

Where Quality Assurance and Information Technology Meet

Diana G. Oblinger, Ph.D.
President and CEO, EDUCAUSE

E D U C A U S E

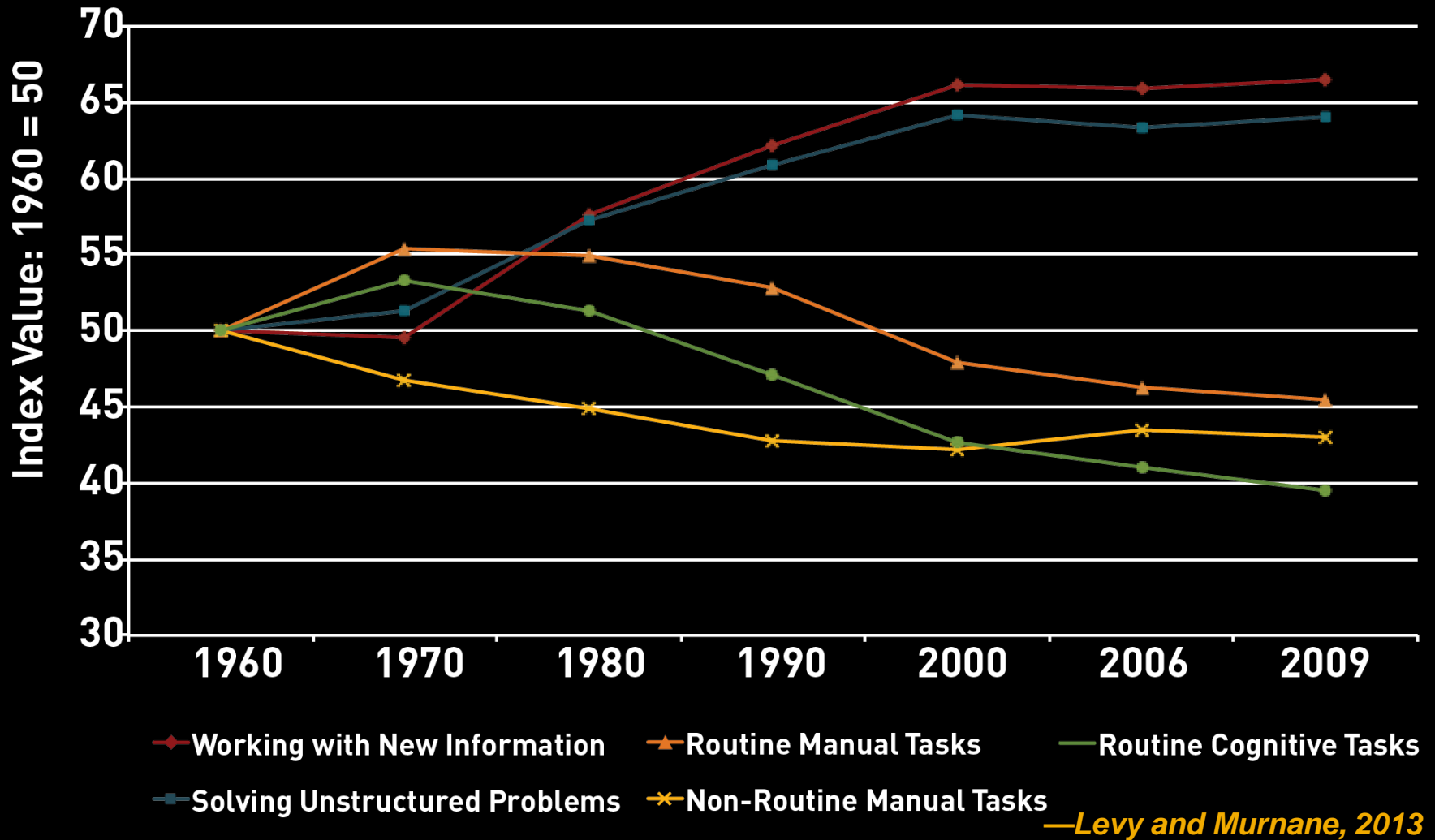
Context

A changing landscape

- 98% of students own a digital device; 38% cannot go more than 10 minutes without using one
- The compound annual growth rate for students taking at least one online course is 18.3%
- In 1990 less than 1% of all students attended for-profit colleges; today 31% do
- Over 50 non-profit universities partner with for-profit providers (e.g., Bisk, eCollege/Pearson, 2U, Altius) to deliver accredited online education
- From 2011–2020 it is projected the US will produce 29.8 million graduates; China will produce 83.0M and India 54.1M

Nature of work has changed

Index of Changing Work Tasks in the U.S. Economy 1960-2009



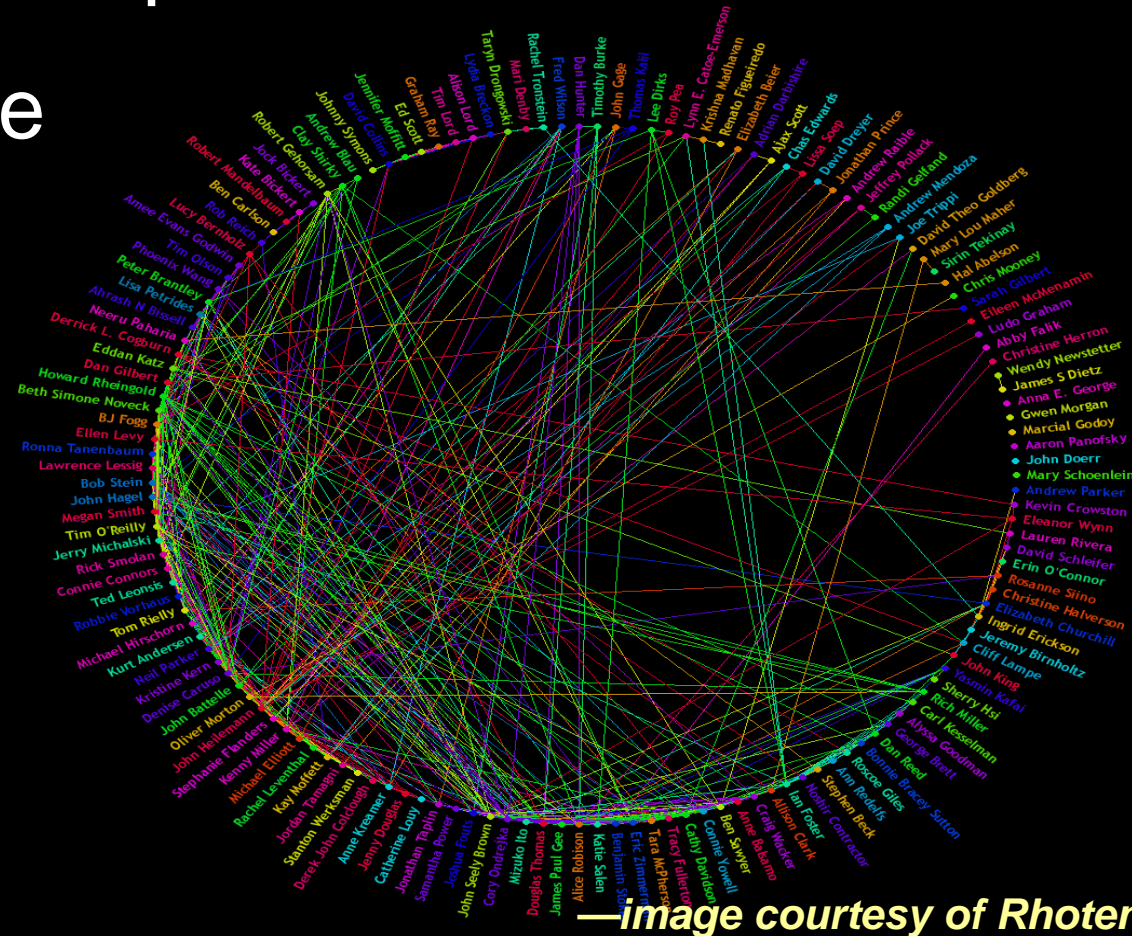
IT as...

