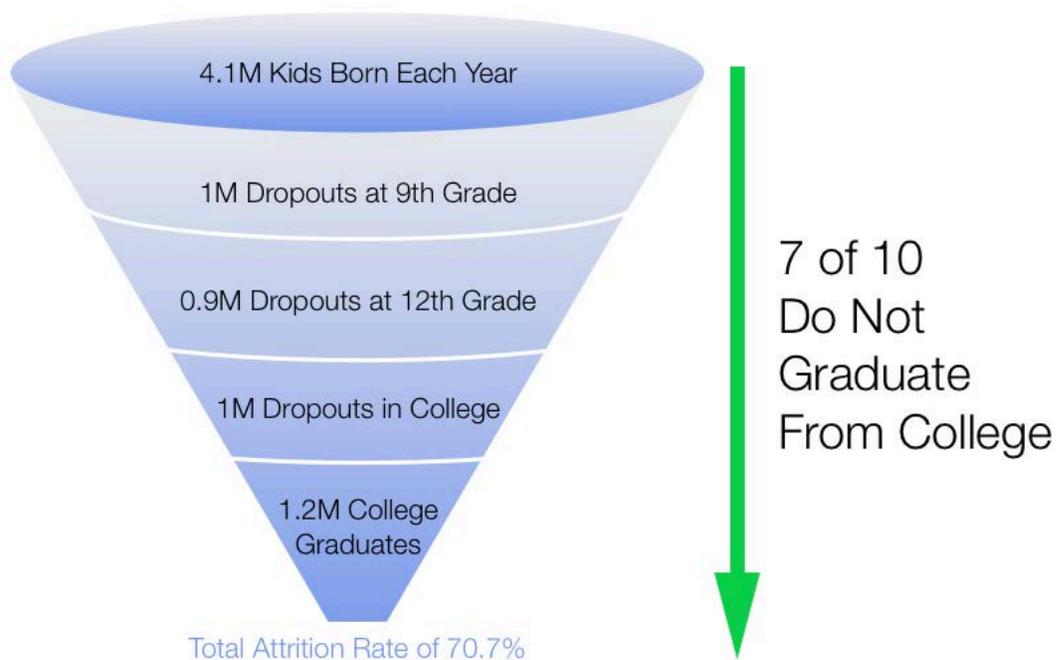
The U.S. Factory Model¹¹²



The only thing our factory model is truly good at is producing dropouts. There are some “factories” in major urban areas that are especially proficient at dropout production, with about 2,000 high schools producing 50% of our nation’s dropouts.

¹¹² "Assembly Line". *Woman, Interrupted*. January 2011. <<http://womaninterrupted-merablog.blogspot.com/2011/01/assembly-line.html>>.

The Dropout Factory¹¹³



Teach for America: a Case Study in Human Capital

In a research study and article, “Creating a Corps of Change Agents”, authored by professors and graduate students in the Harvard Graduate School of Education, Teach for America alumni corps members are disproportionately represented as leaders in a myriad of enterprises, mostly in education and education services. The successes of TFA alumni are strikingly similar to those of the “PayPal Mafia”.

“Anything’s possible if you’ve got enough nerve.”

- J.K. Rowling

The PayPal Mafia derived their collective success from a number of important factors, including their relative youth and inexperience (“they didn’t know what they didn’t know”),

¹¹³ “Graduation Rates”. NCES 2009. US Centers for Disease Control and Prevention, 2010.

their extreme emphasis on achieving results quickly, high level of intelligence and engagement, and intense passion for doing things differently than had been done before. Notable PayPal alumni include Reid Hoffman, founder of LinkedIn (and angel investor in Facebook, Digg, Flickr, and Zynga, among others); Elon Musk, CEO of Tesla and head rocket designer at SpaceX; Steve Chen and Chad Hurley, co-founders of Youtube; Premal Shar, founding president of Kiva.org; and Jeremy Stoppelman, co-founder and CEO of Yelp.

TFA recruits and nurtures individuals who have demonstrable leadership and achievement, patience and tenacity in the face of challenges, strong critical thinking, strong interpersonal skills to motivate and lead, and creative problem solving skills - all of which are the characteristics of innovative leaders. TFA's entrepreneurial organizational structure has equipped TFA corps members with the skills and drive needed to solve complex problems and maximize the impact of their efforts.

Since its founding in 1989, TFA has grown an alumni base and active corp of 33,000 high-achieving and high-minded individuals. The groundwork laid by TFA over the past 30 years has born fruit, and we expect to see more innovation led by TFA alumni in the coming years. Similar entrepreneurial and civic focused organizations such as KIPP and AmeriCorps have the backing of important investors and donors such as the Bill & Melinda Gates Foundation, the NewSchool Venture Fund, the William and Flora Hewlett Foundation, IBM's Reinventing Education Grant and the Milken Institute. These institutions have dedicated their missions and resources to improving the economic conditions of people in the U.S. and around the world.

Special Forces: Teach for America

TEACHFORAMERICA

Battle Plan: growing a group of educators and leaders who work to ensure that students growing up in poverty get an excellent education.

Return on Education: TFA members are working in the toughest educational environments in the country. The organization is bringing highly energetic and committed educators to historically disadvantaged students who would otherwise not have access to quality educators.

Claim to Fame: one of the most well recognized national non-profit organizations and has been the inspiration for many education innovators.

Fast Facts:

- Since 1990, more than 38,000 leaders have joined Teach For America and they have reached more than 3 million students across 46 regions.
- The 2012 acceptance rate for corp members was 17%.
- In 2011, TFA was named one of Fortune magazine's 100 Best Companies to Work For.

Schools Are Wired In

We've seen an enormous increase in technology in schools. In 1999, a school had one computer for seven kids and just 25% of teachers used technology.¹¹⁴ Now, every school is wired to the Internet and computing is ubiquitous and a new *digital native* generation of teachers has infiltrated schools.

Most disruptive technologies, according to Clayton Christensen, offer 80% of value at 20% of cost. In education, we expect disruptive technologies to provide 150% of value at 10% of cost or free.

¹¹⁴ Wikipedia.

Special Forces: BrainHoney / Agilix



Battle Plan: delivers a set of modular, scalable components that enables publishers, application developers, systems integrators and institutions to deliver innovative learning solutions more cost-effectively than through traditional learning platforms.

Return on Education: supports millions of student enrollments through its “Learning-as-a-Service” solution. Teachers can create course content on the site and students can interact with the content, even submitting their assignments through the system.

Claim to Fame: provide an open modular platform that enables its partners to create innovative learning solutions. Products include the BrainHoney Learning Infrastructure, BrainHoney LMS, an award winning application built on the Infrastructure and a student-centered personalized learning system named Buzz.

Fast Facts:

- Partners include Pearson, Macmillan, Dell, and many other leading solution providers.
- Product is used in all 50 U.S. states and in 54 countries internationally.

Special Forces: MindSnacks



Battle Plan: creating a platform of multiplayer learning games across touch-based devices. MindSnacks language apps include a variety of addictive mini-games that teach vocabulary, writing, reading and listening skills to foreign language learners.

Return on Education: delivers learning in bite-sized lessons that can be accessed anywhere, and anytime. This unique approach harnesses the power of mobile devices and effective principles of game-based learning to increase a user's capacity to learn through higher frequency and engagement.

Claim to Fame: MindSnacks' apps have been downloaded over four million times and are the number one grossing apps for the respective languages that they teach. The company will be able to use the technology developed to expand into Geography, Math and other subjects.

Fast Facts:

- Has raised \$8.5 million in venture funding from Sequoia Capital, Felicis Ventures, 500 Startups, Mitch Kapor, Collaborative Fund, StartupAngel, DreamIt Ventures and others.
- Founder and CEO Jesse Pickard was formerly an information architect and strategist at Razorfish and has been a speaker and presenter at South by Southwest and other industry events.
- Users are learning over three words per second, with nearly 70 million words having been learned to-date and 32% of users have downloaded more than one MindSnacks app.
- Of its four million downloads, there is a near 50/50 split between those over 18-years-of-age and those under.

K-12 System with Individualized Learning

Our K-12 system mainly delivers a uniform education to all students. As Sir Ken Robinson, a world renowned expert in education, creativity and innovation, purports, “We’ve sold ourselves on a fast food model of education.”¹¹⁵ Everyone gets the same food, prepared with little care; we have no choice.

Making education more adaptive and personalized for each individual student will involve using technology to implement individualized learning, establishing education analytics about student progress, and writing prescriptions for intervention. In this scenario, technology is not used to replace but rather assist a teacher. The teacher becomes *the coach* that steps in and helps students individually instead of standing as simply *the broadcaster* in the front. Using technology, we can move to a customized model of education. Technology can bring the country’s very best calculus teacher to your child’s local school and enable them, on your desktop or smartphone, to be your child’s greatest teacher.

¹¹⁵ Robinson, Ken. "Bring on the Learning Revolution, Part One". TED Talks. July 2010.

Special Forces: Education Elements



Battle Plan: helps schools design and implement the appropriate Blended Learning solutions and work with leaders and teachers to embed online content and data into daily instruction.

Return on Education: uses a Blended Learning strategy (teaching and technology) to invigorate teaching and improve learning by making smart use of technology, working with schools to streamline operations for better student-teacher interactions.

Claim to Fame: pioneering new approaches to Blended Learning to take advantage of adaptive online content and assessments to tailor instruction and maximize learning for students.

Fast Facts:

- Has received \$10 million in venture funding from Tugboat Ventures, NewSchools Venture Fund, Imagine K12, and Harmony Partners.
- Founder and CEO Anthony Kim is a long time education technologist, having founded Provost Systems, a provider of software for online schools, and serving as EVP of Online at Edison.
- Has worked with KIPP Empower Academy, IDEA Public Schools, Alliance College-Ready Public Schools, Mission Dolores Academy, PA Hybrid Learning Initiative and many more.
- Developed a streamlined technology platform (the Hybrid Learning Management System) that makes it easy and effective for leaders, teachers and students to blend online learning into schools.

Special Forces: Everfi



Battle Plan: building the leading education technology platform to teach, access, and certify students in financial literacy, cyberbullying, date violence and sexual assault prevention, student loan management.

Return on Education: enables students to learn using the latest technology, including rich media, high-definition video, and avatars. EverFi works with major corporations and foundations to provide the programs at no cost to the schools.

Claim to Fame: building an entirely new framework to deliver content around financial literacy and technology literacy to students.

Fast Facts:

- Has raised \$11 million in venture funding from New Enterprise Associates, TomorrowVentures (Eric Schmidt), and Michael Chasen (CEO of Blackboard).
- EverFi is currently adding 200 new K-12 schools and colleges per month onto their platform.

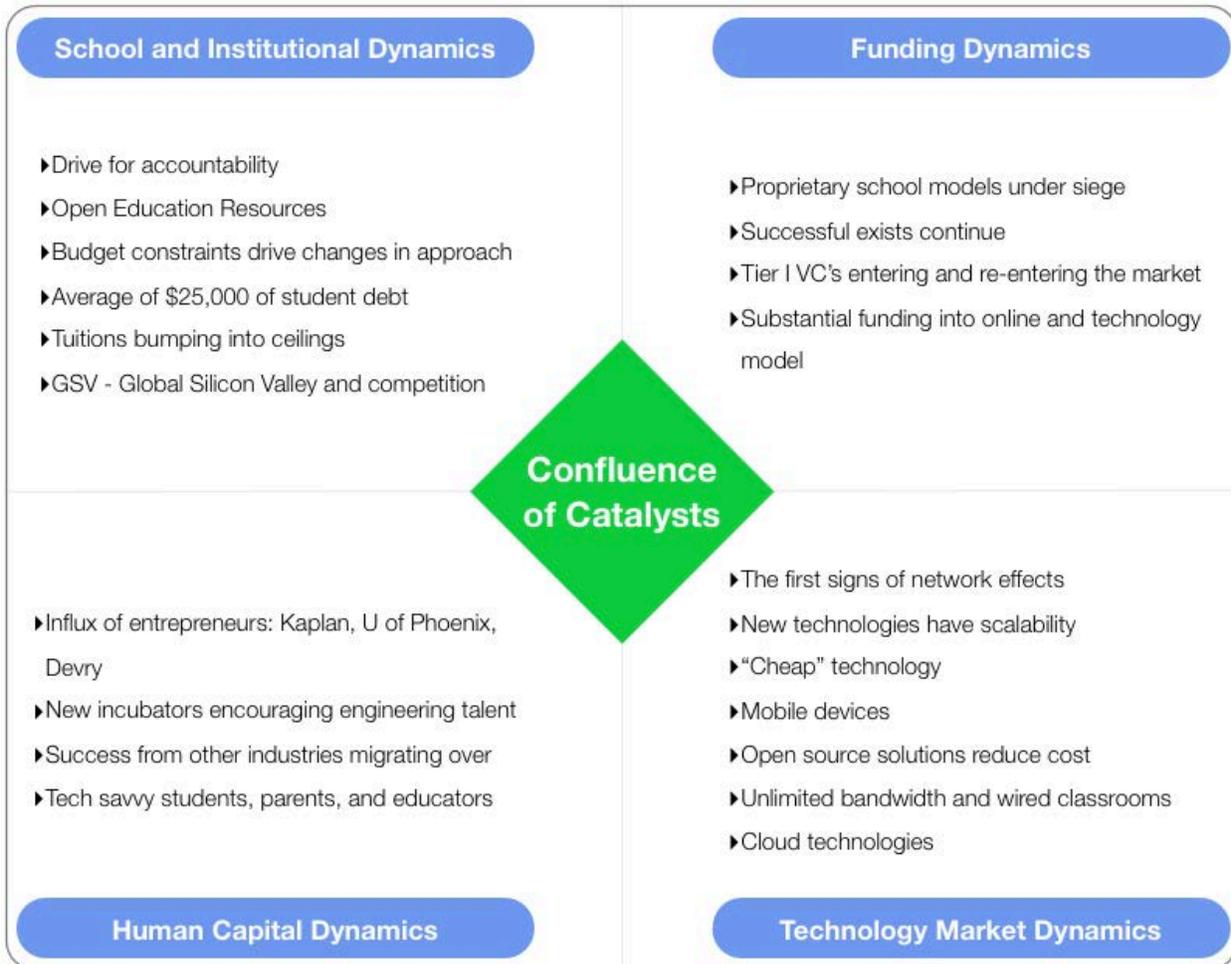
Post-Secondary Market

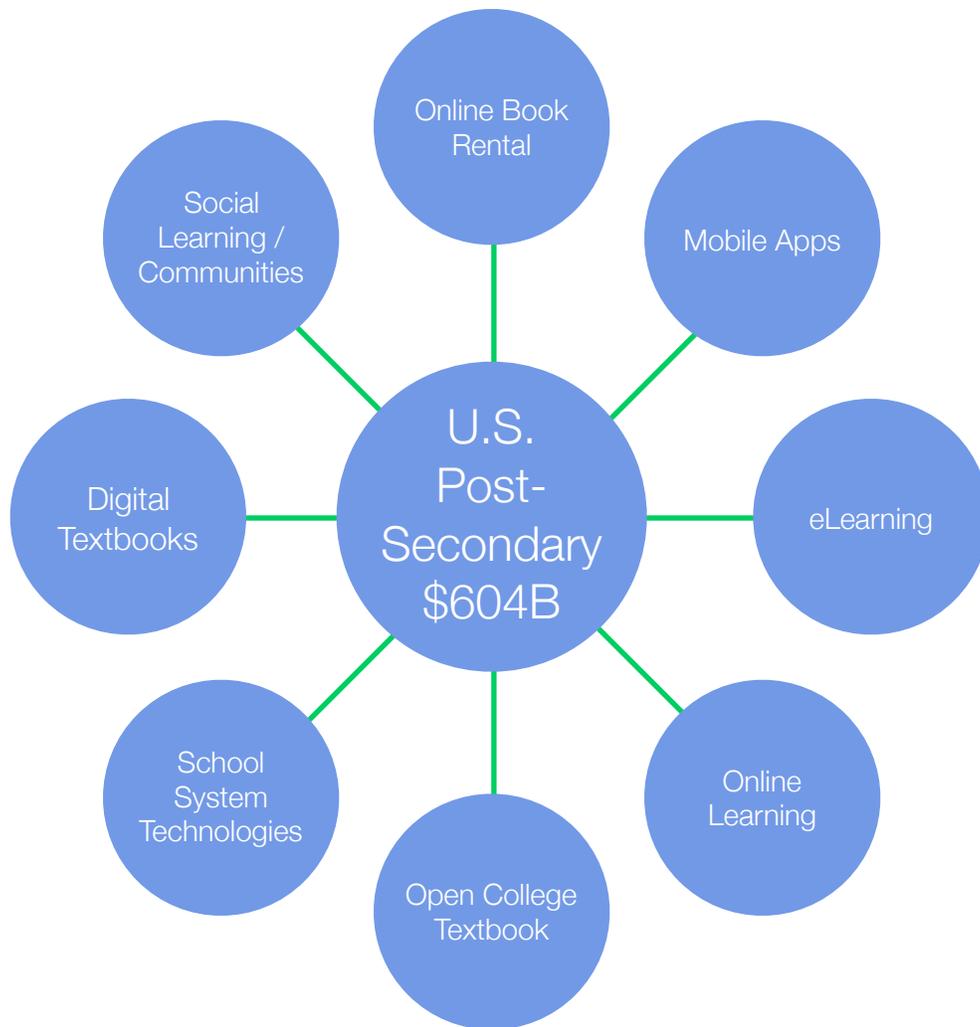
“Higher education is not a luxury,
it is an economic imperative.”

