



Building relationships
Engineering success



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Suffern, NY 10901





Who We Are

PKA Technologies is a certified women-owned enterprise with over 20 years experience in supplying IT solutions to Fortune 500, small – mid size businesses as well as government agencies and educational institutions.



As an HP certified Public Sector Specialist, PKA represents various procurement contracts including:

PKA is a proud member of
· Intel Solution Provider Advisory Council
· HPE's Public Sector Council



PKA has forged strong alliances with leading vendors that allow us to leverage unsurpassed product knowledge and service to solve your infrastructure and complex challenges from the "desktop" to the data center.



Today's Presenter



Elliott Levine
Chief Academic Officer
HP Americas

Mr. Levine is a former K-12 school administrator and adjunct professor of communication. Elliott holds undergraduate and graduate degrees from Hofstra University in New York. He has won over 60 state and national awards in school public relations, is a past columnist for *Electronic School*, *School Administrator* and *American School Boards Journal*, and has been interviewed for many leading educational publications over his career. Elliott sits on the community advisory board of WNET in New York, the largest PBS station in the U.S. Recently, Elliott helped develop models for personal learning, in which testing increased successful completion of algebra from 33% to 71% versus traditional classroom instruction.

Slide 3

DS1

David Singer, 4/29/2016



Meeting the Tech-spectations of today's students

Elliott Levine, Chief Academic Officer

@elliottatHP

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Financial Impacts Facing Public/Private Universities

Moody's report reveals 1 in 10 colleges are in "acute financial distress"

- Growth in tuition revenue remains stifled by affordability concerns, legislative ceilings on tuition levels, and steep competition for students
- State financing of higher education will increase, on average, just 3 to 4 percent—not enough to meet the growth in expenses
- Already stiff competition for sponsored-research dollars is getting stiffer, with success rates for proposals dropping from 19 percent in 2008 to below 15 percent last year
- Public colleges will begin to feel the impact of underfunded pensions and health benefits for retirees
- Most public colleges and many private ones will be unable to achieve a 3-percent annual growth rate in operating revenue, Moody's benchmark for sustainable financing at a time of low inflation



Colleges facing the “perfect storm”

The image shows a screenshot of a news website. On the right, there is a header for 'THE WALL STREET JOURNAL' with the date 'Wednesday, January 9, 2013, 7:20 p.m. ET'. Below this is the article title 'Colleges Lose Pricing Power' by Michael Corkery. The article text discusses the 'perfect storm' of economic and demographic forces affecting colleges. On the left, there is a header for 'The New York Times' with the date 'Wednesday, January 9, 2013, 7:20 p.m. ET'. Below this is the article title 'Public Universities to Offer Free Online Classes for Credit' by Tamar Lewin. The article text discusses public universities offering introductory online courses free of charge. There are also related articles and a small image of students at the University of Washington.

ASU offering \$200/credit AFTER you pass the class

More modest tuition increases

Colleges giving out more scholarship dollars

Net tuition revenue falling

K-12 budget cuts of 2009-2010 now trickling up to Higher Education

How will your institution address these issues?

Avoiding Technology for Technology's Sake

Lecture Capture

eCAMPUS NEWS

Technology News for Today's Higher-Education Leader

Online learning official: Lecture capture helps students 'review, review, review'
UMass Lowell leader eases faculty concerns over video lectures as program proves popular among students

eCAMPUS NEWS

Technology News for Today's Higher-Education Leader

Students: Video lectures allow for more napping
Attitudes toward lecture-capture technology in a recent poll confirm what supporters say is its biggest benefit ... and also what faculty say is their biggest fear

MOOCs

Online Colleges

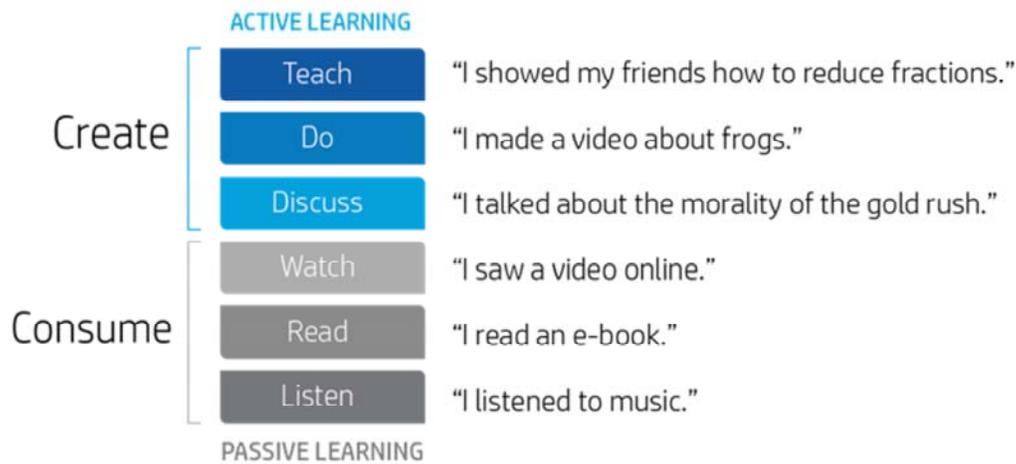
New Study: Completion Rates for MOOCs Under 7 Percent