- A delivery channel
- An experience
- An enabler of new models



The connected age

- Everything (and everyone) is interconnected
- Everyone can participate
- Pathways replace gatekeeping



E-Learning

Do-it-yourself learning



Web [Images](#) [Video](#) [News](#) [Maps](#) [more »](#)

Google Search

I'm Feeling Lucky

- Digitized and indexed books (28 million volumes)
- Data, archives, media
- Content, exercises
- Peer-to-peer support
- Communities

home about the archive exhibits & objects search engine bibliography nines

the complete writings and pictures of
Dante Gabriel Rossetti
a hypermedia archive

THE Rossetti Archive facilitates the scholarly study of **Dante Gabriel Rossetti**, the painter, designer, writer, and translator who was, according to both John Ruskin and Walter Pater, the most important and original artistic force in the second half of the nineteenth century in Great Britain. In Whistler's famous comment, "He was a king".

When completed in 2008, the Archive will provide students and scholars with access to all of DGR's pictorial and textual works and to a large contextual corpus of materials, most drawn from the period when DGR's work first appeared and established its reputation (approximately 1848-1920), but some stretching back to the 14th-century sources of his Italian translations. All documents are encoded for structured search and analysis. The Rossetti Archive aims to include high-quality digital images of every surviving documentary state of DGR's works: all the manuscripts, proofs, and original editions, as well as the drawings, paintings, and designs of various kinds, including his collaborative photographic and craft works.

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Back to Playlists
Saving Britain's Past
Saving Britain's Past, Mondays at 7.30pm. Starts 25th August, BBC2. What would you save? The Open University would like to encourage viewers to join them in mapping the nation's contemporary heritage. Why not participate by visiting [open2net/save...](#)
More Info

Yoseph Araya - My heritage...
Open2net - 105 views

Garry Slapper - My Heritage
Open2net - 75 views

The Open University

World class learning, anywhere.
Warning! Content may transform your...

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Professional development
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OU facts
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Check out the Open University on iTunes U

Samples from many of our courses are free to download from iTunes U and OpenLearn. They'll give you the flavour of our first class learning materials but they won't give you the full experience of working closely with your personal tutor and fellow students. You have to sign up for a full course to enjoy that.

To access the iTunes U samples you need to have downloaded and installed iTunes. Click on the following link if you need to download iTunes. For further information and free course content access **OpenLearn**.

New and Featured Content

Creative Writing
Advanced creative writing develops your writing ability by widening your generic range and developing your knowledge of style. You'll explore how some of these scriptwriting skills might enhance your prose style, improve your writing skills across the range of forms, and further develop your individual writing style and voice.

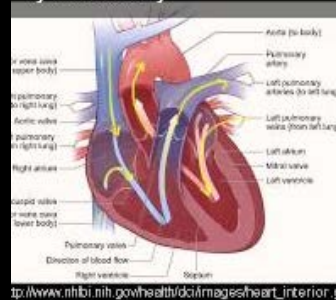
This material forms part of the course A363, Creative Writing

GET TRACKS

Self-directed learning

- “Learn almost anything for free”
- Khan Academy
 - 5 million unique users (in March 2012)
 - 3,000 videos
 - 150 million lessons delivered online
 - 400 million exercises completed
 - Analytics engine
- Translating into 12 languages