- President Barack Obama

Post-Secondary Market

Confluence of Catalysts





Higher-Ed Snapshot

Ironically, while our K-12 education system is bankrupt, obsolete and non-competitive, our Higher Education system is the envy of the World. In fact, of the 50 top rated universities globally, 42 are located in the United States. When you look closer, the University of Oxford, which tops the league table for clinical, preclinical and health subjects, is the only non-American institution at the top of any subject.¹¹⁶

¹¹⁶ "Top 50 Clinical, Pre-Clinical and Health Universities". *World University Rankings 2011-2012*. Thomson Reuters, October 2011.

Top Ranked Global Universities¹¹⁷

Rank	University	Location	Rank	University	Location
1	Massachusetts Institute of Technology	USA	26	Michigan State University	USA
2	Stanford University	USA	27	University of Arizona	USA
3	Harvard University	USA	28	University of Southern California	USA
4	University of California, Berkeley	USA	29	Princeton University	USA
5	The University of Texas, Austin	USA	30	University of California, San Diego	USA
6	Cornell University	USA	31	University of North Carolina (Chapel Hill)	USA
7	University of Michigan	USA	32	University of Maryland	USA
8	University of Pennsylvania	USA	33	University of Chicago	USA
9	University of Washington	USA	34	California Institute of Technology	USA
10	Penn State University	USA	35	University of Toronto	Canada
11	Columbia University, NY	USA	36	Eidgenossische Technische Hochschule	Switzerland
12	University of Wisconsin-Madison	USA	37	Duke University	USA
13	University of Minnesota	USA	38	Texas A&M University	USA
14	University of California, Los Angeles	USA	39	Virginia Polytechnic Institute	USA
15	Universidad Nacional Autonoma de Mexico	Mexico	40	The University of Edinburgh	UK
16	Yale University	USA	41	University of California, Davis	USA
17	Purdue University	USA	42	Arizona State University	USA
18	University of Cambridge	UK	43	The Ohio State University	USA
19	University of Oxford	UK	44	The University of British Columbia	Canada
20	Carnegie Mellon University	USA	45	University of College London	UK
21	New York University	USA	46	University of Illinois (Urbana-Champaign)	USA
22	University of Virginia	USA	47	Johns Hopkins University	USA
23	Rutgers, The State University of New Jersey	USA	48	Universitat Wien	Austria
24	Indiana University	USA	49	University of Colorado Boulder	USA
25	University of Florida	USA	50	North Carolina State University	USA
26	Michigan State University	USA			

U.S. graduate schools are also dominant, albeit not to the level of undergraduate programs, where U.S. institutions have 10 of the top 20 MBA Programs, 8 of the top 20 law programs and 12 of the top 20 medical programs.

¹¹⁷ "2012 World University Web Rankings". *4International Colleges and Universities*. <<http://www.4icu.org/top200/>>.

International MBA Rankings - 10 of top 20 are in the U.S.¹¹⁸

2012	Ranking			School	Country
	2011	2010	Average		
1	4	4	3	Stanford Graduate School of Business	USA
2	3	3	3	Harvard Business School	USA
3	1	2	2	University of Pennsylvania: Wharton	USA
4	1	1	2	London Business School	UK
5	7	6	6	Columbia Business School	USA
6	4	5	5	Insead	France/Singapore
7	9	8	8	MIT: Sloan	USA
8	8	6	7	IE BUsiness School	Spain
9	9	11	10	Lese Business School	Spain
10	6	9	8	Hong Kong UST Business School	China
11	11	-	-	Indian Institute of Management, Ahmadabad	India
12	12	15	11	University of Chicago: Booth	USA
13	14	28	14	IMD	Switzerland
14	25	20	22	University of California at Berkeley: Haas	USA
15	20	22	18	Duke University: Fuqua	USA
16	21	13	20	Northwestern University: Kellogg	USA
17	15	18	15	New York University: STern	USA
18	18	13	18	HEC Paris	France
19	18	12	17	Dartmouth College: Tuck	USA
20	13	16	15	Indian School of Business	India
20	15	16	17	Yale School of Management	USA
20	27	16	21	University of Oxford: Said	UK

International Law School Rankings - 8 of the top 20 are in the U.S.¹¹⁹

Rank	School	Country
1	Harvard University	USA
2	University of Oxford	UK
3	University of Cambridge	UK
4	Yale University	USA
5	Stanford University	USA
6	University of California Berkeley	USA
7	London School of Economics and Political Science (LSE)	UK
8	Columbia University	USA
9	The University of Melbourne	Australia
10	New York University (NYU)	USA
11	The University of Sydney	Australia
12	McGill University	Canada
13	University of Toronto	Canada
14	University of Chicago	USA

¹¹⁸ *Financial Times*, 2012

¹¹⁹ "Law School Rankings". *The Careerist*, March 2012. <<http://thecareerist.typepad.com/thecareerist/2012/03/law-school-ranking-the-international-edition.html>>.

Rank	School	Country
15	Australian National University	Australia
16	University of California, Los Angeles (UCLA)	USA
17	University of Michigan	USA
18	The University of Auckland	New Zealand
19	Victoria University of Wellington	New Zealand
20	Monash University	Australia

Medical School Rankings - 12 of the top 20 are in the U.S.¹²⁰

Rank	Institution	Country
1	Harvard University	USA
2	University of Cambridge	UK
3	Massachusetts Institute of Technology (MIT)	USA
4	University of Oxford	UK
5	Stanford University	USA
6	Yale University	USA
7	University of California, Los Angeles (UCLA)	USA
8	Johns Hopkins University	USA
9	Imperial College London	UK
10	University of California, San Diego (UCSD)	USA
11	California Institute of Technology (Caltech)	USA
12	University of Toronto	Canada
13	McGill University	Canada
14	Duke University	USA
15	The University of Melbourne	Australia
16	Columbia University	USA
17	University of California, San Francisco	USA
18	National University of Singapore (NUS)	Singapore
19	University of Chicago	USA
20	The University of Tokyo	Japan

¹²⁰ "Top 100 World University Rankings". *The Guardian UK*. May 2011.

This is the good news.

Unfortunately, our system of higher education is not sustainable and not meeting the needs of the broader society.

The “best schools” in part measure their stature by the number of students they reject - not the number they educate. For sure, Harvard, Stanford, Princeton and Yale are remarkable for the students they produce and their subsequent achievements.

For example, on the U.S. Supreme Court, all nine justices had an Ivy League education, and 27% of the Presidents of the United States went to Harvard or Yale.¹²¹

Justice	Education
Antonin Scalia	A.B. Georgetown University, LL.B. Harvard Law School
Anthony Kennedy	B.A. Stanford University, LL.B. Harvard Law School
Clarence Thomas	A.B. Holy Cross College, J.D. Yale Law School
Ruth Bader Ginsburg	B.A. Cornell University, Harvard Law School and Columbia Law School (LL.B.)
Stephen Breyer	B.A. Stanford University, B.A. Magdalen College, LL.B. Harvard Law School
John Roberts	A.B. Harvard College, J.D. Harvard Law School
Samuel Alito	A.B. Princeton University, J.D. Yale Law School
Sonia Sotomayor	A.B. Princeton University, J.D. Yale Law School
Elena Kagan	A.B. Princeton University, M. Phil. Oxford, J.D. Harvard Law School

Here’s the problem - the elite schools have a disincentive to provide greater access to obtaining a degree from their institution. A huge component of the value of the degree is its scarcity. Supply/demand economics is the foundation of the value of a diploma from Harvard.

“We measure ourselves by those we include, not by those we exclude.”

- Michael Crow, President of Arizona State University

¹²¹ Wikipedia.

Less than 1% of all college students go to an Ivy League school or equivalent. In other words, 99% are going to schools that don't have the same perceived influence or access to opportunity.

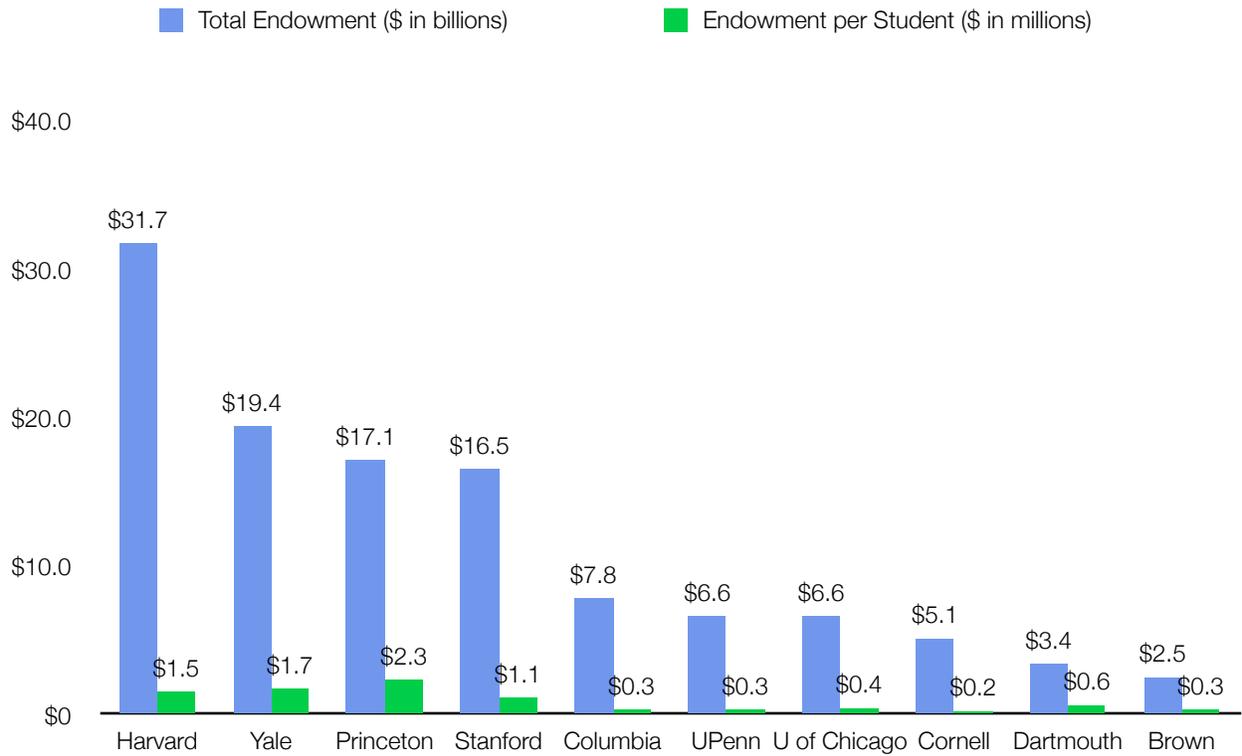
Top Schools (2011-2012)¹²²

Rank	School	Acceptance Rate	Tuition and Fees
1	Harvard University	7.2%	\$39,849
2	Princeton University	8.8%	\$37,000
3	Yale University	7.9%	\$40,500
4	Columbia University	9.5%	\$45,290
5	California Institute of Technology	12.6%	\$37,704
6	Massachusetts Institute of Technology	10.1%	\$40,732
7	Stanford University	7.3%	\$40,569
8	University of Chicago	18.8%	\$42,783
9	University of Pennsylvania	14.3%	\$42,098
10	Duke University	16.5%	\$41,958
11	Dartmouth College	11.7%	\$42,996
12	Northwestern University	23.1%	\$41,983
13	Johns Hopkins University	20.6%	\$42,280
14	Washington University in St. Louis	21.2%	\$41,992
15	Brown University	9.3%	\$42,230
16	Cornell University	18.4%	\$41,541
17	Rice University	21.3%	\$35,551
18	Vanderbilt University	17.9%	\$41,332
19	University of Notre Dame	28.8%	\$41,417
20	Emory University	28.9%	\$41,164

Our unofficial estimate of the growth of the number of Ivy League students in the past 30 years is zero. On the other hand, the growth of the endowments of these schools is jaw-dropping.

¹²² "National University Rankings". US News and World Reports. <<http://colleges.usnews.rankingsandreviews.com/best-colleges/rankings/national-universities>>.

Elite Endowments¹²³



¹²³ "U.S. and Canadian Institutions Listed by Fiscal Year 2011 Endowment". Nacubo, 2011. <http://www.nacubo.org/Documents/research/2011_NCSE_Public_Tables_Endowment_Market_Values_Final_January_17_2012.pdf>.

Special Forces: HotChalk



connecting teachers | students | parents

Battle Plan: building a learning environment for K-12 teachers, students and parents that includes a learning management system (LMS), a rich library of teacher-contributed lesson plans, premium digital content, and professional development for teachers in a Web-based environment.

Return on Education: the platform is available through any Internet browser and is free for all for schools and is supported by corporate sponsorships and advertising.

Claim to Fame: has one of the first LMS that delivers free Web-based classroom tools and premium content. HotChalk also has online degrees in collaboration with Concordia College in Portland Oregon.

Fast Facts:

- Has over 500,000 teachers in more than 100,000 schools.
- Founder, Chairman and CEO Edward Fields was formerly the Senior VP of Marketing at Agile Software Corporation, President and CEO of ProductFactory and Director of Interactive Publishing at The Learning Company.
- Has received \$5 million from NBC News, Peacock Equity Fund, Mohr Davidow, and GE Commercial Finance.

Historically, *what you know* has not meant as much as *where you go*. Opportunity was created by “the club” that you were able to get into. Wall Street, top law firms and consulting firms are prime examples of this reality as they only recruit from the top ranked schools.