The lowest completion rate among the MOOCs Jordan researched was another Coursera offering, "A History of the World Since 1300," through Princeton University. Of the whopping 63,000 students who reportedly enrolled, a mere 0.8% reached the finish line.

Takes Too Much Time	Lecture Fatigue	Bad Peer Review & Trolls
Assumes Too Much Knowledge	Students Shopping Around	Surprised by Hidden Costs
Too Basic	Clunky Tools	Poor Course Design

Passive versus active learning

The device makes a difference



Adapted from Dale's Cone of Experience
Dale, E. (1969) Audiovisual methods in teaching, third edition.
New York: The Dryden Press; Holt, Rinehart and Winston.



Education technology is not “one size fits all.” Students of different ages and abilities require a variety of devices. In fact, tablets alone are primarily for content consumption, not the development of critical skills. This is a very important consideration when deciding on the right hardware platform for learning.

Create: These activities require the creation content and deep collaboration (beyond instant messaging). They are **active** and truly engage students to reach beyond memorization.

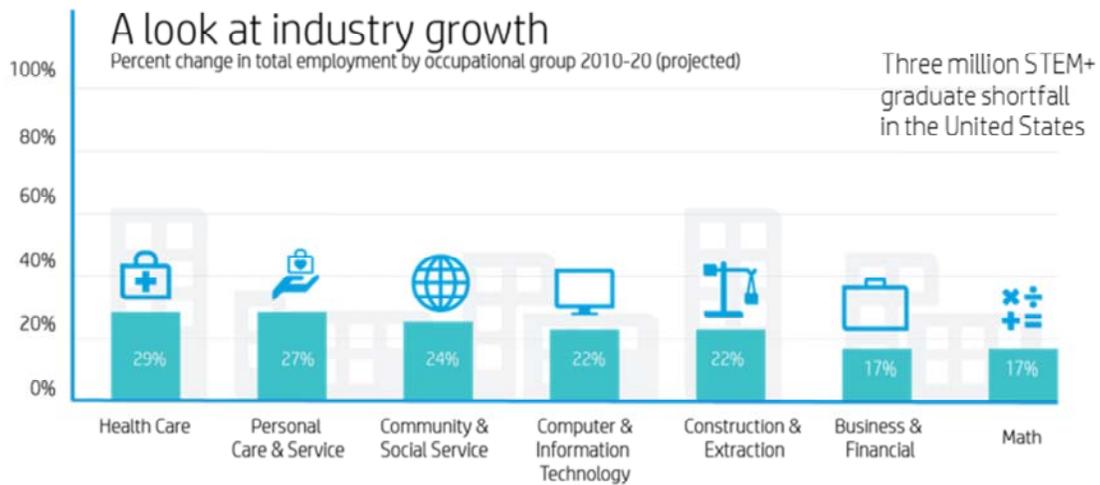
Consume: These activities are **passive**. Students watch, read, or listen to what is being presented.

For more information:

<http://www.educ.ualberta.ca/staff/olenka.Bilash/best%20of%20bilash/dalescone.html>

<http://www.youtube.com/watch?v=dwxmPrBdlcQ>

STEM+ is spurring job growth with huge gaps in graduates



Source: BLS.gov

Jobs with highest growth rates require STEM+ skills



Almost all the job growth expected this decade will come from STEM+ related industries. Technology is becoming **more** important, not **less** important. And we expect that by 2020 there will be a three million student gap graduating with the needed skills and degrees to meet this job growth!

We have some serious gaps in the United States ...



Gender (female)

The U.S. Has One of the Worst Science Gender Gaps in the Developed World

By Amanda Hess



142

Source: Slate.com, February 2013

Generational poverty

Report: STEM Reforms in Needy Schools Eroded Quickly

By Steve Delaney on December 21, 2011 2:23PM

A disappointing new report suggests that efforts to create STEM programs for low-income and minority students in Buffalo and three Denver-area school districts failed to live up to their ambition and promise.