Heart Disease and Heart Attacks
by KhanAcademy

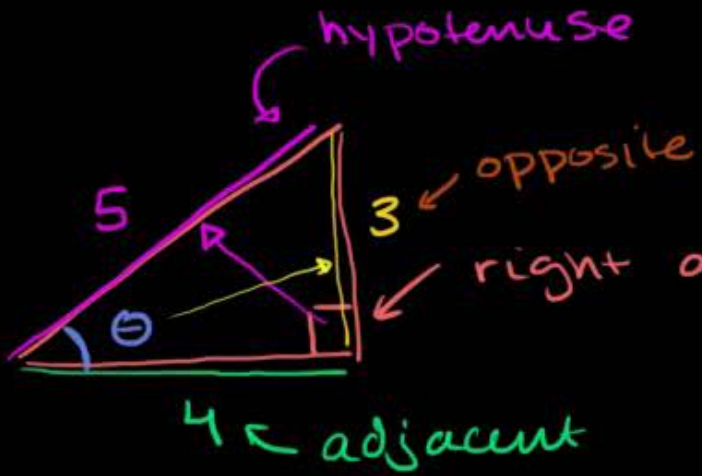


Atherosclerosis

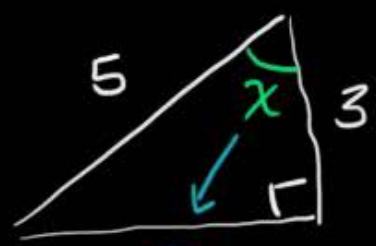


Coronary Artery Disease

Trigonometry



$$3^2 + 4^2 = 5^2$$



4 ← opposite

sin cos tan

Soh Cah Toa

$$\sin = \frac{\text{OPP}}{\text{HYP}}$$

$$\cos = \frac{\text{ADJ}}{\text{HYP}}$$

tan

$$\sin \theta = \frac{3}{5}$$

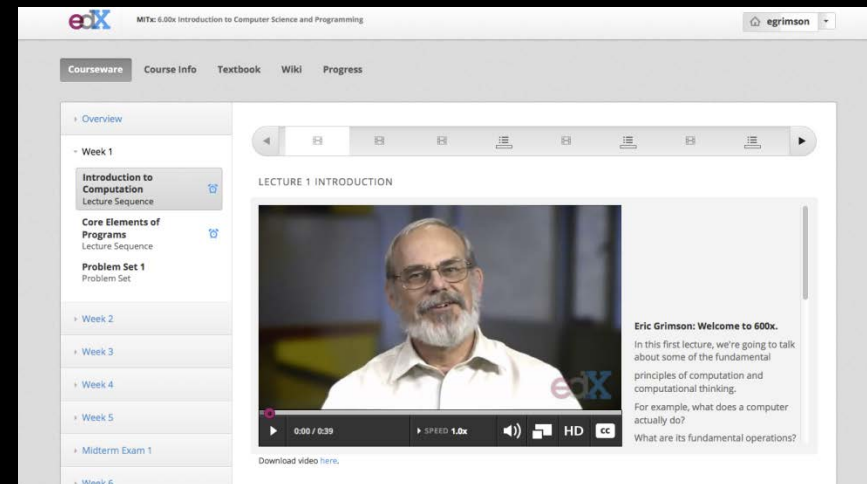
$$\cos \theta = \frac{4}{5}$$

tan

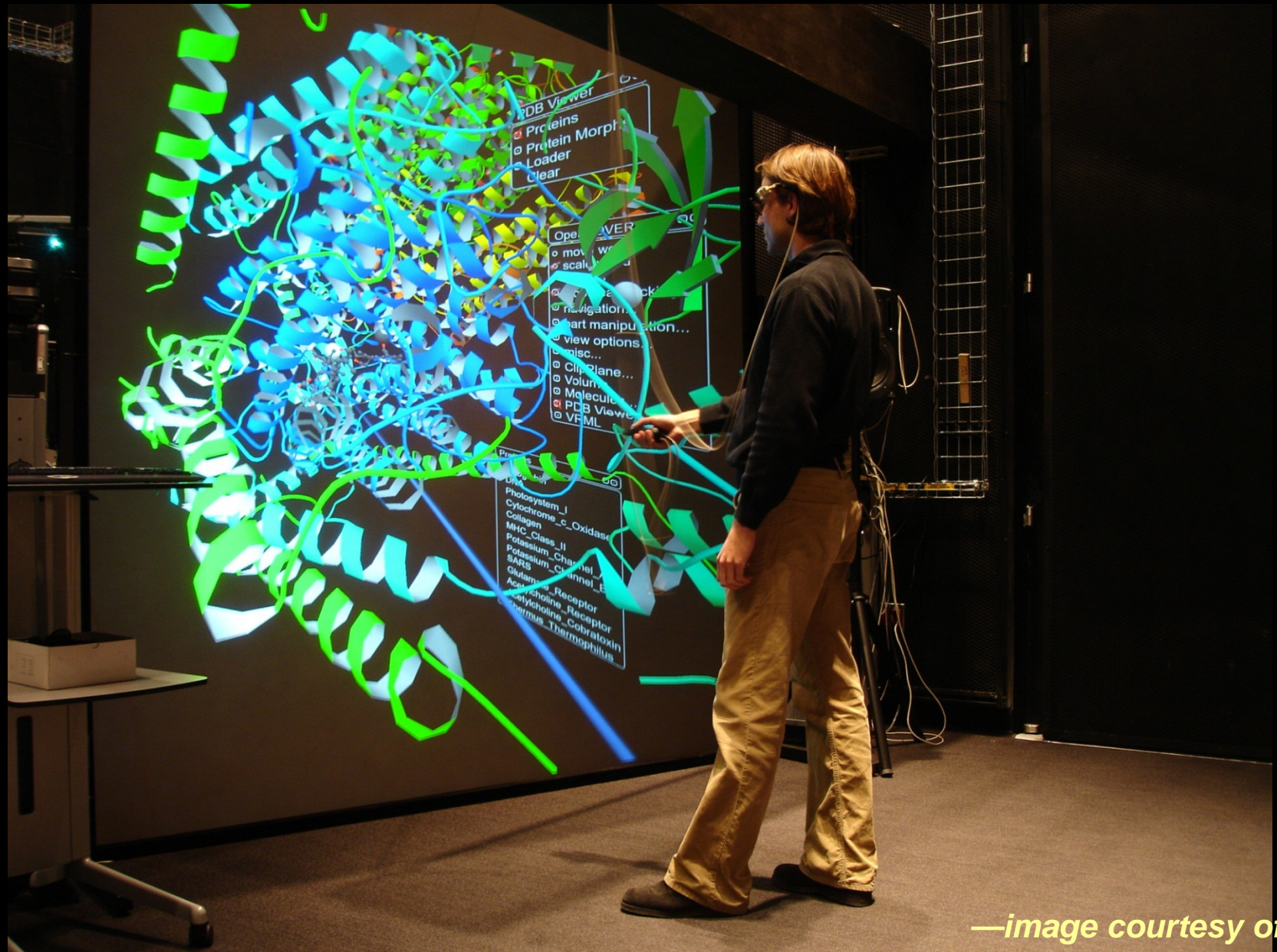
$$\sin x = \frac{4}{5}$$

Anytime, anywhere

- Students and tools are anytime, anywhere
 - Lectures online
 - Virtual, simulation based labs
 - Interactive assessment with instant feedback
 - Interact with tutors
 - Discussion forums
- Enables exploration



Immersive, collaborative



—image courtesy of NSF

Learn to do what you do

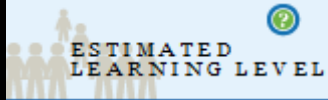
- Virtual client simulation
- Online students engage with artificial intelligence interactive agents
- Opportunity to practice interviewing skills
- Virtual clients speak, express body language, show emotion and offer immediate feedback



Feedback to instructor

Module 1

Examining Distributions



Learning Objectives



Summarize and describe the distribution of a categorical variable in context.

[> Show Details...]



Generate and interpret several different graphical displays of the distribution of a quantitative variable (histogram, stemplot, boxplot).

[> Show Details...]



Summarize and describe the distribution of a quantitative variable in context: a) describe the overall pattern, b) describe striking deviations from the pattern.

[> Show Details...]



Relate measures of center and spread to the shape of the distribution, and choose the appropriate measures in different contexts.

[> Hide Details...]