In effect, employers would use the college screening process to filter candidates, which was both efficient and logical. After all, to get into Harvard you had to be bright, a good student and know which fork to use.

This is about to radically change.

Special Forces: New American University (ASU)



Battle Plan: developing a new model for the American research university, creating an institution that is committed to excellence, access and impact.

Return on Education: ASU measures itself by those it includes, not by those it excludes. ASU pursues research that contributes to the public good; and ASU assumes major responsibility for the economic, social and cultural vitality of the communities that surround it.

Claim to Fame: unlike many of its peers, ASU has also undertaken a massive reorganization of its institution. ASU has broken down walls between disciplines, reorganized schools and colleges, changed the academic calendar, scaled its online learning operation for both adult learners and on ground students, and implemented an online advising system that has helped to significantly improve retention rates.

Fast Facts:

- President Michael Crow was named one of the “Top 10 Best College Presidents” by TIME Magazine.
- ASU’s research expenditures are in the top 20 among universities without a medical school, a list that includes MIT, UC-Berkeley, Georgia Tech, UT-Austin, Purdue, Cal-Tech, and Rockefeller.
- 30% of ASU’s energy needs will be met through on-site solar installation within 5 years.
- Wall Street Journal ranks ASU 5th in the nation for recruiting new hires.

ASU’s Design Aspirations

1. Leverage Our Place <i>ASU embraces its cultural, socioeconomic and physical setting.</i>	5. Enable Student Success <i>ASU is committed to the success of each unique student.</i>
2. Transform Society <i>ASU catalyzes social change by being connected to social needs.</i>	6. Fuse Intellectual Disciplines <i>ASU creates knowledge by transcending academic disciplines.</i>
3. Value Entrepreneurship <i>ASU uses its knowledge and encourages innovation.</i>	7. Be Socially Embedded <i>ASU connects with communities through mutually beneficial partnerships.</i>
4. Conduct Use-Inspired Research <i>ASU research has purpose and impact.</i>	8. Engage Globally <i>ASU engages with people and issues locally, nationally and internationally.</i>

“It’s kind of fun to do the impossible.”

- *Walt Disney*

Historically, colleges and universities have benefitted from their structural and geographic protections. Among traditional colleges, the 20 most elite schools operate in a vacuum. Most schools have drawn from local markets, maintain active alumni networks, and hold almost a “regional monopoly” status which insulates them from broader competition.

The state universities and regional colleges, however, are losing many of their historic advantages. These large schools had depended on state funding in the past to have a price advantage but state governments are cutting education spending. For example, one of the nation’s largest state university systems, California (includes University of California system, California State University system and California Community College system), has seen its general fund for higher education fall by approximately 20% from 2007 to 2011, from approximately \$11 billion to \$8 billion.¹²⁴ As a result, tuition in California higher education has almost doubled in the last 6 years, from \$6,802 in 2005/06 to \$13,218 in 2011/12.¹²⁵

¹²⁴ "Higher Education Affordability". *Legislative Analyst's Office, February 2011.*

¹²⁵ *Legislative Analyst's Office, State of California*

“There are 1,300 universities in America today serving 18 million students. In 5 years there will be 500 serving a vastly increased number of students – and the majority of the students will be served online.”

- John Katzman

Regional liberal arts schools are also suffering. For much of American history, these regional colleges and universities drew most of their students from the surrounding area schools – they were the only games in town. A regional college in California did not compete with a small college in Minnesota. They could increase tuition at 2x inflation with little price sensitivity. A number of factors including the financial crisis severely injuring their endowments has created tension in these schools’ historical revenue versus cost dynamics.

Now, for-profit institutions are targeting the same students as the state universities and liberal arts colleges but offering competitive pricing and convenience. They appeal to those students who don’t fit into the traditional model. These students want to go to classes at night, during the weekend, or better yet online. A school’s physical location is losing relevance.

Simultaneously, the cost of college has gotten unreachable; the tangible ROI that existed in the past is fading. For individuals with bachelor’s degrees, the return on education investment was 7.6% in 2009 compared to 7.9% in 1999. Individuals with professional degrees had return on education investment of 7.4% in 2009 compared to 8.5% in 1999.¹²⁶

¹²⁶ "The Big Payoff: Educational Attainment and Synthetic Estimates of Work Life" U.S. Census Bureau. July 2002.

Traditional state universities and regional liberal arts schools are becoming the hardware stores of the 1990s—they did fine until Home Depot and Amazon arrived. The innovators are trying to find a way to change their models and stay relevant. Even elite schools like USC, Georgetown and Washington University in St. Louis are looking to innovate. These schools have all launched partnerships with 2U to establish online graduate programs with the same prestige, but at a fraction of the cost. Some may call it a “pivot”, we’d call it “prudent”.

Special Forces: AltiusEd



Battle Plan: building an educational ecosystem of personalized virtual learning systems, student services and educational pathways to prepare students for post college careers.

Return on Education: identifying gaps in post-secondary education and then leveraging partnerships, capital, online learning capacity and marketing experience to create focused college programs to help students graduate on-time and at lower cost.

Claim to Fame: launched Helix, a platform that integrates the higher education experience and creates a personal and adaptive way to instruct students. Helix gathers and uses the data from student performance on its platform to analyze and adapt to better support its students.

Fast Facts:

- Has raised \$27 million of venture funding from Maveron (Howard Schultz), Spark Capital and Charles River Ventures.
- Founder and CEO Paul Freedman was the founder of Academic Engine, a college recruitment technology company and is a longtime advocate for the transformative power of a college education.
- The Altius network of academic partners provides students with over 120 transfer opportunities to top colleges across the United States.

The combination of high quality, low priced, and easily accessible curricula such as those provided by Coursera, edX and Minerva along with the ability to provide quantitative data on what you know, will disrupt the old elite system. MOOCs (massive open online courses) are experiencing tremendous traction and we are only in the first inning.

If you can get the education you need for free or nearly free and show what you know, the requirement of having a brand degree becomes less relevant. *Return on Education* and *Knowledge as a Currency* trump brand equity.

Special Forces: American Public University



Battle Plan: educating the military and public service communities through American Military University and American Public University by offering relevant and affordable, student-focused online programs, which prepare them for service and leadership.

Return on Education: APUS provides a world-class education at lower costs.

- The university received the Sloan Consortium's 2009 Ralph E. Gomory Award for Quality Online Education and is a two-time recipient of Sloan's Effective Practices Award.
- Military undergraduates using tuition assistance funds can obtain their degree with virtually no out-of-pocket costs.
- All degree-seeking undergraduates receive a Book Grant, which covers the cost of textbooks and course materials, further lowering their costs to well below the national average.
- Undergraduate cost of attendance (tuition/fees/books) is 15% less than the national average for students paying in-state tuition rates.
- Graduate cost of attendance is roughly 40% less than the national average for in-state students.

Claim to Fame: high quality and low cost, making postsecondary education affordable for working adults.

Fast Facts:

- Offers 87 undergraduate and graduate degree programs, including homeland security, intelligence, education, business and emergency management. (For more information on APUS costs, graduation rates and debt loads for these programs see www.apus.edu/disclosure.)
- Has more than 100,000 students studying in 50 states and more than 100 countries.

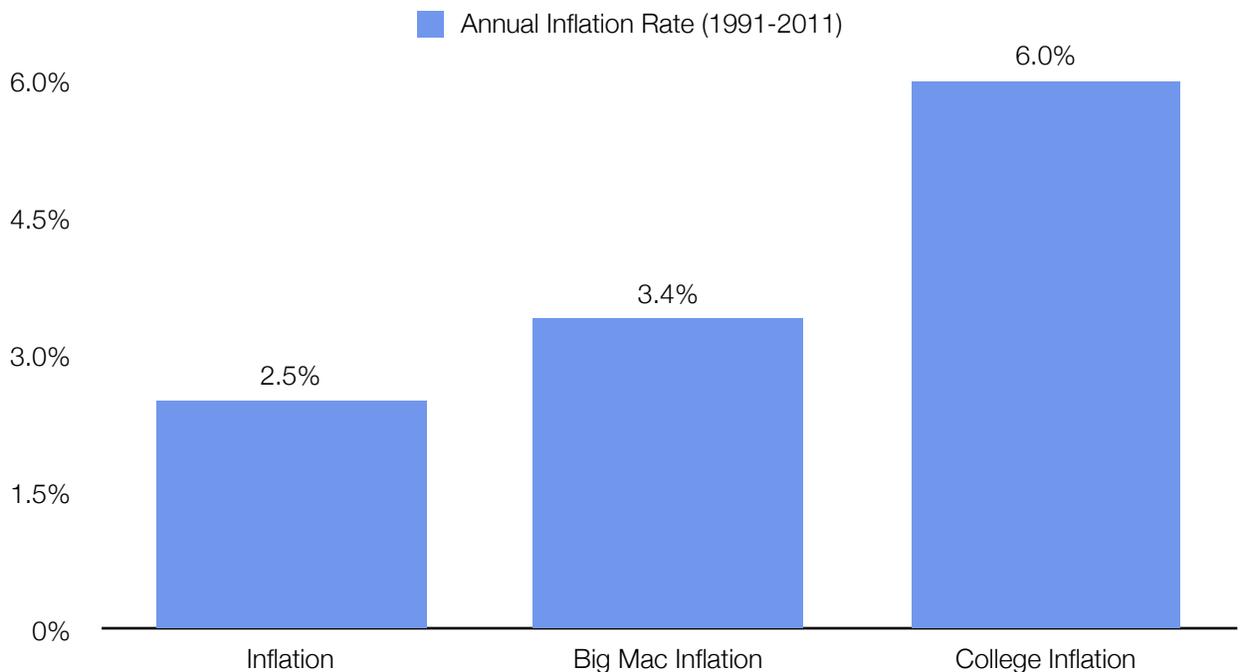
Tuition Far Outpacing Inflation

People's lives are in the balance. Students are falling behind even while they are trying to get ahead. They are paying more for their education and graduating with larger and larger debt burdens. Tuition increases over the past 20+ years were approximately 6.0% from

1991 – 2011, reaching as high as 10.1% in one year between 2003 and 2004, while inflation was 2.5% during the same time period.^{127,128}

Student debt now surpasses credit card debt. Total debt in the U.S. is now nearly \$16 trillion. Credit card debt accounts for 5% or approximately \$800 billion while students had on average \$24,000 of debt, totaling nearly \$1 trillion for the U.S.¹²⁹

To give context of how much a trillion dollars is, if you paid \$1 for every minute of every hour of every day, it would take you nearly 2,000 years to get to a trillion dollars...that's a lot of beer money.



For these past twenty years, the rise of the cost of college education was justified because of the return on having the degree. While obtaining and demonstrating knowledge will be the key to the future, the traditional college experience and degree will be artifacts to be studied by anthropologists.

¹²⁷ "Tuition Costs of Colleges and University". U.S. Department of Education, National Center for Education Statistics. 2011.

¹²⁸ "Inflation Rate Calculator". Inflation Data, June 2012. <http://inflationdata.com/inflation/inflation_calculators/inflation_rate_calculator.asp>.

¹²⁹ "Quarterly Report on Household Debt and Credit" Federal Reserve Bank of New York, November 2011.

Special Forces: Alltuition



Battle Plan: Alltuition's search engine tracks hundreds of student loan providers to help students find the best loans they are eligible for and understand the real cost of borrowing.

Return on Education: makes the financial aid process more transparent and easier to navigate with their powerful platform of college finance tools including federal loans/grants, state grants and private scholarships.

Claim to Fame: a leading college financial aid common application platform, compiling information and walking college families through the financial aid process so they can better manage education debt.

Fast Facts:

- Raised \$1 million from Hyde Park Angels, Kapor Capital, New World Ventures, Sandbox Industries, and Excelebrate Labs.
- In 2011, Alltuition won the Education Innovation Summit's best-in-class award for "Best Student Tools".

The growth of proprietary postsecondary institutions reflects in part the changes in societal demands and how entrepreneurs fill those voids. Twenty years ago, proprietary schools had just 1% of the university population.

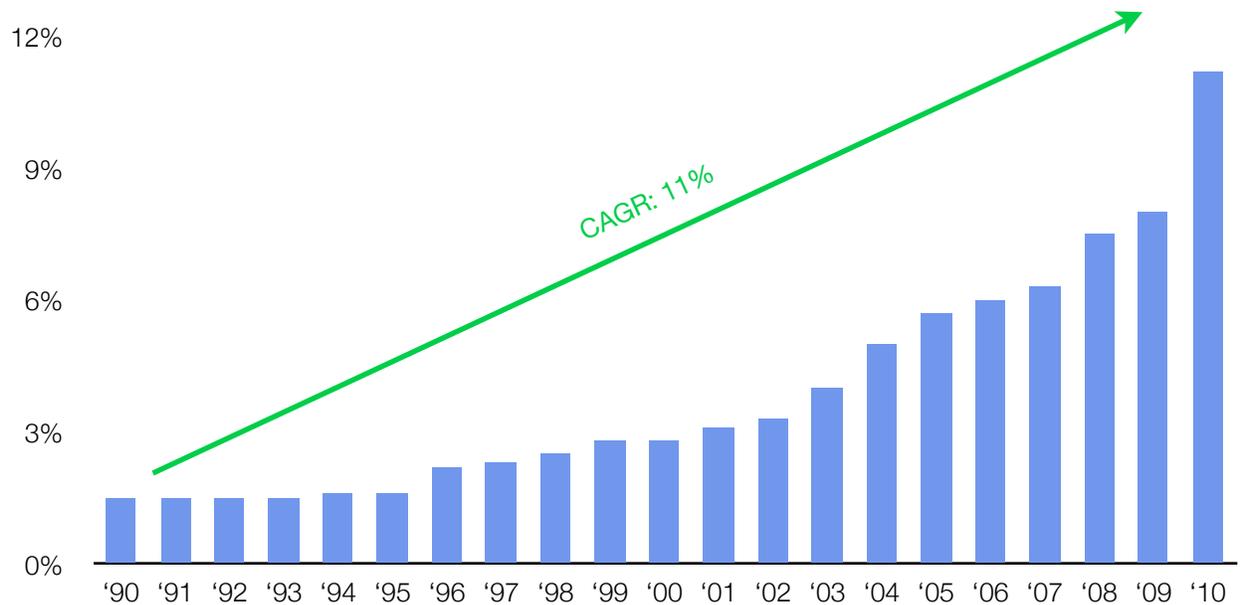
Institutions like Apollo Group, the parent of The University of Phoenix, figured out that the traditional universities were focused on the typical college student but society was saying that more people needed a college education to compete.

Heretofore, the traditional school was set up for 18 to 22 year olds; classes during the day; semester structure; dormitories; football team; marching band...all basically irrelevant to people who recognized they needed more education to keep their job or advance.

As a result, proprietary schools grew to be nearly 12% of the overall college student population by 2012. While this is considered progress from the “we need to create more access” wing of the *Education Innovation Club*, analysis shows that a whopping 75% of students today are categorized as “non-traditional”. Seems like kind of an oxymoron that 3/4th of students would be considered a “minority”, but that’s the logic of our current education system.