Schools that planned to expand access to strong math, science, engineering, and technology courses wound up reducing offerings and cutting entire programs within three years. That's despite financial investments and enthusiasm from school district leaders and the community.

Performance

U.S. students lag behind international peers

In tests of reading, math and science, U.S. 15-year-olds were outperformed by many of their counterparts in Asia and Europe — in some cases placing below the international average.

READING		MATH		SCIENCE	
	avg. 486		avg. 484		avg. 484
1 Shanghai (China)	575	1 Shanghai (China)	573	1 Shanghai (China)	563
2 Hong Kong (China)	545	2 Singapore	572	2 Hong Kong (China)	559
3 Singapore	542	3 Hong Kong (China)	561	3 Singapore	551
4 Japan	534	4 Taiwan	560	4 Japan	547
5 N. Korea	524	5 N. Korea	554	5 Mexico	546
6 Finland	524	6 South Korea	530	6 Estonia	541
7 Iceland	523	7 Japan	528	7 S. Korea	538
8 Taiwan	520	8 Luxembourg	528	8 Sweden	528
9 Canada	520	9 Switzerland	521	9 Poland	524
10 Poland	519	10 Netherlands	520	10 Canada	520
24 U.S.	498	26 U.S.	487	28 U.S.	477

NOTE: Scores were on a 1,000-point scale.

SOURCE: Organization for Economic Cooperation and Development



First, the United States has one of the largest science gender gaps in the world, meaning our female students are far less likely to choose STEM+ subjects and careers. We think this is a huge problem. We need different perspectives, and this gap could lead us down a chasm if we don't start engaging our girls about how exciting science, engineering, and math can be.

Second, our neediest students, ones living in poverty are also missing the STEM+ train. Many of these students do not have the support system at home to help them understand how huge the opportunities are, and we need extra support to help them.

Finally, we are performing behind most of the developed countries in how our students perform, and it is mostly because of the gaps in gender and children living in poverty.

We need some targeted options in STEM to show these students the opportunities they are missing out on.

**Engaged Students
Are...**

Attentive
Showing interest
Curious
Displaying optimism
Likely to lose interest

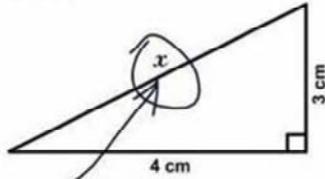
**Invested Students
Are...**

Devoting effort
Involved emotionally
& intellectually
Supportive of a
worthy cause
Expecting results



They are sure "creative" test takers...

3. Find x.



Here it is

Ocular Trauma - by Wade Clarke ©2005

He walked three miles to the woman's house and returned the money.
 Imagine that you lived at the same time as Abraham Lincoln. What would you say to him or ask him?
 I'd tell him not to go to a play ever.

Cause: Tony practices the piano 20 minutes every day.

 Effect: he is a Big hard

Miranda can't see anything when she looks down her microscope.
 Suggest one reason why not
 She is blind x Nice try!

Name six animals which live specifically in the Arctic.
 Two polar bears
~~Three~~ Four Seals

Why are there rings on Saturn?
 Because God liked it, so he put a ring on it. Saturn was NOT a single lady



What skills will they need?



Different styles of learning

Blended, virtual, and augmented realities

Merging, meshing, and mixing the physical with the digital



Innovative HP “Blended Reality” solutions have the potential to increase students’ interest in STEM+. Let’s look at these a little deeper: Link Reader and Link Creation zStudio, zSpace, Sprout, and Multi-Jet Fusion 3D Printer.



Cameras

- Webcam and downward-facing cameras
- Captures objects and documents
- Captures portfolios and works in progress
- Great for project-based learning, demonstrations



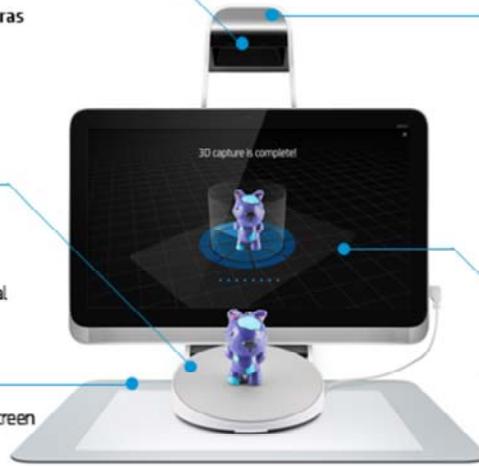
3D scanner

- Captures 3D objects to modify, copy, 3D-print, or use in creative projects
- Great for scientific research, measurement, connecting the physical world to digital tools