Estimated Learning by Student

50 students
1 dot <= 2 students



Class Accuracy by Sub-Objective

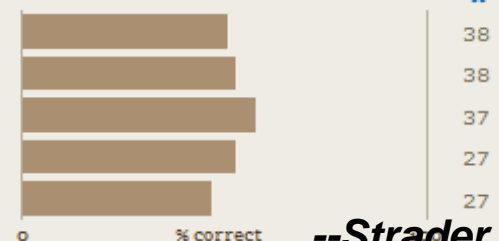
Predicting...

Mean vs median

Compute median

Identify outlier

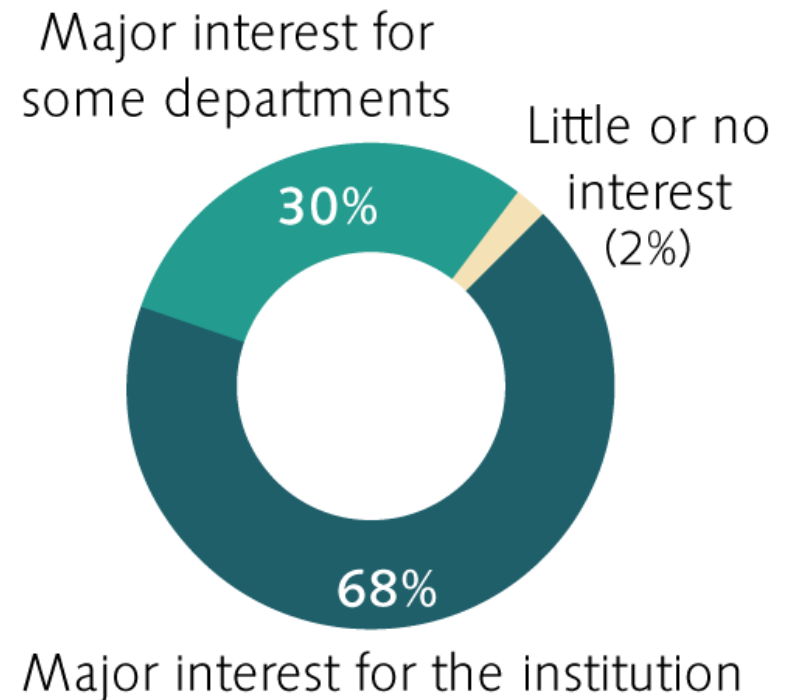
Select appropriate...



A Few Facts about e-Learning

Widespread interest in e-learning

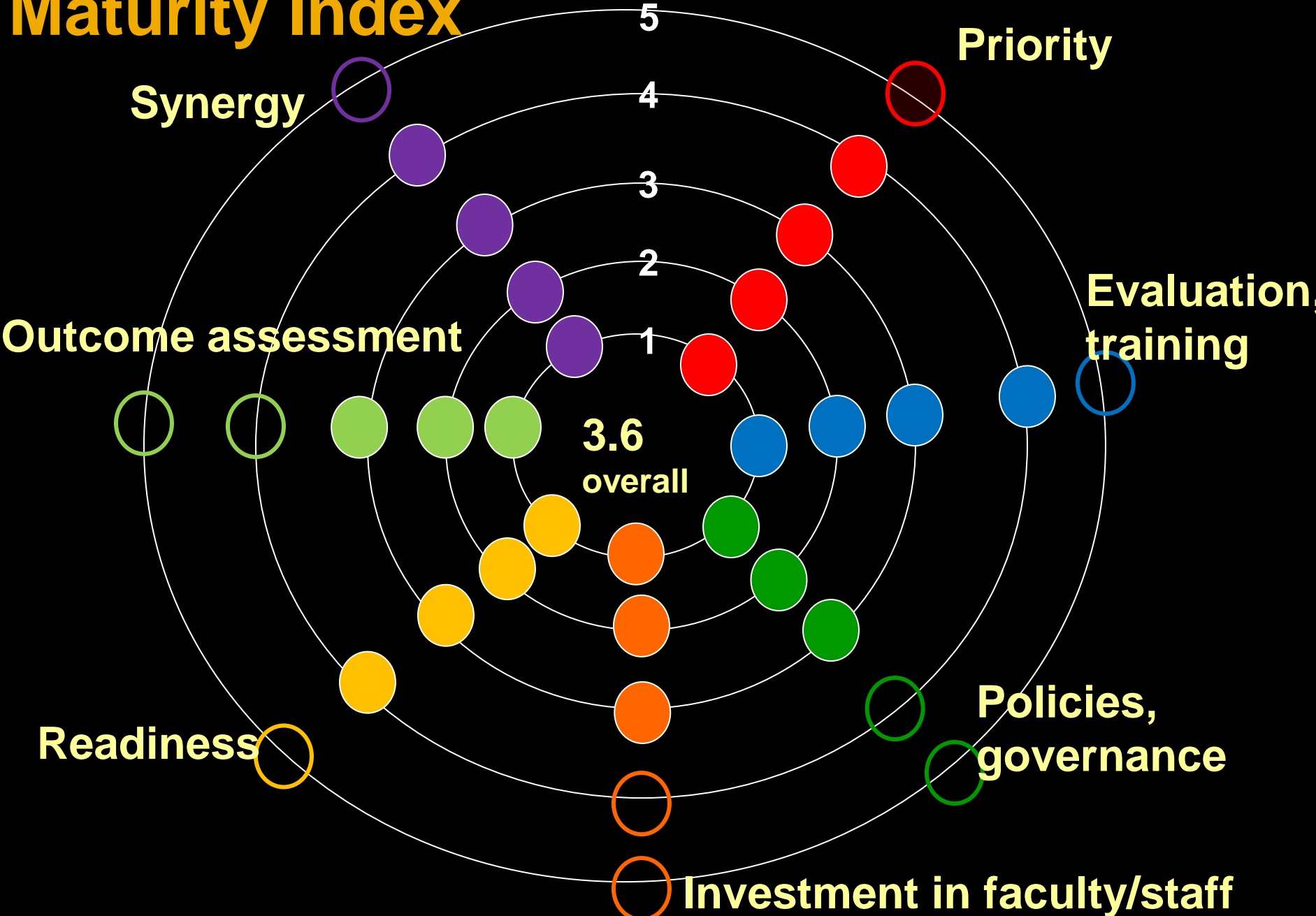
- More than 80% of institutions offer at least several courses online
- Motivations:
 - Serve the “post-traditional learner”
 - Reduce the cost of a degree
 - Increase enrollments
 - Improve the quality of teaching and learning



Concerns: Minor to Moderate

- Technological know-how of faculty
- Adequacy of staff
- Ability to keep up with others
- Affordability
- Adequacy of technology
- Faculty skepticism
- Return on investment