Growth of Students in Proprietary Schools¹³⁰

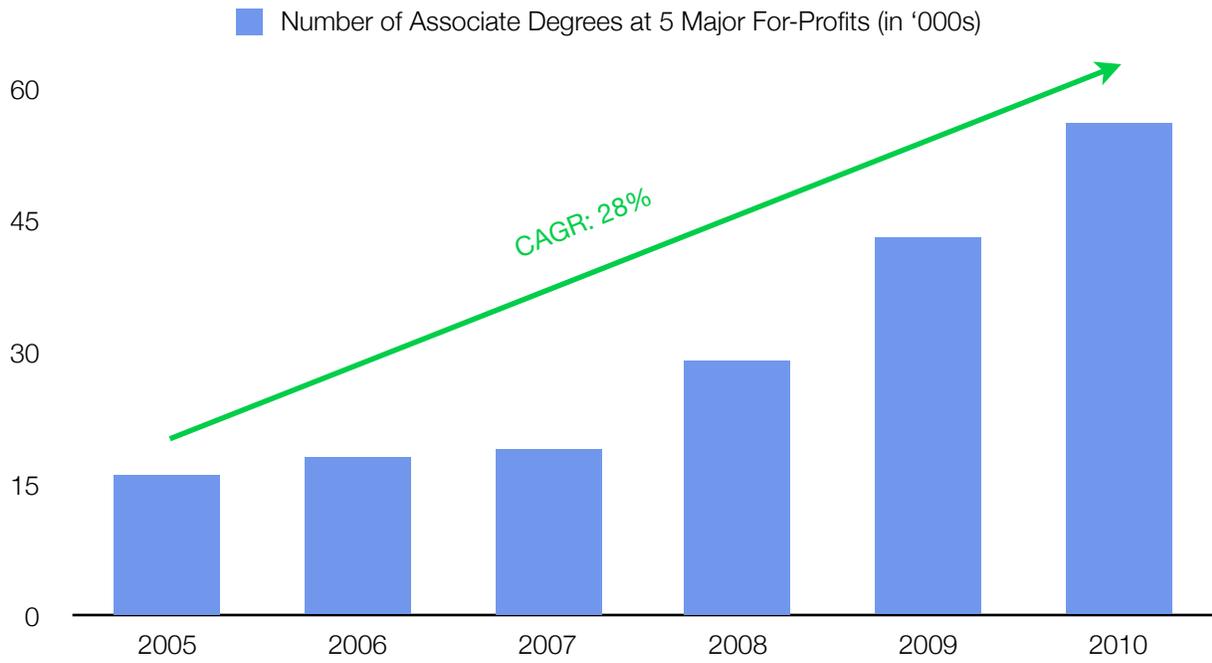
Proprietary schools have grown from having 1% to nearly 12% of all college students.



From the “we need to create more access but proprietary schools are the devil” wing of the *Education Innovation Club*, they see this trend as something that needs to be reverted. In fairness to for-profit school opponents, while these schools unquestionably increase access for students who otherwise wouldn’t have been able to go to college, some unscrupulous behavior by schools to get students to enroll who weren’t qualified resulted in regulatory scrutiny that has impacted proprietary schools significantly.

¹³⁰ "Enrollment in Postsecondary Institutions, Fall 2010". National Center for Education Statistics, March 2012. <<http://nces.ed.gov/pubs2012/2012280.pdf>>.

Major For-Profit Schools Increasing Access Dramatically¹³¹



¹³¹ Company websites. Top 5 for-profit schools include Phoenix, Kaplan, DeVry, ITT and Strayer.

Special Forces: Campus Labs



Battle Plan: a leading platform and service provider for assessment in higher education, functioning on over 650 campuses.

Return on Education: increases the effectiveness of higher education communities with their comprehensive assessment program that focuses on data collection, reporting, organization and campus-wide integration.

Claim to Fame: a pioneer in linking assessment data to college programs and is a trusted partner for the large majority of state flagship institutions, elites and a significant number of smaller campuses and community colleges.

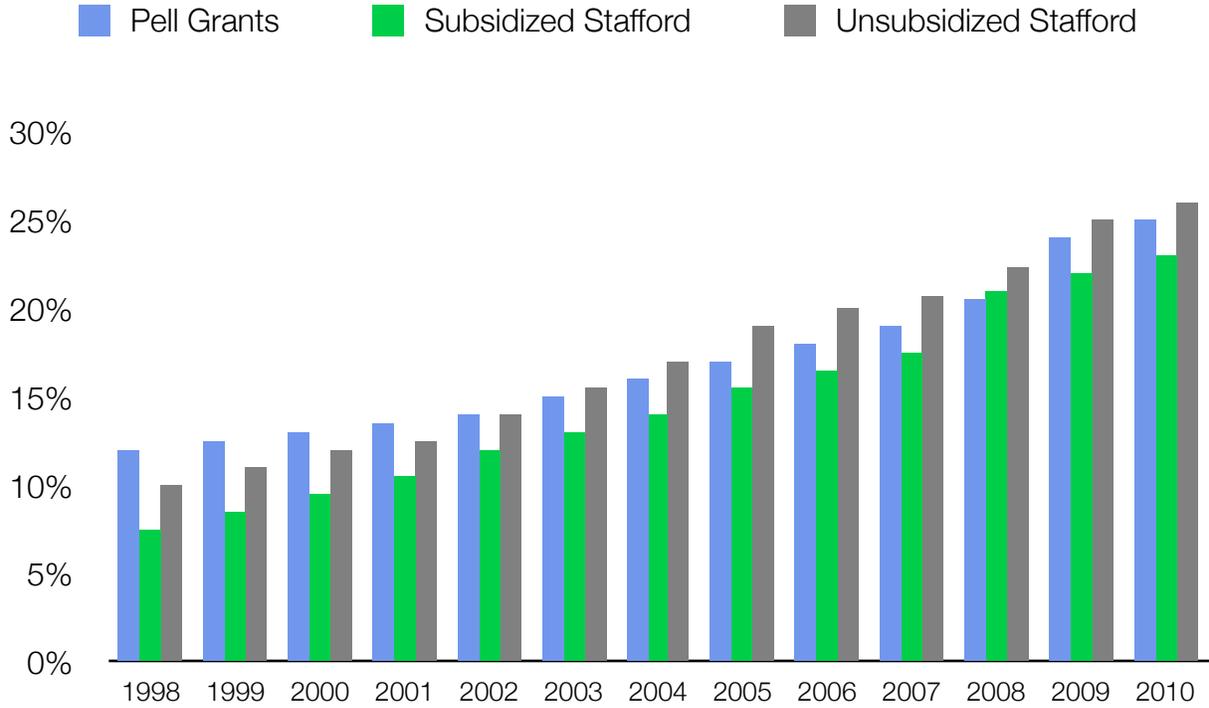
Fast Facts:

- The company's student facing product, CollegiateLink, is approaching 1.5 million user accounts.
- Founder and President Eric Reich was awarded the Panasci Entrepreneurial Award by the University of Buffalo.
- Campus Labs was acquired by Higher One (NYSE: ONE) in August 2012.

We violently agree that the *Return on Education* (ROE) should be a primary measurement for a school's effectiveness. Moreover, gainful employment and student default rates should be a component of this calculation. What doesn't make sense is to compare a school that focuses on "non-traditional" students who otherwise would be out of the system to ones that have a more "normal" circumstances. Also, it seems nothing short of bizarre that "not-for-profit" schools are given a free pass on *Return on Education*.

For-profit Share of Title IV Disbursements

In 2010, for-profit schools collected 25% of all Pell Grant funding - double the proportion from ten years ago. In other words, 12% of the students are getting 24% of the funding.



Special Forces: Capella Education



CAPELLA UNIVERSITY

Battle Plan: delivering academic curriculum that combines strong academic content and real-world practicality.

Return on Education: Capella University offers access to bachelor's, master's (MS and MBA) and doctoral (PhD, PsyD, and DBA) degrees in business, information technology, education, psychology, public health, public safety and human services via their online platform.

Claim to Fame: presented in a flexible, online format geared for adult students, Capella University offers post-secondary education to adults who hope to further their lives.

Fast Facts:

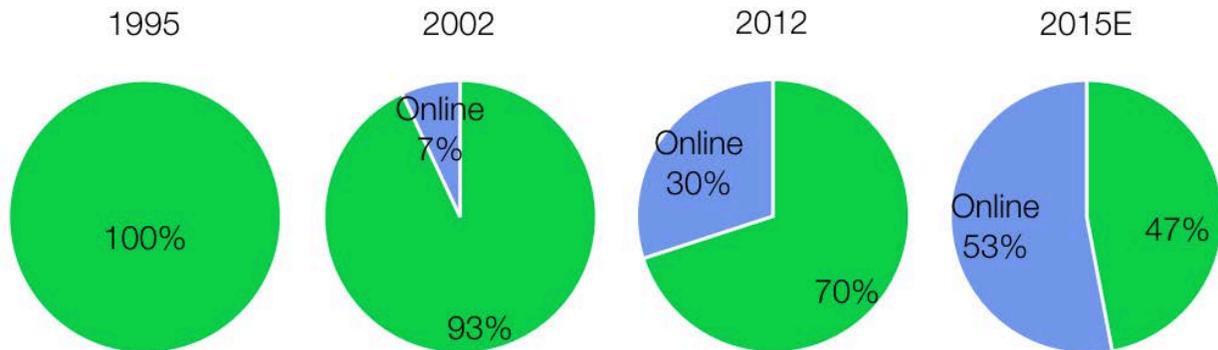
- Capella has 143 graduate and undergraduate specializations and 17 certificate programs with over 1690 online courses.
- CEO Kevin Gilligan was formerly the President and CEO of United Subcontractors and President and CEO of Honeywell International's second largest business.
- More than 37,000 students are enrolled from all 50 states and 59 other countries.
- A faculty of 1,615 professors with 85% holding doctoral degrees.

One of the primary strategies to increase access to postsecondary education and lifelong learning is to increase the quality and quantity of online courses.

In 2010, the U.S. Department of Education completed an extensive study and found that “students in online conditions performed modestly better, on average, than those learning the same material through traditional face-to-face instruction.”¹³²

¹³² "Evaluation of Evidence-Based Practices in Online Learning". US Department of Education, September 2010.

Students Enrolling in an Online Course in Degree-Granting Postsecondary Institutions¹³³



Some of the early online pioneers such as UNext and Pensare with ambitious educational aspirations died from arrows in their chest. The cost of creating content was too high and the market wasn't ready yet. Successful online pioneers such as Capella and University of Phoenix focused on access and simplicity.

The convergence of rich interactive content that can be created at a fraction of the cost a decade ago, bountiful bandwidth, creative business models and a ready market provide huge potential for next-generation online education companies.

¹³³ GSV Advisors, 2010.

Special Forces: Case Study: Piazza



Battle Plan: creates a free online gathering place for students to come together to ask, answer, and explore under the guidance of their instructors. This online platform gets students high quality answers for even the most specific questions, within minutes.

Return on Education: students and teachers have access to a free centralized forum to discuss topics and collaborate without having to repeat the materials and allowing students to see different questions they had not thought of.

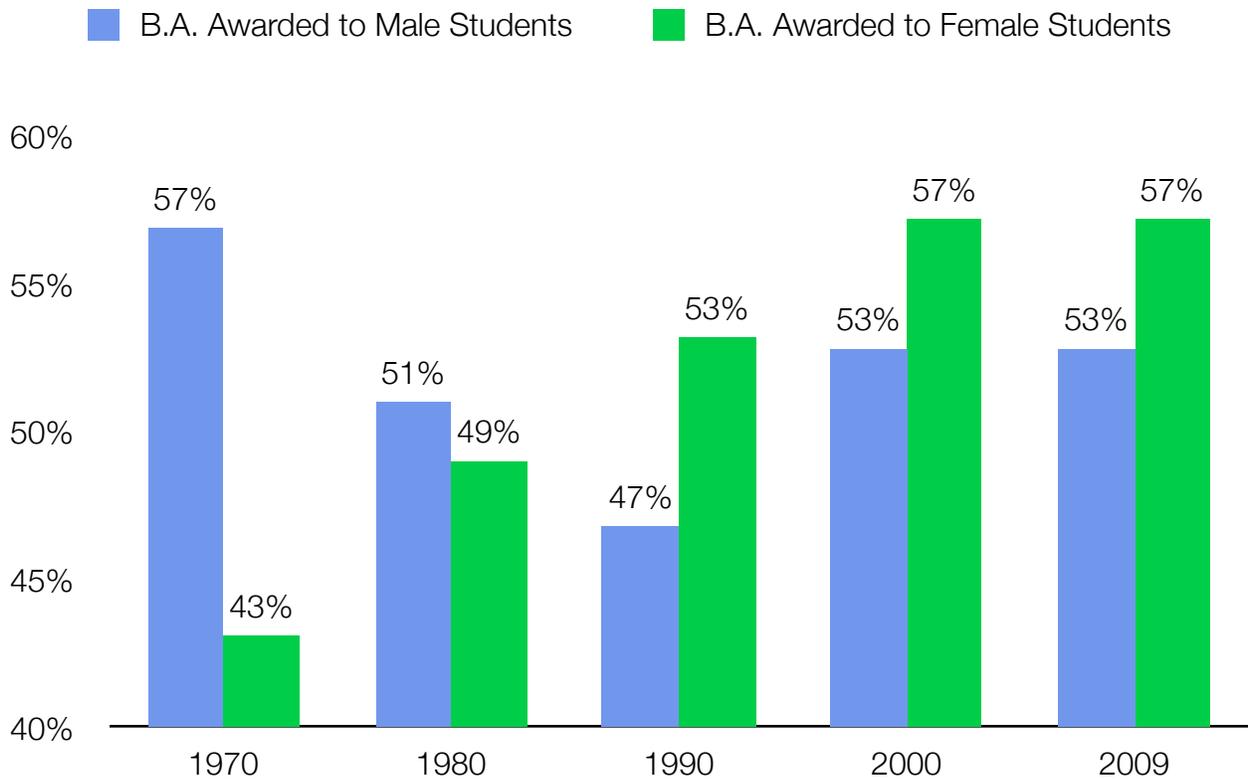
Claim to Fame: building one of the best software for class Q&A platform to stimulate class discussion, making the concept of emailing professors obsolete.

Fast Facts:

- Has raised \$7.5 million of venture funding from Sequoia Capital, Kapor Capital, SV Angels, Bessemer Venture Partners, and Felicis Partners.
- Founder and CEO Pooja Sankar started Piazza while studying for her MBA at Stanford and had previously worked at Oracle, Kosmix and Facebook.
- Enrolls more than 250,000 students at hundreds of schools, include 109 of the top 250 colleges in the U.S. (July 2012)
- Over 95% of all questions receive an answer within a median of 25 minutes.

One of the important shifts, not only in education but also in society, is the influence of women. Over the past 4 decades, female graduates have increased from 43% of the total graduates to 57% of students getting degrees.

Gender Trends in Postsecondary Institutions¹³⁴



The “Women Power” trend is evident in nearly every academic field with the exception of the STEM areas of science, math and engineering. For example, women received 71% of doctoral degrees in public administration, 76% in health sciences and 74% in education. Unfortunately, only 27% of engineering doctoral students are female and only 38% of math and computer science students are female.