Touchmat

- 20-point touch mat and projection screen
- Collaboration, intuitive interaction, creative drawing, sketching
- Group work, accessible for younger ages



Projector

- Creates a touchable second screen on the touch mat
- Projects onto materials
- Allows users to touch and manipulate captured objects
- Connects computer work to physical materials for tactile learning opportunities



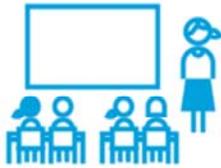
Powerful Windows computer

- Runs all your favorite Windows applications
- Brings in content captured with Sprout
- Teaches real-world computer skills
- Connects creative Sprout content to apps like Adobe® Creative Suite™, PowerPoint®, etc

Sprout capabilities and modern learning

Higher Ed with Sprout Pro

Reimagine Teaching & Learning



Faculty Station

- Live presentations from display, mat, and cameras
- Document capture
- Recording tutorials
- Remote collaboration
- Standalone computer



Student Computer

- Primary computer used by students
- Individual or shared computer
- Media rich capture and manipulation
- Standalone computer



STEM Class or Makerspace

- 3D scanning and printing
- Remote collaboration with HP MyRoom to share and get feedback on projects with mentors and experts
- Size Up for instant measurement of any object you place on the mat
- Standalone computer



Arts Class or Workshop

- Scanning craft materials for collage
- Tracing onto craft materials like cloth, wood
- Modeling in clay, scanning to 3D model
- Standalone computer



Library

- Capture student work
- Capture library resources for study reference
- Collaborative research
- Explore 3D resources from the Smithsonian
- Create media to document knowledge
- Standalone computer



HP Zvr Interactive Virtual Reality Display

Interactive 3D Display use cases

Enhancements in efficiency of production, clarity and realism



Education and Training

Instruct and train students in the latest techniques and innovative tools



Design and Creation

Architectural space design, CAD/CAM, engineering and concept prototyping



Geophysical Exploration

Enables better coordination between architects, engineers, and contractors



Technical white paper

HP Multi Jet Fusion™ technology



A disruptive 3D printing technology for a new era of manufacturing

The three-dimensional printing of objects and highly functional parts is becoming a reality. 3D printing offers the ability to produce—both rapidly and inexpensively—short runs or one-of-a-kind parts. In addition, 3D printing will revolutionize part manufacturing and the part distribution supply chain by offering local, on-demand production.



Conceptual industrial design for HP's first Multi Jet Fusion™ printer



"[HP] is going to rewrite the rules of 3D printing. I can envision companies purchasing expensive equipment and then putting it in moth balls when the new HP equipment becomes available.

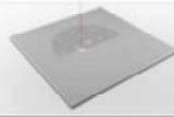
" — Terry Wohlers, President, Wohlers Associates

hp PRINT TIME FOR 1000 GEARS



Material Extrusion

83
HOURS



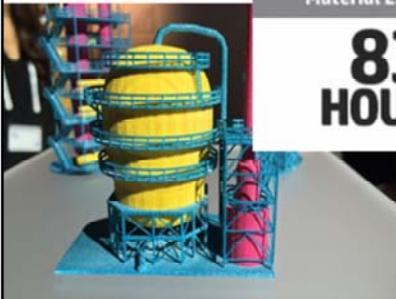
Laser Sintering

38
HOURS



HP Multi Jet Fusion

3
HOURS

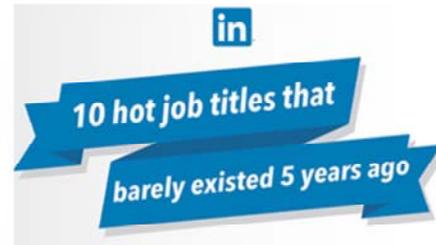


Job Titles That Barely Existed in 2008

30-3,000%+ growth with technology topping the list

Job Role	Percent Growth
Android Developer	199x
iOS Developer	142x
UI/UX Designer	22x
Big Data Architect	3,440x
Cloud Services Specialist	17x
Beachbody Coach	3,360x

Source: [LinkedIn](#)



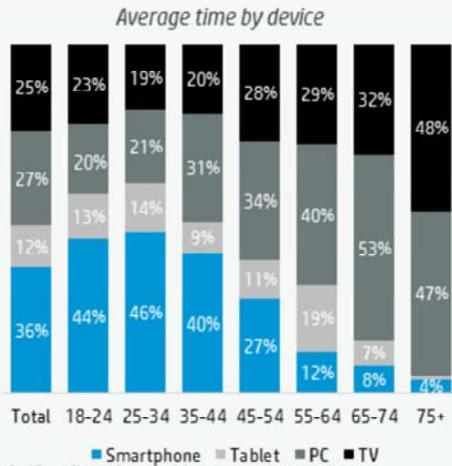
18 million software developers worldwide now.