Maturity Index



3.6
overall

Synergy

Priority

Outcome assessment

Evaluation,
training

Readiness

Policies,
governance

Investment in faculty/staff

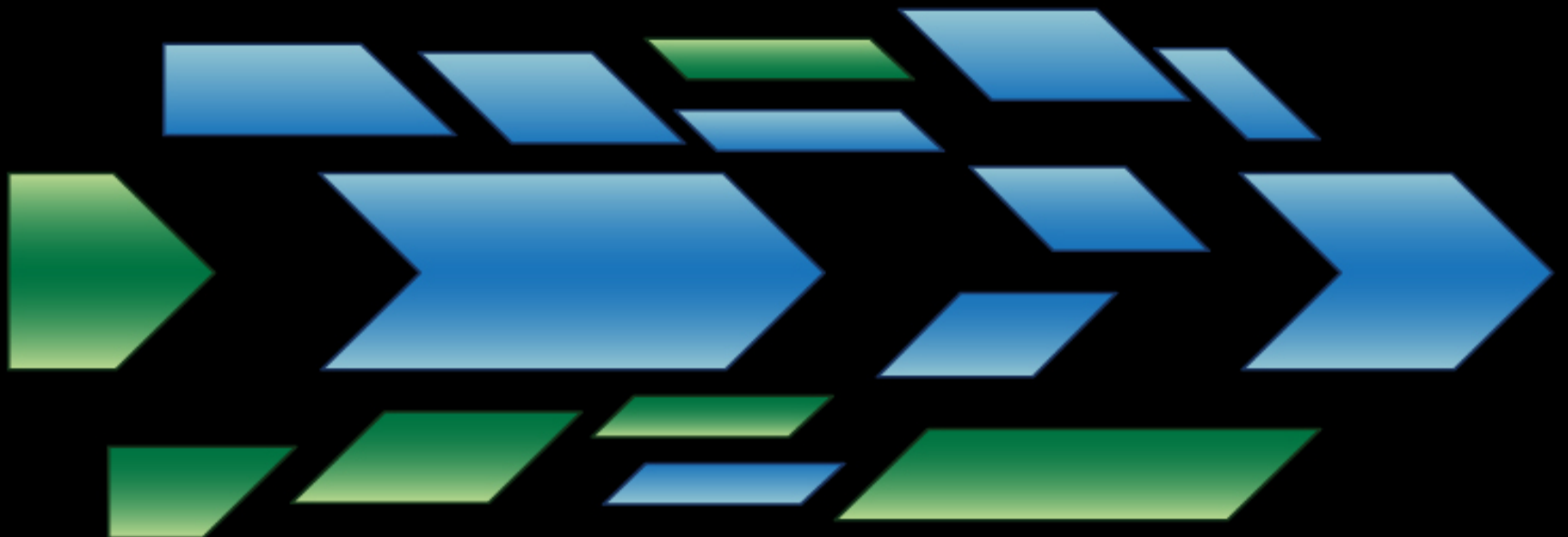
5
4
3
2
1

Questions

- To improve learning rather than just automate it, what must happen?
- Is the problem technology or that we use so few of its capabilities?
- What kind of “digital engagement” should institutions provide students?
- Do institutions need digital engagement strategies to ensure appropriate access, service, and support?

Extra-institutional Education

Value chain to value web



Study support

- Tutoring and mentoring
- Available on demand, 24x7
- Matches mentors and mentees; flexible scheduling
- Shared live experiences; whiteboarding

The screenshot shows a 'User Management' page for 'YourLogo'. The main section is titled 'USER PROFILE: Mark Stutzman'. It includes a 'USER DETAILS' section with fields for Name, User Type, Email, Phone, Parent/Guardian, Parent Email, Parent Phone, Partner Site, Partner Admin, Member Admin, User Since, Rating, and Match Status. To the right is a 'POTENTIAL MATCHES' section displaying several user profiles with their usernames, scores, and ratings. Below these sections is a 'NOTES' section with a timestamp and some placeholder text.

The screenshot shows the homepage of SMARTHINKING.COM. The header includes the site name and a navigation menu with links for 'Services', 'Our Tutors', 'Partners', 'Sample Tutorials', 'Customer Support', and 'Contact Us'. Below the header is a login section with fields for 'Email' and 'Password', and a 'Login' button. A banner below the login section features a photo of a student and text about the site's services.



World Class Online Tutoring. Just A Click Away.

An interactive way to learn. TutorVista's online tutoring is done using an interactive whiteboard to work problems, simulations, assessments and other tasks. Our sessions are just like working face to face with a tutor. They are just more convenient and fun.

Connect to a tutor instantly or schedule a tutoring session with your preferred tutor and work on building prerequisite skills in whatever subject you need, on the spot.

Get unlimited online tutoring in as many subjects as you want for \$99.99 a month. We offer tutoring across grades in Math, English and Science.

Buy Now!



Need Homework or Assignment Help?
Hundreds of Tutors are ready to Help!

K-12 and college students - get homework help, assignment help and essay help. 24x7!

Get help via email for assignments on:

- Math
- English
- Physics
- Chemistry
- Biology
- Science

Online tutoring and writing services that help students succeed

About SMARTHINKING

Our site is excellent. I am blown away by the personal feedback I have received. I can only pray that this site (in its current form) will be here in 12 years.

— [Name], Community College, Florida

View more comments or write your own...

News

2 Millionth Online Student

More SMARTHINKING news...

Universities

Schools & Libraries

Individuals



Course providers

- \$99/month (+ \$39/course) or \$999/year for 10 courses
- Required college courses
- Start any time; no required meeting times
- Individualized, on-demand support (online)
- Transfer credits to partner college(s)



[Introductory Algebra](#), [College Algebra](#), [Precalculus](#), [Business St](#)
[Developmental Writing](#), [English Composition I](#), [English Compos](#)
[Economics I](#), [Economics II](#), [Accounting I](#) and [Accounting](#)

NEW! StraighterLine for \$99

The Shortest Distance Between You and Your College Degree



Program Costs:

Compare To Other Programs

| COMPARE College Algebra | Private 4 -year College* | Public 4- year College* | University of Phoenix** | College Network** | StraighterLine |
|--------------------------------|--------------------------------|-------------------------------|-------------------------------|----------------------|----------------|
| Tuition and Fees | \$2600 | \$700 | \$1482 | \$500 | \$399 |
| Flexible Start/Stop? | No | No | No | Yes | Yes |
| On-demand Instruction? | Maybe | Maybe | No | No | Yes |
| On-demand Course Availability? | No | No | No | Yes | Yes |
| Real College | Yes | Yes | Yes | No | Yes |

Large Scale Online Providers

- Massive scale
- What are they?
 - Course?
 - Experimentation platform?
 - Data collection engine?
 - Brand extension?
 - Recruitment tool?
 - Publishing model?
 - Global university?