¹³⁴ National Center for Education Statistics, 2010

Degrees Awarded by Field¹³⁵

Degrees Awarded by Field								
	Doctoral	Count	Men	Women	Masters	Count	Men	Women
Other	3.4%	1,788	30%	70%	6.8%	29,072	35%	65%
Soc & Behavioral Science	13.6%	7,047	31%	69%	7.4%	31,275	35%	65%
Public Admin & Services	1.0%	532	29%	71%	5.3%	22,438	22%	78%
Physical & Earth Sciences	9.1%	4,716	60%	40%	1.4%	6,002	57%	43%
Math & Computer Science	5.3%	2,739	62%	38%	4.1%	17,270	69%	31%
Health Sciences	14.5%	7,540	24%	76%	8.7%	36,945	18%	82%
Engineering	13.2%	6,840	73%	27%	7.1%	30,358	77%	23%
Education	13.3%	6,840	26%	74%	26.5%	112,774	23%	77%
Business	2.8%	6,912	49%	51%	24.4%	103,890	56%	44%
Biological & Agri Science	14.3%	1,461	43%	57%	2.8%	11,759	44%	56%
Arts & Humanities	9.5%	7,441	33%	67%	5.5%	23,212	40%	60%
Total		59,472	33%	67%		495,999	40%	60%

Two easy observations from the data are that: 1) women are going to be running the world in a Knowledge Economy and 2) the USA could solve much of its severe engineering and computer science shortage by getting women interested in these fields early.

¹³⁵ CGS/GRE Survey of Graduate Enrollment and Degrees.

Special Forces: Civitas Learning



Battle Plan: working with leading Colleges and Universities to create a cross-institutional organizing layer for mountains of current and historical higher education learning data. The company is using the most current modeling approaches and technology stacks from across industries to translate insights from this data into actionable recommendations for students, faculty, and staff, delivered through an analytic app ecosystem seeded by Civitas Learning and member institutions.

Return on Education: delivering personalized recommendations directly to administrators, faculty and staff, means they know in real time what's working – and what's not – for an increasingly large and diverse student population; doing the same for students allows them to make informed decisions about everything from selecting a degree and choosing courses to budgeting their study time and finding the best academic support resources.

Claim to Fame: working with select institutions in a 2012 Beta, Civitas has already built one of the largest cross-institutional learning data networks in higher education, including over 2 million student records and over 10 million course enrollment records.

Fast Facts:

- Founded in 2011 by Charles Thornburgh, who has been an edtech entrepreneur for over 15 years launching several businesses in the K-12 and higher education markets.
- Received over \$4 million in venture funding from Austin Ventures, First Round Capital and Floodgate.
- Board members include Mark Milliron, Chancellor of WGU Texas and Adam Dell, venture partner at Austin Ventures.

Special Forces: Straighterline



Battle Plan: offers low-price, online higher education courses that are equivalent to general courses required for a bachelor's degree. The credit earned can be transferred to most colleges or to one of their partner colleges.

Return on Education: serving more than 6,000 students through July 2012 and has partnerships with a number of accredited colleges and universities that accept its courses for credit. Colleges work with Straighterline to receive free marketing to students that are very likely to persist. The company is also a referral destination for students that partner colleges cannot immediately enroll.

Claim to Fame: recognized as a revolutionizing force in education by major news organizations and the U.S. Chamber of Commerce for offering students online courses that earn real college credit for just \$99 a month.

Fast Facts:

- Direct agreements with about 35 college of all stripes (public, private, for-profit, online, offline). An additional 300+ colleges have awarded credit for Straighterline courses with whom the company doesn't have direct agreements.
- Rapidly creating partnerships with Fortune 500 corporations to be included in Tuition Assistance Plans. Announced relationship with JBS, Aarons. Listed as an offering by most of the tuition assistance management companies. Many other TAP relationships, but currently remain internal to the company.
- Announced distribution agreements with ETS and CAE (makers of the CLA) to distribute critical thinking skills tests directly to students starting in Fall 2012.

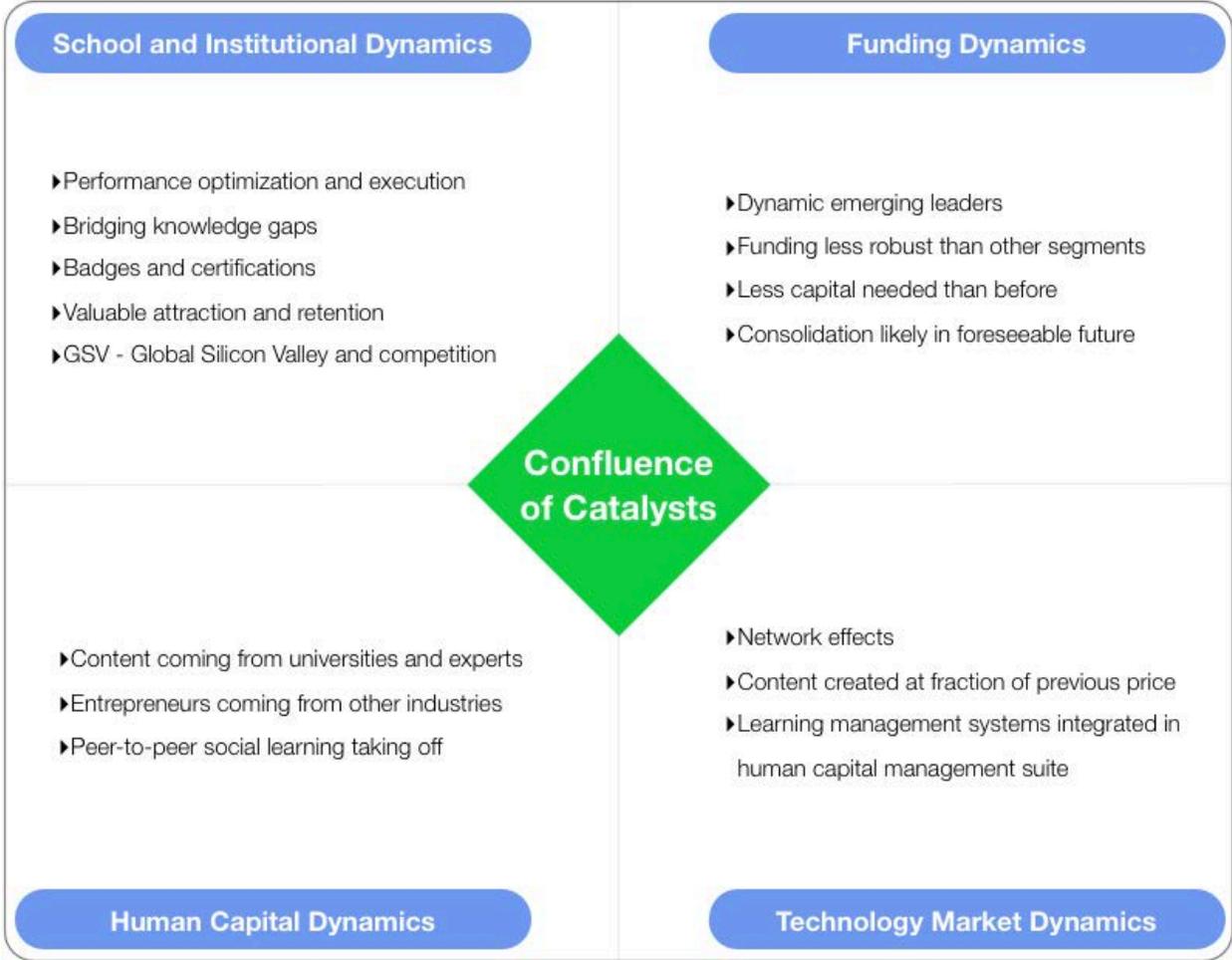
Lifelong Learning Market

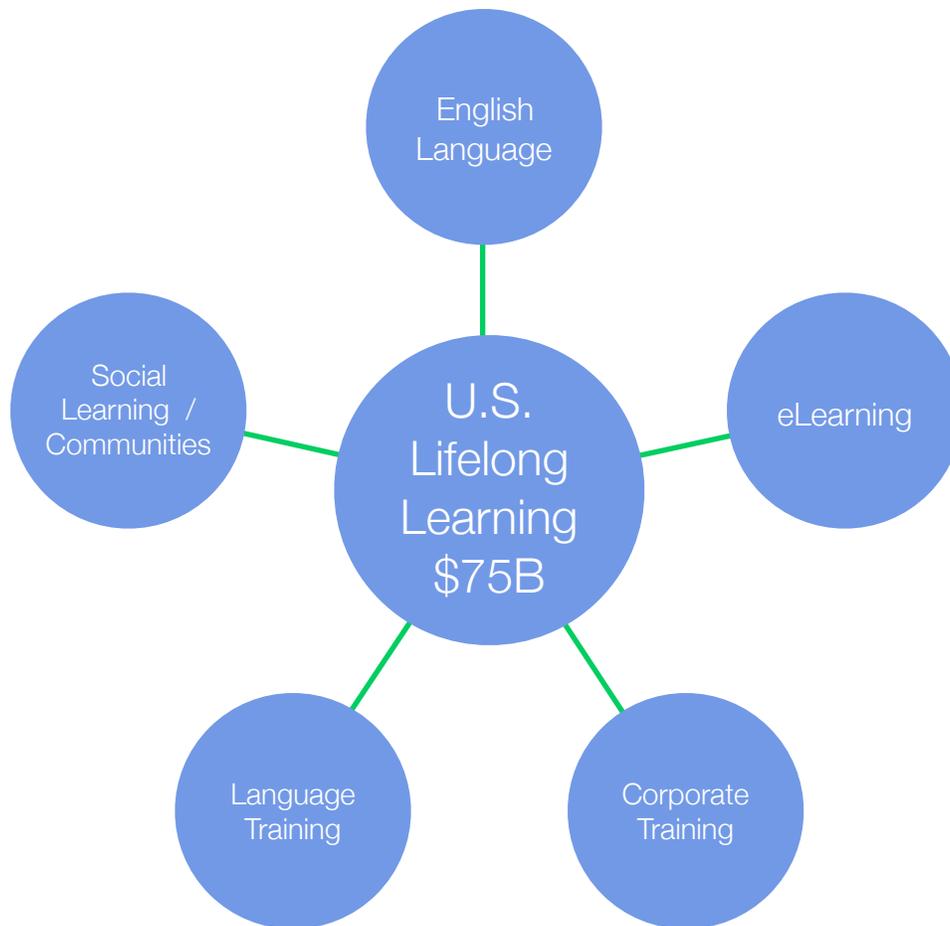
“My philosophy is that life is all about learning and growing, and that life can be a real adventure of learning, growing, compassion and joyfulness.”

- John Mackey, founder of Whole Foods

Lifelong Learning Market

Confluence of Catalysts





Knowledge Economy

“An investment in knowledge pays the best interest.”

- Benjamin Franklin

Nowhere is the overarching object for KaizenEDU more crucial than the lifelong learning segment. Historically, once you are done with college, with the exception of the occasional continuing education class to keep your license, you only returned to school for an autumn afternoon football game.

Career obsolescence will only accelerate in the *exponential times* we are in, and global competition creates the need to be constantly improving your skills. People will need to

multitask between working and learning with the episodic old model of dropping in and out of class being replaced by KaizenEDU.

The Return on Education will be a tangible fundamental between students and education providers, and the currency of what you know will be what opens doors...or closes them.

A Megatrend that will reemerge as the recession eases for businesses is the competition to *attract, develop* and *keep* the best people - to "*obtain, train and retain.*" The best businesses will be the ones that have the smartest and best people. Two metrics that are viewed as key for growth companies are the amount of money spent on R&D as a percentage of revenue and the amount of revenue per person. Looking ahead, two metrics that we believe will be incorporated with the former will be the percentage of revenue spent on *training* and *non-forced employee turn-over*.

Great growth companies we've identified spend nearly 13x more on R&D as shown by the following analysis: the selected new leader's average R&D spending as percentage of revenue is 13%, while the average for Blue Chip (but non-growth) companies is 1%. Key metrics for successful companies in tomorrow's economy will be the amount spent on *training* as well as *non-forced turnover*.

Great Growth Companies¹³⁶

Ticker	Company	Year Founded	# of Employee ('000)	Rev/Employee ('000)	Market Cap (mil)	Forward P/E	R&D as % of Revs
CRM	Salesforce.Com Inc	1999	7.8	\$316	\$19,654	89x	13.2%
GOOG	Google Inc	1998	33.1	\$1,209	\$194,285	13x	13.5%
EBAY	Ebay Inc	1995	27.8	\$446	\$52,850	17x	10.8%
AMZN	Amazon.Com Inc	1994	56.2	\$915	\$102,296	167x	6.4%
QCOM	Qualcomm Inc	1985	21.2	\$819	\$96,428	15x	19.8%
CSCO	Cisco Systems Inc	1984	71.8	\$634	\$90,746	9x	12.2%
FB	Facebook	2004	3.5	\$1,141	\$67,286	62x	12.0%
INTU	Intuit Inc	1983	8.0	\$519	\$17,597	18x	15.9%
ADBE	Adobe Systems Inc	1982	9.9	\$437	\$15,997	13x	17.0%
AAPL	Apple Inc	1976	60.4	\$2,357	\$570,332	12x	2.0%
	Median	1990	24.5	\$727	\$79,016	16x	12.7%
WMT	Wal-Mart Stores	1945	2,200.0	\$207	\$240,502	14x	–
MCD	Mcdonalds Corp	1940	420.0	\$65	\$90,751	16x	–
BA	Boeing Co	1916	171.7	\$426	\$55,759	16x	5.0%
MMM	3 M Company	1902	84.2	\$354	\$62,150	14x	5.3%
X	United States Steel	1901	43.0	\$470	\$3,062	11x	–
GE	General Electric Co	1892	301.0	\$467	\$215,403	13x	3.3%
XOM	Exxon Mobil Corp	1870	82.1	\$5,394	\$400,139	10x	0.2%
PM	Philip Morris Intl Inc	1987	78.1	\$407	\$151,761	17x	1.3%
DD	Dupont De Nemours	1802	70.0	\$566	\$46,487	11x	5.2%
	Median	1902	84.2	\$426	\$90,751	13.6x	1.3%

The innovative companies of tomorrow have one aspect in common: they all invest heavily in human capital. Average training expenditures per employee were \$800 per employee in 2011, but high-impact learning organizations spent \$1,021 per employee. Overall, employees training hours also increased 20% between 2010 and 2011, demonstrating organizations' focus on skills and knowledge retention.¹³⁷

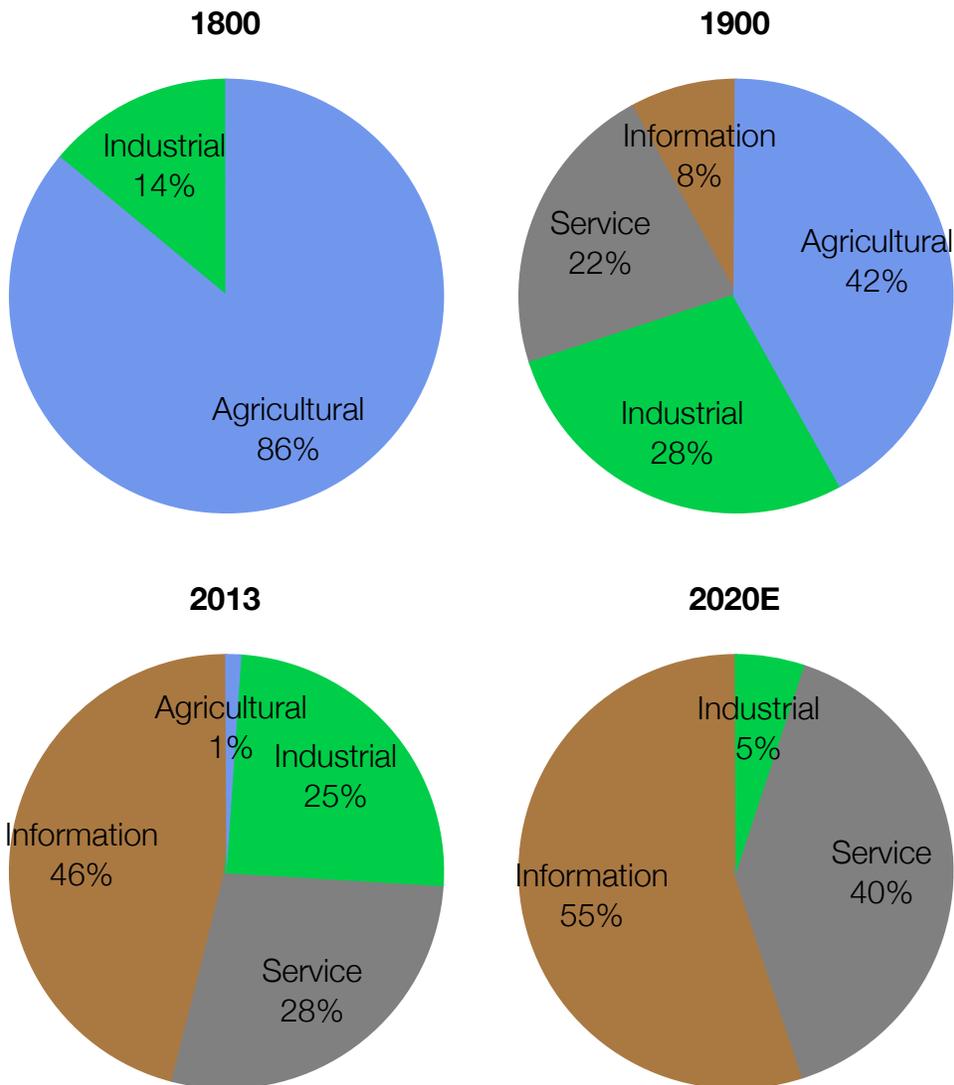
In the Knowledge Economy, education is the fuel to power new enterprises. Integrating quality educational content with testing/assessment and certification programs will be as standard as salt and pepper.