Price Waterhouse reports that 40% - over 7m, do it just for fun. Source: <http://digital.pwc.com/full-speed-forward/>

Gen Y and mobile professionals already define their phone as the center of their tech universe²⁶

Under 35's already reach for their phones first and most often

And see their phones as their go-to device



My go-to device(s)



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*For internal use only



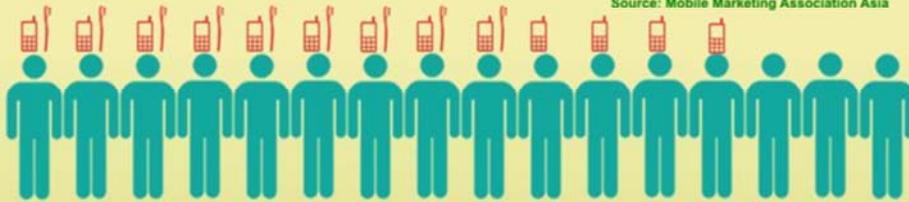
25. eMarketer 9/14 (2008-2010), eMarketer 4/15 (2011-2015) Note: Other connected devices include OTT and game consoles. Mobile includes smartphone and tablet. Usage includes both home and work. Ages 18+, time spent with each medium includes time spent with that medium, regardless of multi tasking.)

26. Source: BGR Usage Study, 2014; HP usage survey, UK and US, 2015; IDC ConsumerScape360 analysis, 2015;

MOBILE FACTS

There are 6.8 billion people on the planet. 5.1 billion of them own a cell phone, but only 4.2 billion own a toothbrush.

Source: Mobile Marketing Association Asia



91% of people keep their phone within 3 feet of themselves, 24 hours a day, 365 days per year.

Source: Morgan Stanley



70% of all mobile searches result in action within 1 hour.

Source: Mobile Marketer



Source: <https://s-media-cache-ak0.pinimg.com/736x/c0/f4/6d/c0f46d128de77a1d17ff379af4d37b83.jpg>

The one device that's every device

**The power of
a PC in the
palm of your
hands**



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The one device that's every device

Work in ways you've never been able to before. For the first time, HP Falcon puts the power of a PC in the palm of your hand, thanks to a revolutionary high-performance processor, Windows 10 Pro, and access to your corporate apps with HP Workspace

Note: For messaging
For most countries:

The one device that's every device

For countries where statements that could be considered as comparative are not allowed:

One device that's every device

THE ONE DEVICE THAT'S EVERY DEVICE

All the devices you currently use



Desktop
for "BIG windows"
productivity



Notebook
for processing data
on the go



Tablet
for accessing data



Smartphone
for communication
and accessing data



A seamless experience with one device as the center point

HP Elite x3



**HP Elite x3
Dock**
Desk Top
experience



**HP Elite x3
Lap Dock**
Notebook
experience



**Access your
corporate apps
on the go**

HP Workspace lets
you run your most
frequently-used
Windows and
corporate
applications
virtually.³

25

*Based on HP's internal analysis as of January 14, 2016 of mobile devices pre-installed with Windows 10 Mobile, designed to pass MIL-STD-810G and IP67 testing, the ability to run virtualized corporate apps on a big screen, and a biometric solution for security.
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All of the devices you currently use

- What are the devices you currently use? Do you have a desktop, notebook, tablet, or phone?
- Do you use a desktop? Do you use it for the majority of your work? What applications do you run on it, applications like Microsoft Office, or Payroll applications?
- Do you have a notebook? How much do you use it? What applications do you use, maybe applications like social media or web browsing?
- Do you regularly use a tablet? What type of applications do you run on it?
- Do you use your phone for anything besides taking calls? Do you use it for social media or browsing the web? Do you utilize applications that are work oriented?

Have you thought of one device to replace all of the devices you currently use?