Udacity

coursera

udemy



KHAN
ACADEMY

edX

Credentialing MOOCs

- Pearson provides edX learners the option of taking a final exam at a test center; provides certification to edX classes
- Udacity credits will be accepted by CSU; proctored exams offered by Pearson
- ACE to work with Coursera on providing credit
- Antioch University offers college credit for Coursera courses



Badges: Credit decoupled from courses

- Learning happens everywhere, not just classroom
- Recognition for skills and achievements
- Earn and display badges on the web
- Skills and experience can come from
 - Online courses
 - Peer learning
 - Volunteering
 - After-school work

LEVEL UP

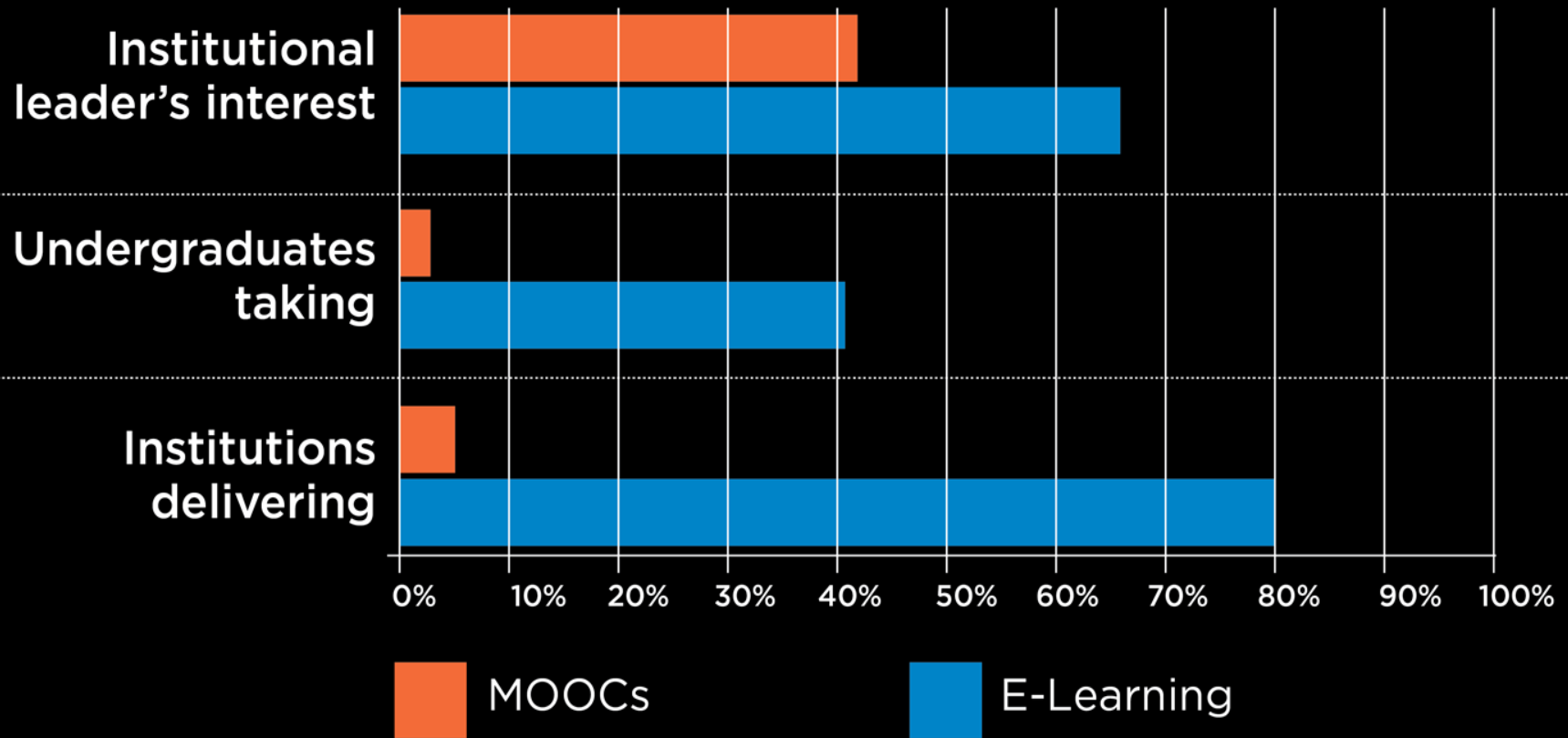
in life, work and learning



A Few Facts about MOOCs

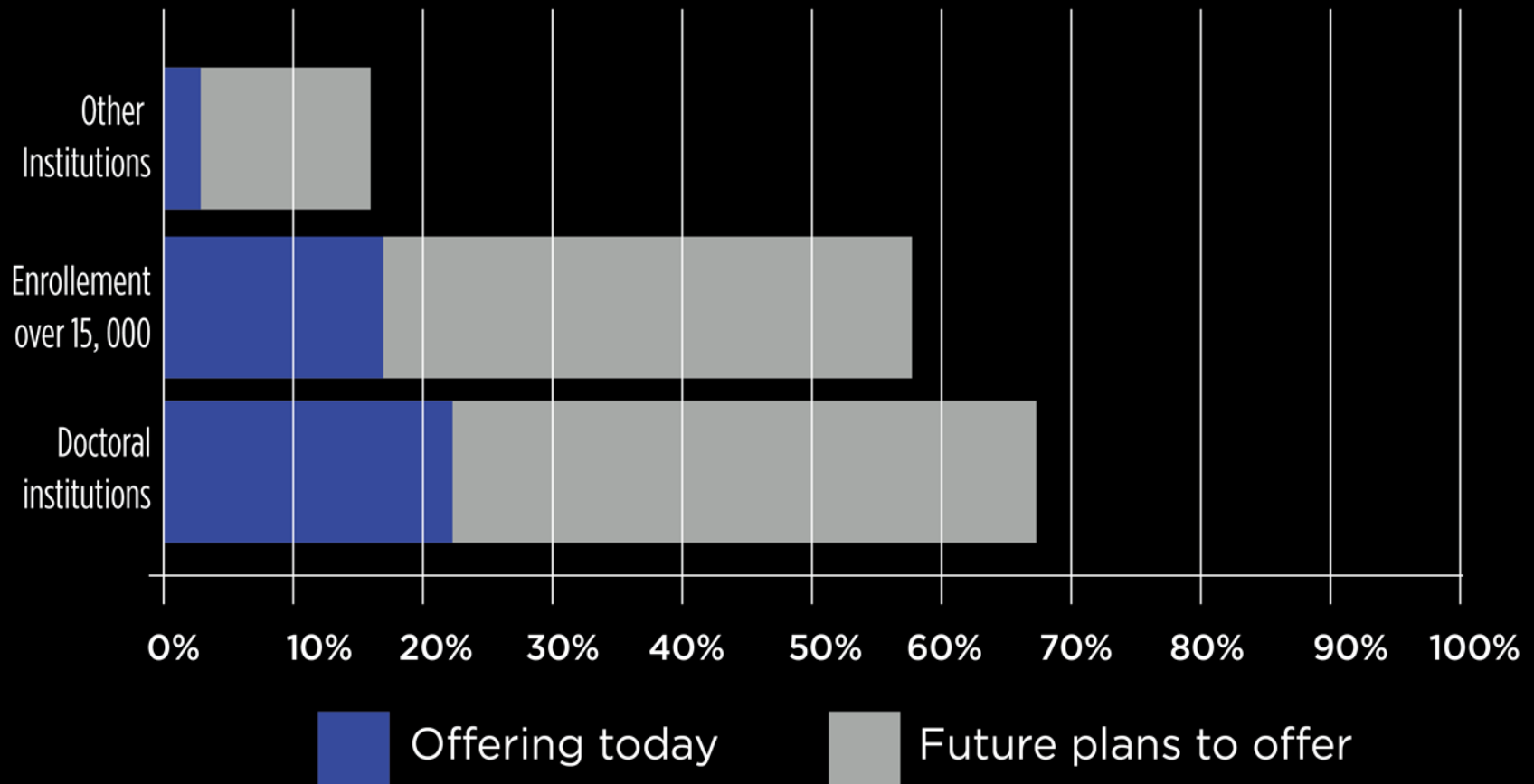
MOOCs: A snapshot

MOOCs may have made the headlines, but the broader topic of e-learning, which includes but extends beyond MOOCs, is much more widespread and of interest.



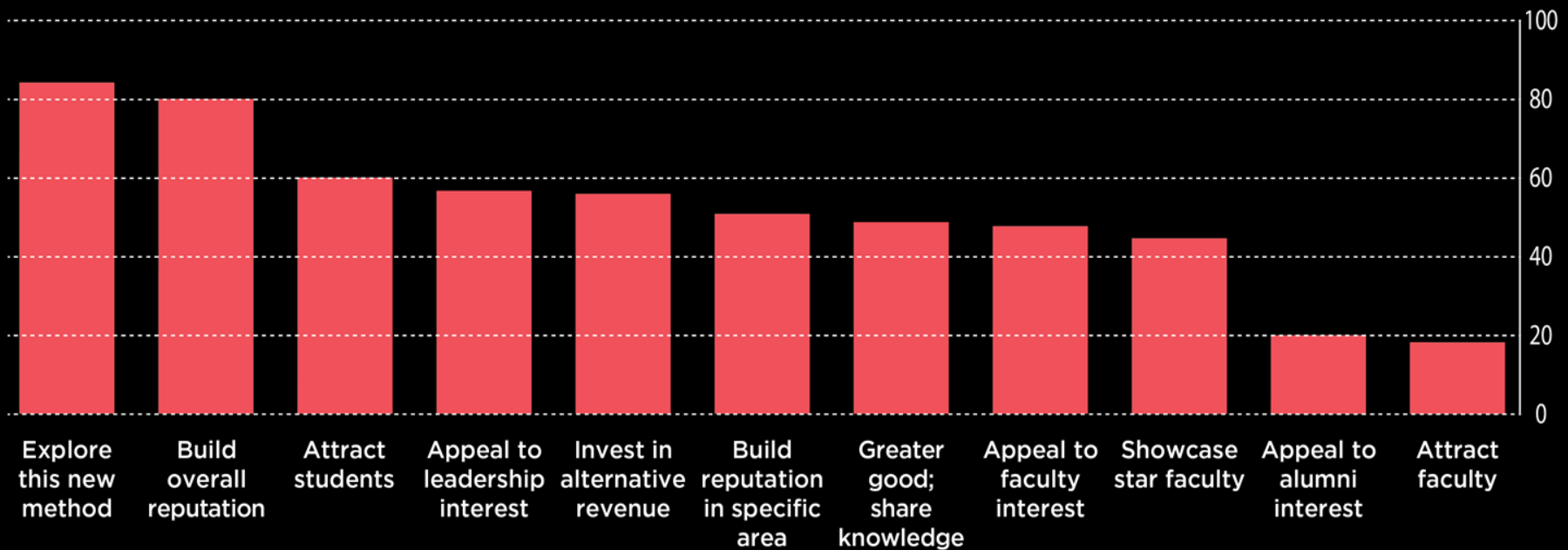
Which institutions offer MOOCs today?

MOOCs are primarily centered in large doctoral institutions, and are likely to remain so.