¹³⁶ CapitalIQ and Yahoo Finance, 2012.

¹³⁷ "The Corporate Learning Factbook 2012", Bersin & Associates Research Report. Bersin & Associates. January 2012.

Assessment is the authenticator of what you know, which becomes the currency for all future opportunities. The four engines of the future economy – computers, telecommunications, healthcare and instrumentation – employ approximately 50 knowledge workers per 100 employees and are growing. These technology-intensive industries are growing 3-6 times as fast as economy-wide job growth.

U.S. Workforce Breakdown in Time¹³⁸



¹³⁸ North Dakota State Data Center, GSV Advisors.

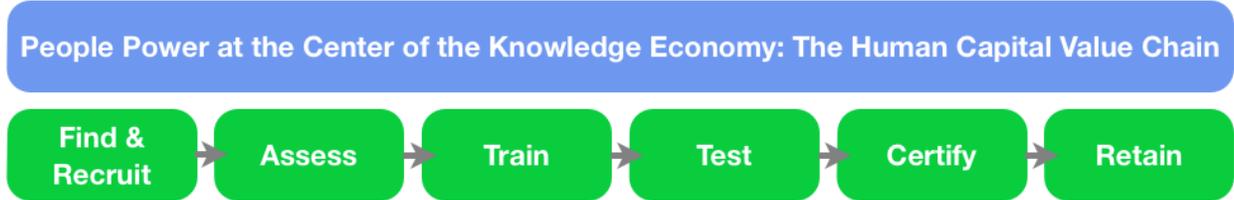
One hundred years ago, the leading companies were industrial and relied on machines and low cost labor. The leading companies of today and tomorrow are knowledge-based and fueled by human capital. From the top 20 list of BusinessWeek's Best Places to Launch a Career, the average company spent \$13,806 on training reimbursement in 2009. We are confident to see this trend progressing and expect that in the next 3-5 years the Best Companies to Work For will spent nearly one third of their sales on training.

Best Places to Launch a Career (BusinessWeek 2009)¹³⁹

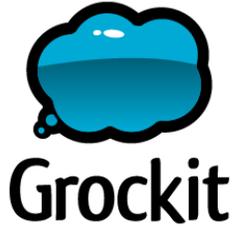
Rank	Company	Max Education Expenditure per Employee
1	Deloitte	\$10,000
2	Ernst & Young	NA
3	PriceWaterhouseCoopers	\$15,000
4	KPMG	Unlimited
5	U.S. State Department	\$6,000
6	Goldman Sachs	Unlimited
7	Teach for America	\$4,725
8	Target	\$4,000
9	JP Morgan	\$5,000
10	IBM	Unlimited
11	Accenture	NA
12	General Mills	\$7,500
13	Abbott Labs	\$7,000
14	Walt Disney	NA
15	Enterprise Rent-a-Car	\$3,000
16	General Electric	\$75,000
17	Philip Morris USA	Unlimited
18	Microsoft	\$5,250
19	Prudential	\$12,000
20	Intel	\$25,000
	Average	\$13,806

¹³⁹ Business Week. <http://bwnt.businessweek.com/interactive_reports/career_launch_2009/>.

At no previous time has human capital been so important. This means that finding, developing and retaining knowledge workers will be mission-critical functions – and high growth sectors – in the knowledge economy. Accordingly, we look at the continuum of human capital solutions holistically – a Knowledge Web – and believe the most important companies will have an appreciation for and/or involvement in a comprehensive solution.



Special Forces: Grockit



Battle Plan: social learning company, building a learning curation and sharing platform named 'Learnist'.

Return on Education: through passive sharing and human curation of media, Learnist has the potential to help billions of people learn just about anything, on any screen. Learnist is focused on the learning opportunities that immediately follow information discovery in search, news, micro-blogging and image-tagging sites.

Claim to Fame: in recent years, Grockit has successfully developed web-based social learning to help millions of people engage with content and learn faster for the purposes of college admissions test prep and remedial K-12 education. In 2012, Grockit is expanding the market potential for its social learning IP through Learnist, a broader application of social learning optimized for learning content creation, curation and consumption via native tablet apps and Facebook.

Fast Facts:

- Grockit is backed by Mark Pincus, Reid Hoffman, Benchmark Capital, Integral Capital Partners, Atlas Venture and GSV Capital and has raised \$25 million to date.
- CEO Roy Gilbert previously led Global User Operations at Google and prior to that led Google India and launched the business operations for Gmail.
- Founder and Chief Product Officer Farb Nivi has been an entrepreneur and teacher since his teens and previously worked at Kaplan and The Princeton Review.
- Chief Strategy and Development Officer Rusty Greiff previously held senior executive positions at Catapult Learning, Hooked on Phonics and Sylvan Learning.

“As human beings, our greatness lies not so much in being able to remake the world...as in being able to remake ourselves.”

- *Mahatma Gandhi*

Grockit has seized on new social media discovery methods by launching an innovative social learning and curation platform, Learnist. With a content tagging interface similar to Pinterest, Learnist goes beyond visual bookmarking, enabling people to quickly assemble and share curriculum via "boards" that remix free online blogs, books, videos, slides, podcasts and games. Learnist users return again and again to collaborate, curate, teach and learn on Learnist boards.

For the mass market, Learnist shortens the time a user spends discovering and assembling expert content and explanations in order to learn anything from recipes to theories of quantum physics. Learnist empowers educators to create project-based learning for students at a global scale and empower self-directed learners and experts to collaboratively address knowledge-gaps in existing curriculum. In this way, Learnist has the potential to create one of the most dynamic and scalable “classrooms” in the world.

learnist
Find Friends + Add

01 Wonder is at the intersection of Science and Art

www.brainpickings.org

Human beings have created truly miraculous wonders by combining our artistic imagination and scientific achievements - from the wheel to the computing revolution to walking on the moon and much more.

An energy solution is the most important challenge of our generation.

What wonders can we achieve by combining science and art?

+ re-add

more

13

02 The people who are crazy enough to think that they can change the world...

www.youtube.com

...are the ones who do.

An now classic Apple quote can be applied to **thorium** and LFTR (liquid flouride **thorium** reactors) pioneer Kirk Sorensen.

Watch this video to understand the overall thesis of why we need **thorium** based power...and why we need it now.

+ re-add

more

3

Power to the Planet

by Li Jiang

Category: [Technology](#) | 12679 views | Created: 08/15/12

Humanity stands at the crossroads. We absolutely need an energy solution if we want to maintain our civilization. The most powerful potential clean energy can come from thorium based reactors. Learn about and share thorium ideas here.

+ add to this board

Share 2
 Tweet 0

more

Following 82

Liked 34

82 followers

34 likes

energy
renewable energy
humanity

green
more...

New Tag Add

9 Comments

Michael Nadeau

24 days ago | Reply | Like

Just finished "Super Fuel." Cool book.

Michael Nadeau

about 1 month ago | Reply | Like

Really cool stuff.

Michelle Shyman

3 months ago | Reply | Like

Me, too: thanks for creating this board.

Samiur Khan

7 months ago | Reply | Like

The problem with the U.S. today is that our government is investing in the wrong places. If they begin investing into new research projects like this and in education as well, not only America but the entire world will prosper, giving even more opportunities to help deal with other problems.

Li Jiang

7 months ago | Like | Delete

Samiur, I couldn't agree more. What can we do about it? The political system can't just change overnight or ever.

Li Jiang

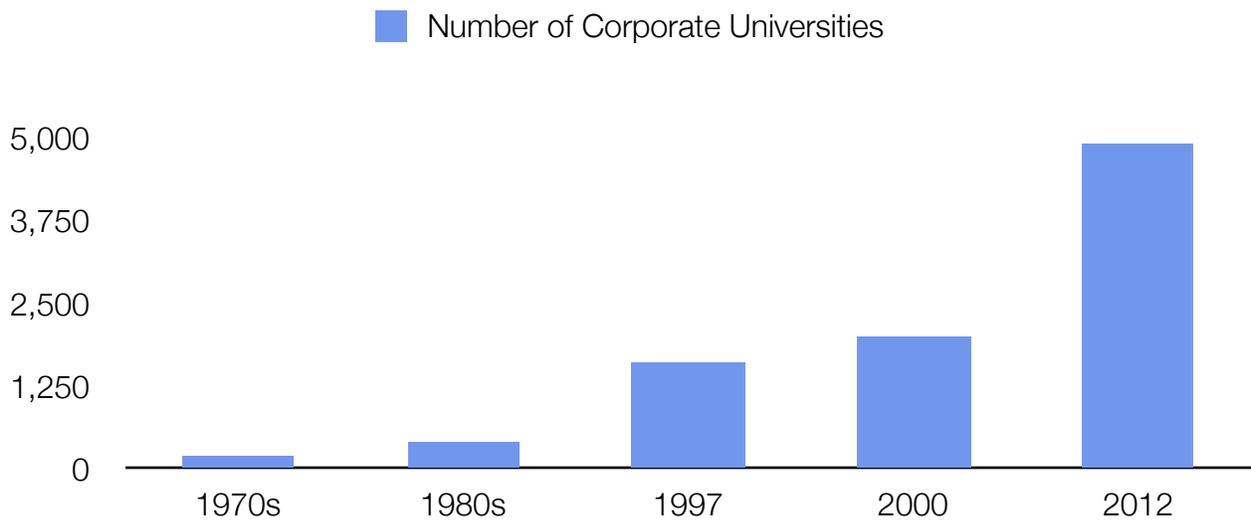
7 months ago | Reply | Like | Delete

Robert, thanks for your thoughts. There are a lot

¹⁴⁰ Learnist, 2012.

As leading global corporations continue to learn that their greatest competitive advantage is their human capital, corporate universities have grown materially over the past decade. The number of corporate universities has more than doubled since 2000 in an environment that consistently was forcing corporations to rationalize costs and outsource non-core functions.

Number of Corporate Universities¹⁴¹



Unlike traditional universities or the K-12 system, corporate universities have been early adopters of many of the trends that we foresee for the overall learning market. Real-time mobile learning has been embraced as a key tool to compete and MOOCs (massive open online courses) are a wave. Social learning has integrated into many of the leading programs generally with great results.

Corporate Learning Trends - 2012¹⁴²

Trend	Implication
Mobile, Social, Cloud	Majority of learning investments are moving in this direction

¹⁴¹ CorpU Social Learning Research, July 2012; BCG Executive Education Ecosystem Assessment, 2012.

¹⁴² CorpU Social Learning Research, July 2012.

Trend	Implication
Massive Open Online Courses	Companies are watching this closely for ways to lower cost per participant in critical corporate learning initiatives
Deep Learning Analytics Going Hybrid	Companies are using “big data” to drive talent development decisions Companies are re-inventing signature 3-5 day leadership development programs as yearlong “guided learning journeys” by adding online cohort programs to extend the experience and focus on application and mastery. This “Blended Learning Approach” is the way of the future.
Online Collaborative Learning	The next big thing in corporate learning; drives much more active engagement, completion results, and capability building.

Special Forces: CorpU



Corporate University Xchange

Battle Plan: deliver leadership development, learning operational excellence and social learning knowledge to corporate employees.

Return on Education: provide the best executive education online with world-class academic institutions, authors, and experts at approximately 25% of the cost of traditional executive education programs.

Claim to Fame: one of the premier brands in corporate learning and development, it has the potential to be the learning community platform of choice for Fortune 1000 companies. CorpU Xchange has most of the top corporate universities as members with over \$20 billion of annual spending on corporate learning.

Fast Facts:

- CorpU is led by CEO Alan Todd, founder and former CEO of KnowledgePlanet, the first cloud-based learning management system.
- Chairman David Pottruck was the former CEO of Charles Schwab.
- COO Mike Barger was formerly the head of JetBlue University and head of the “Top Gun” program for the U.S. Navy.
- Head of Sales Tony Kinder was formerly CEO of Intralinks and sales executive at Oracle and ADP.
- Has received funding from Red Eagle Ventures and GSV Capital.

CorpU by the Numbers

10,000 member organizations

22,000 talent development executives

13 years of benchmarking trends

1,000's of research surveys and calls annually

50 online best-practice sharing events annually

1 annual global conference & awards program

10 executive education programs annually

50 how-to expert video lessons annually

With the minute-by-minute changes taking place in the technology industry, IT training has been a staple for many corporations to keep current with the latest that Microsoft, Cisco, and Oracle have been up to. Ironically, given the subject matter and despite \$67 billion spent in this market in the U.S., innovation has been lacking.¹⁴³ We do see new companies that are providing more compelling programs, which we believe will be very successful.

Special Forces: StormWind Studios



Battle Plan: helps companies of all types bring their training and messaging to life with next generation, HD interactive online training. Stormwind works with clients to strategize, create, film, produce and deliver training that is massively engaging.

Return on Education: combines true high-definition, deeply immersive, rich media online environments with world-class instructors, at about 50% of the cost of in-person training. The result is higher retention in half the time delivered in a web flexible format.

Claim to Fame: StormWind has trained over 500,000 people by replicating the classroom using web-based video and simulations —something no other company has done yet.

Fast Facts:

- Has received over \$4 million in venture funding from GSV Capital and TAC Holdings.
- Founded in 2009 by serial entrepreneur Tom Graunke, a two-time Ernst & Young Entrepreneur of the Year. Tom founded Mastering Computers (MC) in 1988 and sold the business in 1998.
- In 1998, Tom founded KnowledgeNet which was one of the first bona fide attempts at e-learning for the corporate IT market. KnowledgeNet was sold to Thomson NETg in 2004.

¹⁴³ "The Corporate Learning Factbook 2012", Bersin & Associates Research Report. Bersin & Associates. January 2012.

“We have a strategic plan. It’s called doing things.”