- When paired with a HP Elite x3 Dock you get a desktop experience with a keyboard, mouse, and large monitor. When paired with the HP Elite x3 Lap Dock (Mobile Client) you will get a notebook experience.
- With HP Workspace you can f

HP Workspace

Slide 25

DS1 Check: Suhail, are most used Windows apps part of HP Workspace scope still? If Download.com is out of scope?

David Singer, 1/29/2016

\$35

Ink costs when a student prints a color copy of a stolen textbook online

\$500k

Credit monitoring services paid when a staff member loses a roster with 21,000 names

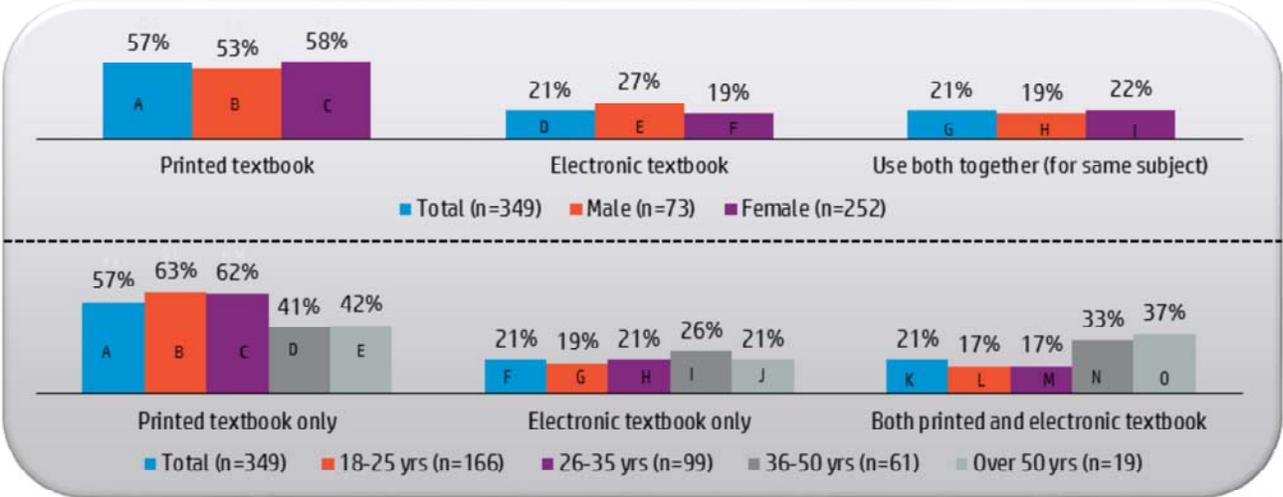
Priceless

Damage to your reputation when a cheating scandal is uncovered

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Students still prefer print over digital textbooks



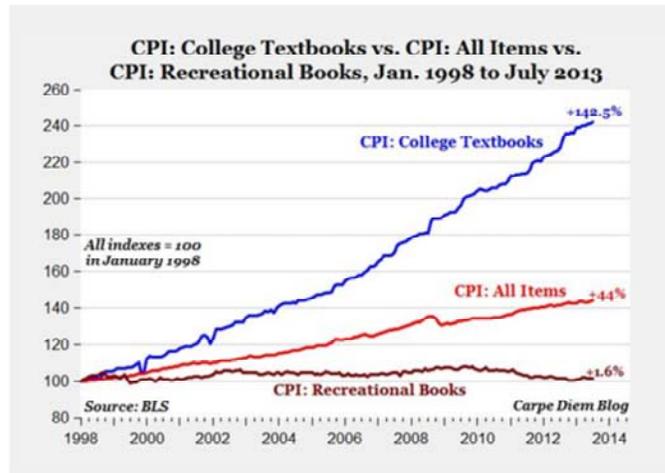
Base: Those who use both printed & electronic textbooks- 349



Q2. Do you prefer to use a printed textbook or electronic textbook?

Fastest cost burden impacting Higher Education

One item has increased 812% in cost since 1978



Students are resorting to Black market sites to get their books for free, at your expense.

Security on paper?

Security protocols are gone once sensitive data printed on paper....

Roster Of Students' Personal Data Missing

December 06, 2006 | By Olivia Winslow/Newsday

Nassau Community College officials suspect that the information of 21,000 students has been stolen.

Nassau Community College on Long Island, N.Y., has called in the police to investigate the suspected theft of a computer printout with the personal information -- names, addresses, Social Security numbers and phone numbers -- of the entire student body of more than 21,000 students.