- Herb Kelleher

We have an economy that is becoming increasingly global and competitive and we are failing to keep up. In 2012, 80% of jobs required at least some college.¹⁴⁴ We’ve got a lot of work to do: only 30% of the U.S. population has a college degree.

Education is the means to remain relevant yet almost one third of the population drops out of high school¹⁴⁵ and another third is not prepared to go to college. If they do enter a two or four year program, many have trouble graduating: in 2009, only 37% of first-time students at 2-year U.S. institutions graduated within 4-years and only 57% of first-time students at 4-year U.S. institutions graduated within 6-years.¹⁴⁶

The mismatch between what we have vs. what we need is nowhere more apparent than in STEM jobs.

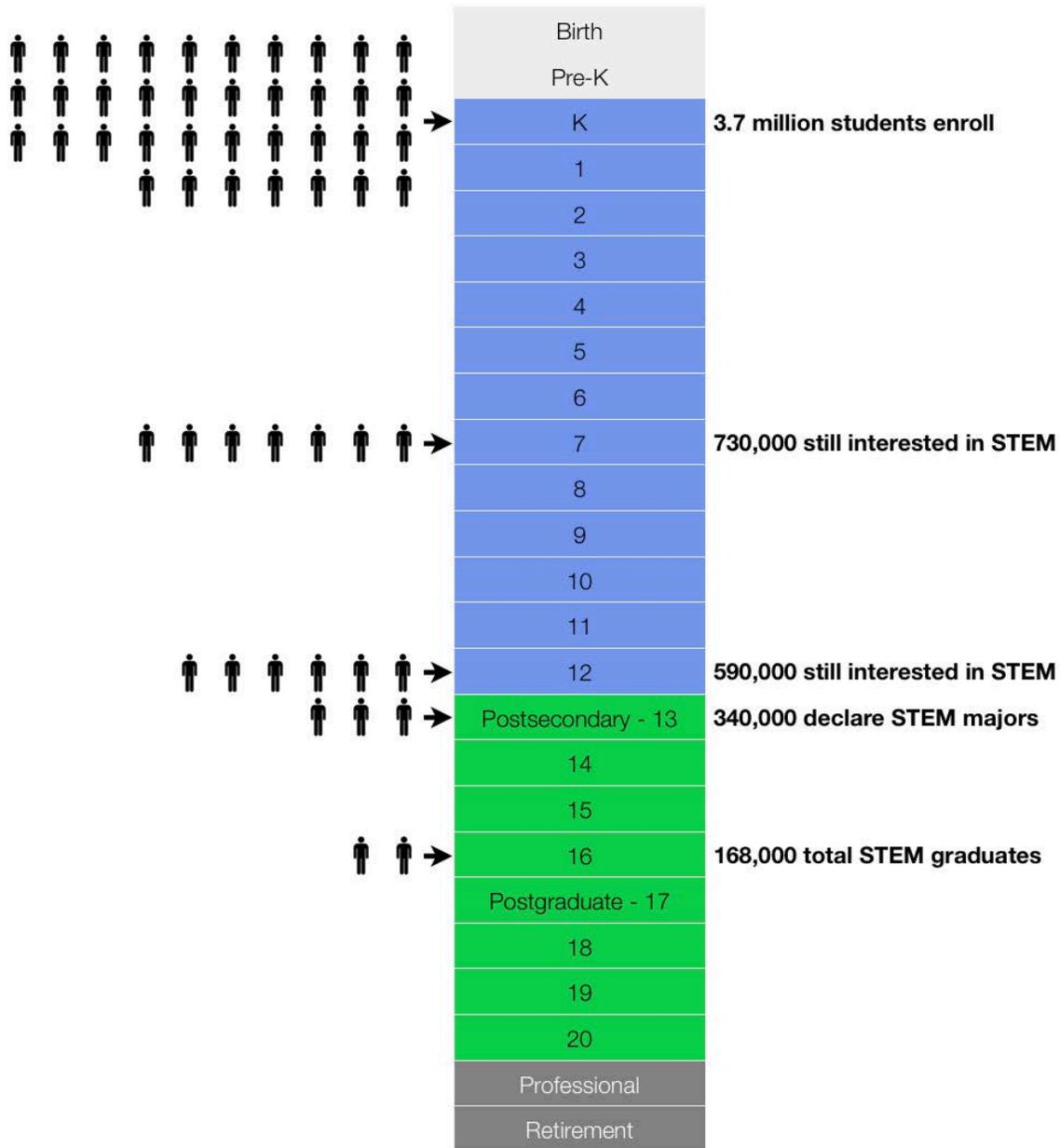
According to a study conducted by Georgetown, STEM occupations will grow from 6.8 million to 8 million total jobs by 2018. They will provide 2.4 million job openings, including 1.1 million net new jobs and another 1.3 million jobs due to retirement. While there is clearly a massive opportunity for job seekers, only 168,000 students in the U.S. graduate with a STEM degree and only 67,000 of those are in engineering each year.

¹⁴⁴ *Apollo Group and GSV Advisors, 2012.*

¹⁴⁵ *"Diplomas Count 2011". Editorial Projects in Education"*

¹⁴⁶ *"US Department of Education Committee of Measures of Student Success". US Department of Education, November 2011.*

The STEM Sieve¹⁴⁷



Employers are already having difficulty filling “mission critical” positions. According to staffing giant Manpower - 52% of companies can’t find people with appropriate skills. Jonas Prising, Manpower’s president of the America’s, explained the mismatch between available talent and desired talent:

¹⁴⁷ Carnevale, Anthony. "STEM". Georgetown University Center on Education and the Workforce, October 2011.

*...jobs have structurally changed over time, and the skills needed to fulfill these roles have too. While talent cannot be 'manufactured' in the short term, a robust workforce strategy will ensure that companies can find the people to support their business strategy, and that employees have the opportunity to pursue meaningful career paths.*¹⁴⁸

The Millennials are more educated than their parents and grandparents—they are earning college degrees in greater numbers. But, a college degree is no longer the guarantor of a middle-class existence; on its own, a B.A. no longer conveys intelligence and capability. As NPR's Adam Davidson explains, "A general guideline these days is that people are rewarded when they can do things that take trained judgment and skill—things, in other words, that can't be done by computers or lower-wage workers in other countries."¹⁴⁹

The people with skills and knowledge who can monetize what they know are doing better and better; the people who can't are being left behind.

Millennials are frustrated. Parents are worried that schools aren't doing their jobs. Businesses are being asked to boost hiring but can't find suitable candidates. The country cannot compete with an education system that was designed for the 1950s, not the 2010s.

¹⁴⁸ "Manpower Group Annual Survey Shows More than Half of U.S. Employers Cannot Find the Right Talent for Open Positions". Manpower Group, May 2011.

¹⁴⁹ "The Dwindling Power of a College Degree". *The New York Times*. November 2011. <<http://www.nytimes.com/2011/11/27/magazine/changing-rules-for-success.html?ref=magazine>>.

Special Forces: Open University



Battle Plan: creating an open distance learning platform to reach as many students in the world as possible. OU is part of the open education resources movement with its OpenLearn program, which provides free access to content and free collaborative learning-support tools.

Return on Education: with its open entry policy, OU does not take a students' previous academic achievements into account and has provided classes to over 1.5 million students since it first class in 1971.

Claim to Fame: rated top university in England and Wales for student satisfaction in the 2005 and 2006. Additionally, three out of four FTSE 100 companies have sponsored staff to take OU courses.

Fast Facts:

- Open University has over 250,000 students enrolled currently, including 32,000 aged under 25 and more than 50,000 overseas students.
- Its number of students makes it the largest academic institution in the United Kingdom and one of the largest universities in the world.
- One of only three United Kingdom higher education institutions to gain accreditation in the U.S.
- The OU Business School is the largest provider of MBAs in the UK, producing more graduates than all the rest of the business schools in the UK combined.

We Are Losing Our Future Technology Leaders

America does a great job providing educational opportunities for foreign PhD students, particularly in science, technology, engineering and mathematics. They are integral to the success of American technology leadership. By 2008, one-third of all Silicon Valley companies were founded or co-founded by Indian or Chinese nationals. It would help the

economy if these students would remain in the U.S. following graduation. Many want to return to their home countries where they believe they will find better job opportunities—52% of U.S.-trained Chinese PhDs believe that the job opportunities in their home countries are superior to those in the U.S.¹⁵⁰

The other problem is we don't make it easy for these students to stay in the U.S. In 2009, Representative Jeff Flake (R-Arizona) introduced the Stop-Trained-in-America-Ph.D.s-from-Leaving-the-Economy (H.R. 399/The S.T.A.P.L.E. Act). The idea was that the U.S. government would “staple” a visa to each graduating PhD student in the sciences, technology, engineering, or mathematics. The Act would remove the numerical cap on H-1B visas and employer sponsored green cards for foreign Ph.D. students graduating from American universities.¹⁵¹

Currently, H1-B visas are capped at 65,000 annually and while there is an exemption for 20,000 additional visas given annually for foreigners graduating with a Masters degree or higher from American universities, the supply is not even close to demand. Graduates can work for 29 months without a visa, but they eventually need one to remain in the U.S. Though the STAPLE Act makes all the sense in the world, it has been stuck in Congressional Committee since January 2011.

¹⁵⁰ Wadhwa, Vivek. Saxenien, AnnaLee. Freeman, Richard. Salkever, Alex. “Losing the World’s Best and Brightest,”. Kauffman Foundation, Duke University, UC Berkeley, March 2009

¹⁵¹ Thibodeau, Patrick. “Rep. Flake Re-Introduces Bill to ‘Staple’ Green Cards to Ph.D Diplomas,” Computerworld, January 2011.

“It’s never too late to learn.”

- Kathy Ireland, former supermodel now successful businesswoman

Me.Edu

As being a lifelong learner becomes a fundamental requirement to participate in the future, creating an individualized knowledge portfolio will be how people demonstrate their "knowledge worth". Where you went to college and what you received your degree in becomes only a component of your knowledge portfolio but what you actually know and can demonstrate becomes the currency.

We see a future of academic institutions becoming "unbundled" where learners will pick and choose courses from anywhere on the planet via online sources and assemble their knowledge portfolio based on optimizing their efficient frontier for future opportunities.

A simple analogy is looking at what Charles Schwab did with "OneSource" where it allowed individual investors to pick and choose mutual funds from different families but put it on one statement (i.e. allocate 20% in the Franklin Templeton International Equity Fund, 30% in the PIMCO Bond Fund, 15% in the Fidelity Magellan Equity Fund, 25% in the American Fund and 10% in the State Street Money Market Fund).

Accordingly, services that provide rich information about what the pros and cons of a course, professor, university or informal class grow in value. Deep vertical search businesses (Google for education), crowd sourcing (Zagat) and rating services (Morningstar) all become important opportunities.

Formal and informal learning can all be collected in the Knowledge Portfolio as the currency around what you know becomes more tradable. Developing a "New York Stock Exchange" for knowledge that becomes increasingly liquid as individuals and employers gain confidence in this new knowledge currency.

The trends of multiple careers and putting projects together for many enterprises are like how movies have been made forever, all benefit from the knowledge currency that is tangible. The other Uber-trend of ROE becomes the critical metric for an educators' success.

Special Forces: Noodle



Battle Plan: provides education recommendations to allow students to find the best and most relevant learning resources available anywhere and allowing those users to save search results and information for future reference.

Return on Education: free to the user, Noodle gives students of any age and parents a user-centric tool to find educational opportunities at all levels, K-12 to college, graduate school, weekend classes and professional development. Search information is stored to build a personal information database over time.

Claim to Fame: Noodle is a pioneer in the educational search space and is planning to be the most comprehensive and personalized platform for students of all ages. It also relies on leveraging users' social graph to generate recommendations.

Fast Facts:

- Founded by John Katzman, Founder of The Princeton Review and 2U.
- Over 130,000 learning institutions, education resources and providers are featured on Noodle.
- CEO Joe Morgan has over 20 years of experience as Founder and President of Colloquy, an education technology company, Head of Strategy of Kaplan, and President of a quick service retailing company which owned Blimpie Subs & Salads.

Special Forces: Quizlet



Battle Plan: creating one of the largest study sites in the U.S., providing powerful learning tools and games to over 7.5 million students and teachers each month (as of May 2012).

Return on Education: provides a free portal and gives students multiple ways to learn, including socially with friends and through competitions. Quizlet's simple and beautiful software makes studying and learning easy and engaging.

Claim to Fame: has successfully created a broad horizontal platform with millions of engaged users and high quality user-generated content from foreign language, to nursing, to standardized tests to art and literature.

Fast Facts:

- Founded in 2005 by 15-year-old Albany High School sophomore Andrew Sutherland for a high school French class. Sutherland is currently on leave from MIT.
- Currently Quizlet has over 91,000 study sessions per day, over 50 million visitors in the past 12 months and over 13 million total study sets that users can access.

Meet Students Where They Are

Digital communication is taking more of our time and is enhancing and replacing face-to-face contact. In a series of surveys conducted by Pew Internet & American Life Project and Elon University School of Communications between 2004 and 2010, researchers found that one in four people (2008) prefer to communicate via email over face-to-face conversation. They suspect that by 2020, this number will rise to three in four people preferring email over face-to-face conversation. In the corporate world, the typical user of

email sends and receives 110 email messages daily. With the exception of classified government agencies, virtually all U.S. companies have email.¹⁵²

In 2011, American adults spent 167 minutes a day (2.8 hours) on average online, 22% higher than in 2008. When you add in mobile communications, American adults spent 232 minutes a day (3.9 hours) online and using mobile technologies, compared to 169 minutes a day (2.8 hours) spent online and on mobile in 2008. This is a 37% increase in only two years.¹⁵³

The Kaiser Family Foundation found that 8-18 year olds dedicate more than 53 hours a week (7.6 hours) to entertainment media.¹⁵⁴

The trend is online, the trend is digital. Our education programs need to be meeting students online where they already are.

¹⁵² "Imagining the Internet: The Future of Social Relations," Pew Research Center Internet & American Life Project. September 2009.

¹⁵³ Fredrickson, Clark. "Time Spent Watching TV Still Tops Internet," The Emarketer Blog. December 2011.

¹⁵⁴ "Daily Media Use Among Children and Teens Up Dramatically From Five Years Ago". Kaiser Family Foundation, January 2010.

Special Forces: Fidelis



Battle Plan: partners with universities, companies, and military organizations to provide an end-to-end education solution for the military-to-civilian career transition.

Return on Education: offers a social platform with services including custom coursework and learning applications focused on the military transition, personalized coaching, access to an influential mentor network and career placement.

Claim to Fame: Fidelis follows a carefully planned program and uses its intimate understanding of employers to provide the most personalized and technologically-enabled experience for veterans.

Fast Facts:

- Has received over \$2 million in venture funding from Accel Partners, Novak Biddle, OATV, Ulu Ventures, Kapor Capital and angel investors.
- CEO Gunnar Couselman was formerly a consultant at Bain & Company as well as a Captain in the U.S. Marine Corp and is a 3rd generation Marine.
- The military education market represents a \$7 billion opportunity, and the hiring market is another \$1 billion. This issue has risen to be a top 5 national agenda item for both political parties.

“Sir, they spend a year turning you into a Marine. Then another 3 years turning you into a badass Marine who will kick down any door in Fallujah. They spend an afternoon telling you what it’s going to be like to be a civilian again.”

- U.S. Marine

American Revolution 2.0

“You say you want a revolution...”