The college is offering to enroll students in a credit-monitoring service and pay for its cost for a year, which could run the college \$500,000.

College spokesman Reginald Tuggle said the college's Board of Trustees was scheduled to meet Tuesday night to work out the details of the credit-monitoring service.

Tuggle said the list -- a bound computer print-out of all registered students -- was lost Nov. 28 when an administrative assistant in the college's Student Activities Office was working from it. He said the woman walked away from her desk for about 10 minutes. When she returned, the list was gone, and a search failed to locate it.

Tuggle said it was too soon to say whether any disciplinary action would be taken.



The Modern Day Test Thief



Quora

How can I hack my school server and steal all the exam papers?

27 ANSWERS



Blaise M Crowly, Hacker | Entrepreneur | Runner... (more)
13k upvotes by Quora User, Sumit Bhanushali, Anoop Ninan George, (more)

BUSINESS INSIDER

The 10 Biggest College Cheating Scandals
134 seniors at the Naval Academy were involved in a cheating ring in 1994.

One student obtained an early copy of an electrical engineering exam at the Naval Academy and sold it to around 134 students for \$50 a copy, according to *The Wall Street Journal*.

Students supposedly either memorized the answers before the exam or quietly snuck in with the answers during the exam, the WSJ reported. After an investigation, 24 midshipmen were expelled, including several



The New York Times

N.Y. / Region

Student Accused of Stealing a Copy of a Test

Published: June 18, 1995

MINEOLA, L.I., June 15— A Nassau Community College student who was apparently in a hurry to get started on an exam has been charged with breaking into a professor's office on Wednesday and stealing a copy of the test, authorities said today.

"The irony is that it was a take-home exam," Prof. Veronica Wilde said. "I was going to distribute it today in class and everyone would have had until Monday to complete it."

The student, Omid Ainehsazan, 21, of Great Neck, was discovered going through papers in the psychology department in South Hall late Wednesday afternoon by Prof. School Cohen.



How exposed are your everyday printers?

Andrew Auernheimer, better known by the alias "**weev**," told *The Washington Times* he was behind the breach, using a freely available tool to scour "basically ... the whole English-speaking Internet" for vulnerable devices

Within minutes identified 29,000 printers connected to the Internet and could be exploited through an open port

The fliers were reported at Princeton University, Northeastern University, UMass Amherst, Univ of Maryland, Smith College, Mt. Holyoke, UC Berkley, UCLA and DePaul.

Source: *The Washington Times* - Friday, March 25, 2016



Printers at 12 Colleges Spew Hate Fliers in Suspected Hack

NEWS
MAR 25 2016, 4:06 PM ET

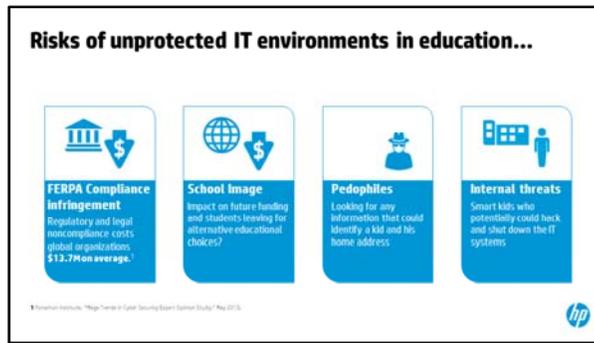
"University police are investigating how someone got access to their printer network."

CBS News Baltimore

Hacker Sends Hate-Filled Flyers To UMd. Printers

March 30, 2016 10:12 PM By Meghan McCormick





FERPA:protects the privacy of student education records.
Family Educational Rights and Privacy Act (FERPA)

Slide Purpose: State of IT Security & the risk of unprotected environments

Audience: Applicable to all audiences, but stats are mostly from Enterprise companies

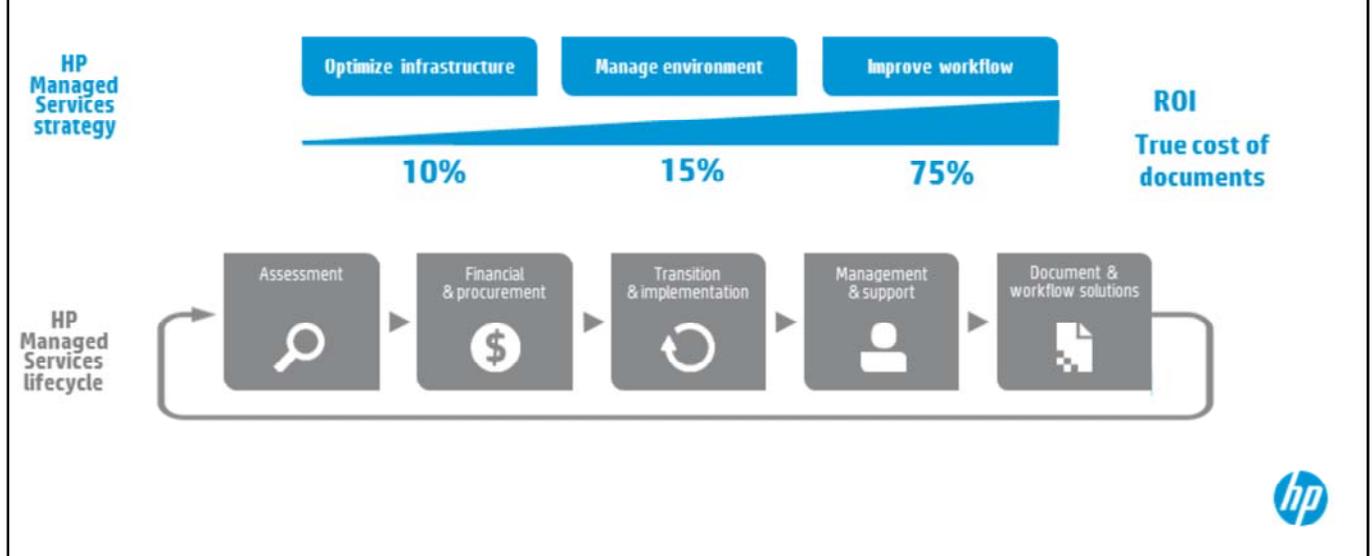
Speaker's Notes:

Businesses are face many risks when it comes to their IT environment:

- Compliance infringement is on the rise due to ever increasing regulatory & industry requirements
- Financial loss due to a data breach can be high, in the US the average cost was \$5.4M (which includes regulatory fines, reputation damage, cost of closing the security gap)
- Continuous growth & sophistication of cybercrime
- As well as, accidental threats that can face internally with employees or process failures

HP Managed Print Services

Reinvestment of savings into Education



Reduce total costs because you've started actively managing your fleet (10-30% savings) & **preserve capital** to invest in other IT priorities

Mitigate risks because with a managed environment, you can ensure full security across the network and all devices, ensure compliance

Support mobility in the office, at home and on the go

Contribute to environmental goals because HP helps you print more responsibly and to manage your assets over their lifetime (including secure disposition when devices are at end-of-life)

Streamline workflows by automating paper intensive business processes unique to your industry

Ensure global consistency while being locally relevant so you can better serve the needs of your customers or constituents

What is HP's MPS?

Based on leading-edge technologies, devices, network leadership and management software, HP's network infrastructure management and asset management capabilities are the foundation of our services offering. Included are robust network printer management tools and capabilities (e.g., HP Web Jetadmin, HP Universal Print Driver) to remotely and securely install, configure, maintain and monitor a fleet of imaging and printing devices.

Reduce risk and gain optimal utilization through asset management—which provides the knowledge and expertise to understand fleet demographics and to manage all the information about the fleet, so that invoicing, reporting, usage monitoring, move/add/change data and other management elements are timely, accurate and useful.

Assessment services provide a structured and fact-based approach to defining and analyzing your current imaging and printing infrastructure and workflows. There are a range of assessment services to help you understand your current costs, usage patterns, equipment and user needs, security and environmental considerations, and potential total cost of ownership (TCO) reductions: HP Industry Benchmark Assessment, HP Optimization Assessment, HP Managed Environment Assessment, HP Workflow Discovery, HP Discovery and Design, and HP Eco Printing Assessment.

Financial and procurement services help you manage to the lowest total cost of ownership—from planning and acquiring technology all the way to retiring and replacing it. Reduce and manage capital outlay, manage older equipment effectively and environmentally, and simplify hardware procurement (HP and multi-vendor).

Transition and implementation services help ensure that the right equipment is installed and end users know how to use the devices. Education and management of change is an important consideration. These services create ease of implementation and user acceptance.

Management and support services enable ongoing return on investment (ROI) through fleet uptime and optimization, award winning support, and supplies management. Account delivery management provides a single point of contact and accountability as well as visibility into usage trends, capacity utilization, and expenditures for ongoing planning and management.

Finally, document and workflow services help you automate paper-intensive workflows as well as to continually improve and better manage the underlying infrastructure.