- The Beatles

American Revolution 2.0

As we are sitting here on July 4 writing this on *Independence Day* in Philadelphia, we find it fitting that we are in the shadows of where the Continental Congress boldly changed the world...forever.

Our aspiration is to reinvent the future and we believe that the next 100 years for America will be even brighter than its past. We believe that education technology will be at the forefront of enabling this objective. The net result will be a *learning society* where opportunities will be abundant for the vast majority of our population.

Good News, Bad News

The good news is that there is nothing we can't solve through vision, strong leadership and disciplined execution. Throughout history, Americans have consistently demonstrated the ability to rise up, make the necessary changes and take the action required to solve the challenges facing us.

The bad news is that there is no "silver bullet," and the complexity of the problem requires far-sighted strategic thinking and the political will to implement solutions as rapidly as possible.

We are optimistic—we see the potential to transform the education market and thus put the United States on track to be the "shining city on the hill" for the next hundred years, just as it has been for the last hundred years.

We need to re-conceptualize the entire education system to enact such bold changes, but the reality is that we need to "change the tires while the car is moving."

Imagine if we didn't have an existing system - what would we do to build the optimal education system? Balance that against the fact that back on Planet Earth, we have 77 million people in the U.S. that are already in some type of education program.

Despite some recent opinions to the contrary, we believe that capitalism works. Accordingly, our core belief is that if we can align our objectives with incentives, market forces will do a lot of the heavy lifting. Human capital, investment capital and innovation will flourish in a liberated educational ecosystem.

Educators' Bootcamp

“You must play boldly to win.”

- Arnold Palmer

Recognizing that a journey of a thousand miles begins with the first step, we need to get going immediately.

Starting today, here are seven *free* ideas that almost every educator, student and administrator in the United States can implement to help lay the groundwork for the Revolution to come.

Educator's Bootcamp

- ▶ Create your own YouTube educational channel—populate with the best learning videos
- ▶ Enable access to Khan Academy's video learning modules
- ▶ Create a social learning network using ePals or Edmodo (or a number of other social platforms)
- ▶ Enroll in Codecademy and Treehouse to learn the ABCs of computer coding
- ▶ Set up a Dropbox account to share knowledge—videos, documents, lessons, notes
- ▶ Set up a Twitter account—follow the most interesting educators and world leaders
- ▶ Subscribe to classes on iTunesU

Strategic Battle Plan

Our prescription is to use a “building block” logic with essentially a 15-year time horizon to accomplish our overall objective of either having or being the:

#1 learning society in the world.

#1 in entering kindergarten prepared.

#1 in PISA.

#1 in high school completion rates.

#1 in college completion rates.

#1 in graduating engineers, scientists and computer programmers.

#1 in career placement rates.

#1 in worker productivity.

It won't be easy to achieve these big, hairy, audacious goals (BHAGs), but we believe the following "battle strategies" will move us significantly closer to that achievement.

- ★ To start, we adopt the Common Core in all 50 states and create incentives for innovators to develop disruptive, high-impact content.
- ★ We eliminate the term "education reform" as we focus on *education innovation* as the means to solve our education problem.
- ★ We outlaw the terms "for-profit" and "not-for-profit" as they represent corporate structures and thus have no bearing on the effectiveness of a particular program or product. Return on Education ("ROE") becomes the objective measurement to determine if an education program is good or bad.
- ★ We implement a "universal" pre-school voucher program that guarantees each child will have access to quality early childhood education. Expensive? Yes, but not nearly as expensive as losing kids before they even start. The economic cost to society for a dropout is over \$292,000. Hence, the ROE of the \$5,000 investment we spend preparing kids to enter school is nearly 60x—not a bad return!
- ★ We create an open scoring system in both K-12 schools and post-secondary institutions that enables complete transparency regarding each school's student progress, academic achievement and graduation rates.
- ★ We establish a "No Child Left Behind" done right, in which national standards are consistently applied, with real consequences for schools that don't teach, and conversely, real rewards for schools that are effective.
- ★ We create tax-deductible individual learner savings accounts that also earn interest tax-free while funds are invested. Beneficiaries would need to spend these funds within 5 years or the account becomes taxable, as does any interest earned. Employers will

provide such educational accounts similar to how they provide retirement accounts and health savings accounts today.

- ★ We create an open marketplace for information on all schools, administrators, teachers, and ROE for educational products and services. “Zagat for Education” becomes a reality.
- ★ We embrace the philosophy of choice and competition by creating an even playing field for charter schools, virtual charters and other alternative programs. We recognize that it’s fundamentally immoral to deny students the opportunity to attend the best schools possible. We envision a system where the funding follows the student as resources are allocated to institutions that students and parents are choosing to go to.
- ★ We give every citizen a “virtual credentials wallet” that contains every class and learning module they’ve ever taken, along with relevant achievements and competencies. Scores are created in relevant disciplines where your “knowledge score” can be readily provided to employers and academic institutions.
- ★ We create a “Presidential Fitness Award” for STEM and create financial rewards for teachers that develop the most students achieving this Award. We celebrate the students who obtain the Award—along with their teachers—in their local communities and in the media.
- ★ We make Teach for America even more celebrated and scaled by enrolling the nation’s brightest college graduates to teach for two years. We engender a sense of service-to-country, akin to military service. The top 10% of college graduates across America should view it as their duty to serve their country by teaching in public schools. We provide funding to support the additional placements.
- ★ We buy every pre-K through 6th grade student in America a tablet computer. Yes, that price tag will be high—almost \$5.5 billion at \$200 per student. But the return will be exponentially higher, with these digital natives tapping into and unleashing the power of technology to rapidly accelerate their learning pace and broaden their scope of knowledge. Consider this: Microsoft’s R&D expenditure in the past 12 months was

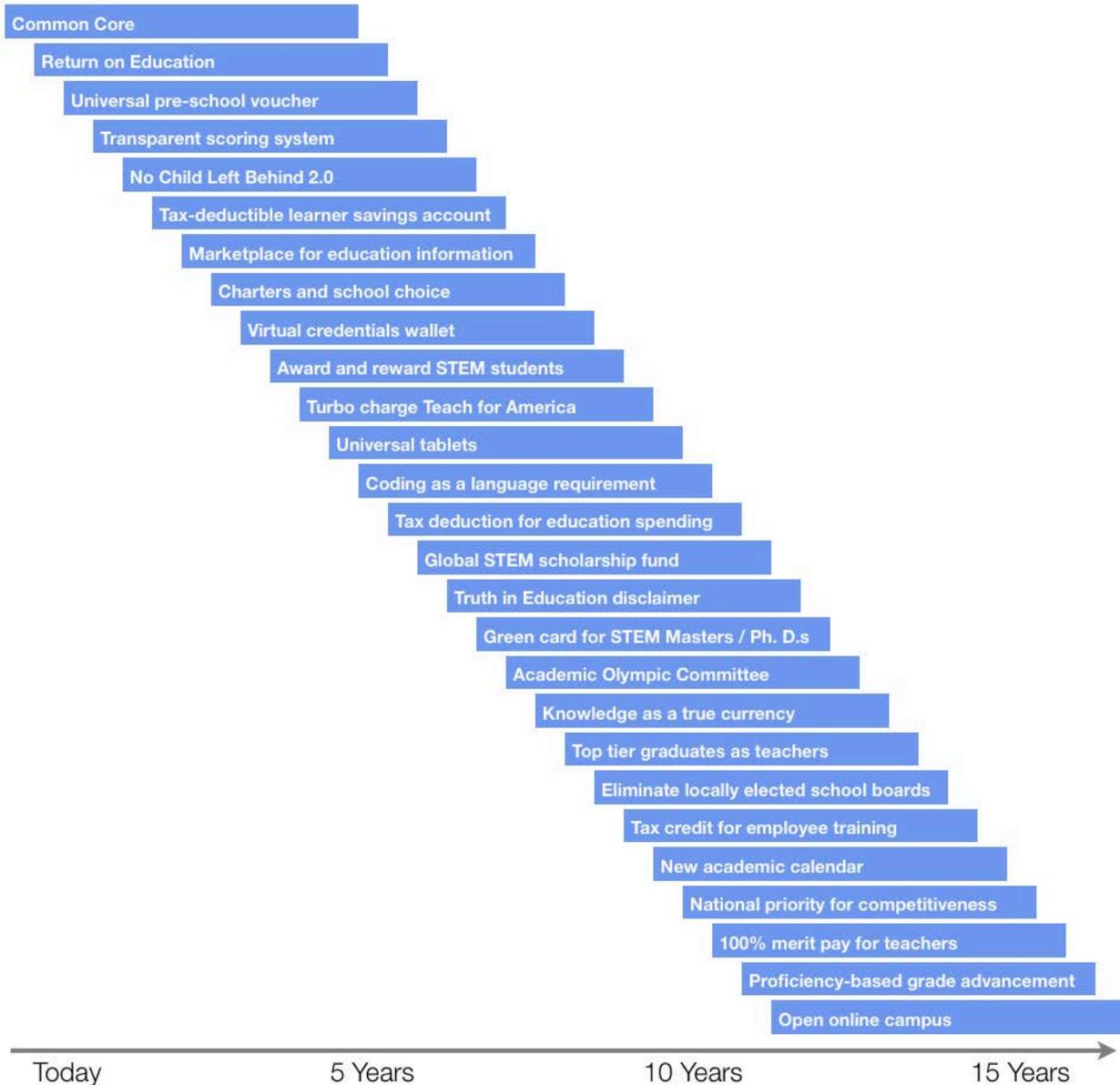
\$10 billion, or almost double the estimated cost of putting a tablet in the hands of every American grade school student.

- ★ We establish Computer Language as a core curriculum that will be required from kindergarten on up. Students will need to be “trilingual” by the time they graduate from high school—English, a foreign language, and computer language.
- ★ We offer a tax deduction for any dollars spent on out-of-pocket learning. We turn the focus from mortgages to education every April 15th.
- ★ We endow a scholarship program through which the top 0.1% of global STEM students can attend their choice of American higher education institutions, provided they live in the United States for 5 years post-graduation.
- ★ We institute a “Truth in Education” policy. Students and parents sign a document before they accept enrollment that they have read and understand the percentage of students that graduates, the number of years it takes to graduate, the percentage of graduates that find a job within 12 month, the average starting salary, and the average student loan amount.
- ★ We adopt a policy stating that any foreign master’s or Ph.D. graduate from an accredited STEM program receives permanent residence status.
- ★ We create a national priority—led by the President and supported by public service announcements—that treats our international academic results like we do the Olympics. We create an “Academic Olympic Committee” to help drive our competitiveness. When the U.S. Ski Team did poorly in Italy, heads rolled, and performance in Vancouver four years later was dramatically improved.
- ★ We establish open standards that create measurement and credit for what a person learns and knows. Knowledge—as opposed to degrees—starts to become the currency for opportunity, but will take time for all “merchants” to accept.
- ★ We create a national objective that teachers need to be in the top 1/3 of their undergraduate class. In addition, we significantly increase merit pay for the best

teachers. Teaching should be a sought-after position by the best and brightest, and nobody should have to economically rationalize their career as a teacher.

- ★ We eliminate locally elected school boards, recognizing that the process by which they are elected doesn't correspond with either strategic planning or longer term results.
- ★ We give businesses tax credits for investing in employee training and development. We create a national index for measuring how well corporations invest in employee education—it is a shining point of pride to be known as the leading “education company” in America.
- ★ We tear up the old academic calendar both in K-12 and higher education. Summer breaks will be supplanted with “ski weeks,” while quarters and semesters are replaced by unit modules.
- ★ Longer term, we adopt a completely transparent merit system for teachers. Compensation will be 100% aligned with teacher effectiveness, performance of students, and market demand. In other words, a great math teacher won't get paid the same as mediocre physical education teacher just because they've taught the same number of years.
- ★ We replace “seat time” as the metric for advancing to the next grade with “proficiency.” The teacher acts more as an individualized coach than a lecturer. Adaptive technology will facilitate individualized instruction, moving as quickly or as slowly as the student requires.
- ★ We adopt the “disaggregated” degree where a college student might have one “home campus” but be able to take courses online from anywhere they choose. The real value will be on optimizing the knowledge a student obtains but this truly “open campus” will also award degrees.

Strategic Battle Plan



“Risk more than others think safe. Dream more than they think practical. Expect more than they think possible. Care more than they think wise.”

- Howard Schultz

Today, we stand on a precipice and must decide to jump or cower and hope our challenges are magically solved. We could allow chaos and class warfare to dismantle the institutions that hold our society together. Conversely, we can choose a positive direction. We can provide a path for participation, reinventing, revitalizing, and revolutionizing education. To do this, we need to make the U.S. a learning society influenced by a KaizenEDU mindset.

We call this American Revolution 2.0 for a reason: we must create a revolution led by education innovation. It will involve overthrowing the current powers that control education and students' destiny.

We cannot continue to try to “improve” our existing education system. We need to develop a new system that harnesses technology to improve the education of each student. This is how we arm students, both young and old, with the weapons they need to succeed and participate in the war that we call the future. Making radical changes and creating a new system is the only way to move forward. Reform only tries to improve a broken model. We need to radically think and innovate. We need not evolution but revolution in education.

As Abraham Lincoln communicated to Congress in 1862 about the urgency of facing up to the challenges of the Civil War and its critical importance, the same can be said about education today:

The dogmas of the quiet past are inadequate to the stormy present. The occasion is piled high with difficulty, and we must rise with the occasion. As our case is new, so we must think anew, and act anew. We must disenthrall ourselves, and then we shall save our country.

The Declaration of Independence

July 4, 2012

The unanimous Declaration of Students and Education Innovators of the United States of America

When in the course of human events, it becomes necessary for one group of people to change the status quo, and to assume the powers of the earth, and create an innovative approach for the education of our people, a decent respect for the opinions of society requires that they should declare the causes which impel them to advocate for this change.

We hold these truths to be self-evident, that all students can achieve their potential, that they are endowed with certain unalienable rights, that among these are access to information and technology, great teachers, cost-efficient learning, and the lifelong pursuit of knowledge.

That to secure these rights, Education Systems are created among students, deriving their just powers to educate from the consent of the learner – that whenever any Form of Institution becomes unproductive to these ends, it is the right of the students and innovators to alter it, and to institute new learning methods, laying its foundation on such principles and organizing its capabilities in such form, as to them shall seem most likely to positively effect their knowledge and skills.

Prudence, indeed, will dictate that Education Systems long established should not be changed for light and transient causes, and accordingly all experience has shown, that students are more disposed to suffer, while incompetences are sufferable, than to right themselves by abolishing the Systems to which they are accustomed.

But when a long train of ineffectiveness and neglect exists, pursuing invariably the same objective of reducing America's competitiveness in the future, it is their right, it is their duty, to throw off such Systems and to provide new solutions for their future prosperity.

Such has been the patient sufferance of these innovators; and such is now the necessity which compels them to alter their former Education System. The history of the present System is a history of repeated failures, all having direct effect on dimming the long-term prosperity of this nation...

...in every stage of these failures, we have petitioned for reform in the most humble terms: our repeated petitions have been answered only by repeated neglect. A System whose characteristics are thus marked by every example which may be defined a failure, is unfit to be the platform of the knowledge citizens of the future.

We, therefore, the Representatives of Education Innovators of the United States of America, solemnly publish and declare, that our students ought to have the chance to succeed, that they have access to the best learning technologies, and that as free and independent learners, have the full power to choose their path to success in life.

And for the support of this Declaration, we mutually pledge to each other our Lives, our Fortunes and our sacred Honor.

Michael T. Yoe

Deborah H. Quazzo

Matthew Li Jiang