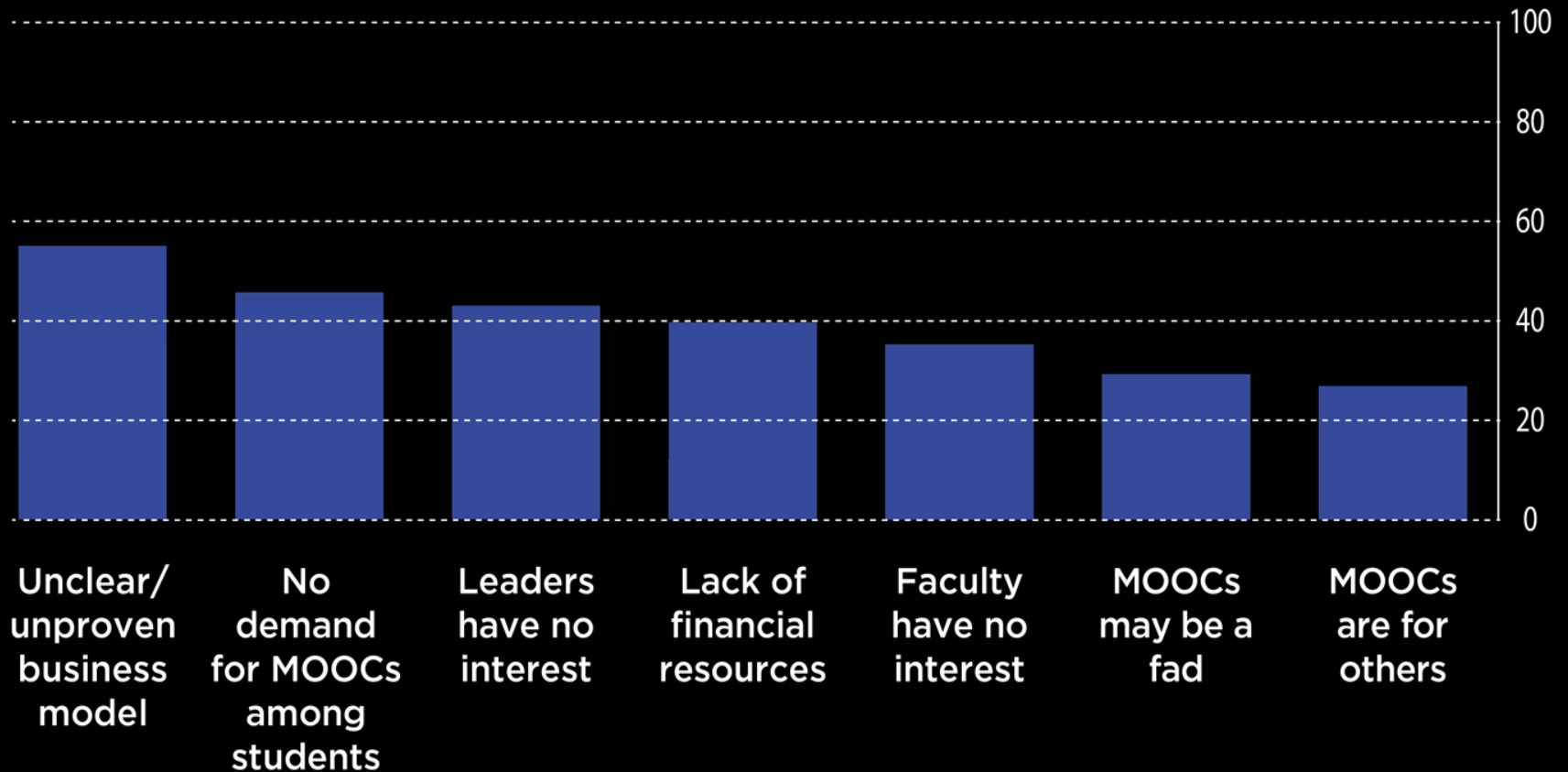


Why institutions are embracing MOOCs

It boils down to strategy, resources, and interest among leadership and the faculty.



Why institutions are avoiding MOOCs



What is the value proposition of MOOCs?

An unclear business model is the major deterrent for those not offering MOOCs.

FOR INSTITUTIONS

Moody Investors Services has designated them as a “credit positive.”



45%

of institutions view the ROI as a moderate or major concern



60%

of institutions view the cost of providing and/or developing MOOCs as a moderate or major concern

AMONG A SELECT SET OF INSTITUTIONS OFFERING MOOCS



45%

are discussing the possibility of awarding credit



33%

are considering monetizing



NEARLY 3 IN 4

UNDERGRADUATE STUDENTS HAVE NEVER HEARD OF MOOCS

Questions

- Can you assure quality for a “product” that can’t be categorized?
- How do you assure quality in a world of “grazing”?
- What happens to institutional coherence in a world of individual choice?
- How does quality assurance have to change in an unbundled world?
- How do you assure quality when the audience might be anyone in the world?

Learner Pathways

Students know where they stand

ASU ARIZONA STATE UNIVERSITY

ASU Home | ASU A-Z Index | My ASU | Colleges & Schools | Directory | Map
 Change User | Stop View as Student | John Rome | SIGN OUT

My ASU My Info My Profile My Stuff *

Critical Requirements Audit

My progress towards completing my critical requirements during my first four semesters (eAdvisor)

Student Name: Maggie [redacted] Advisor Info

University Academic Standing: **Good Standing** | ASU Cumulative GPA: **3.47**

College: **Ira A. Fulton Schools of Engineering**

Major: **Computer Science, BS** | Catalog Year: **Summer 2011** | Current Track Term: **3**

Status: **On Track** ✓

VIEW: [8 semester major map \(PDF\)](#) | [Graduation requirements audit](#) | [Unmet graduation requirements](#) | [Search for a new degree](#) Print: Critical Requirements Audit

Additional Major Information: Class Search

Please see [Major Map PDF](#) (8 semester plan) for additional information on college and major specific requirements.

- **Advanced placement (AP) credit:** AP credit is directly received by ASU from the College Entrance Examination Board. New freshmen may show as off track until the credit is posted in August.
- **Transfer credit:** You must have your transcripts sent from the issuing institution directly to ASU in order for courses to be evaluated and transferred.

[Expand All Terms](#)

Requirement Type: Critical Major Requirement Major Requirement Status Type: On Track Off Track On Track by Override Out of Sequence

Track Term 1 (1-15 hours) Print: This term

| Requirement Type Detail | Status Reason | Course / GPA | Grade | Hours | Term Taken | Notes |
|---|-----------------------|--------------|-------|-------|------------|--------|
| ⚠ If completed at ASU no grades of D, E in: MAT 117, 170. | ✓ Requirement met | | | | | (None) |
| ⚠ No Grades of D, E in C minimum courses: CSE 100(or 110), 101, 120, 205, MAT 243, 265, 266, 267. | ✓ Requirement met | | | | | (None) |
| ⚠ 2.00 Minimum GPA: ASU Cumulative. | ✓ GPA Requirement met | 3.39 | | | | (None) |
| ⓘ ASU 101 - The ASU Experience: 1 hour | ✓ | ASU 101 | A+ | 1.0 | Fall 2011 | (None) |
| ⓘ Term 1 First-Year Composition: 3 hours, C minimum. | ✓ | ENG 101 | A | 3.0 | Fall 2011 | (None) |

Track Term 2 (16-31 hours) Print: This term

| Requirement Type Detail | Status Reason | Course / GPA | Grade | Hours | Term Taken | Notes |
|---|-----------------------|--------------|-------|-------|-------------|--------|
| ⚠ No Grades of D, E in C minimum courses: CSE 100(or 110), 101, 120, 205, MAT 243, 265, 266, 267. | ✓ Requirement met | | | | | (None) |
| ⚠ 2.00 Minimum GPA: ASU Cumulative. | ✓ GPA Requirement met | 3.39 | | | | (None) |
| ⓘ Term 2 First-Year Composition: 3 hours, C minimum. | ✓ | ENG 102 | A | 3.0 | Spring 2012 | (None) |

Track Term 3 (32-47 hours) Print: This term

| Requirement Type Detail | Status Reason | Course / GPA | Grade | Hours | Term Taken | Notes |
|---------------------------|-----------------|--------------|-------|-------|-------------|--------|
| | | MAT 270 | AP | 4.0 | Summer 2011 | (None) |
| | | CSE 110 | B+ | 3.0 | Fall 2011 | (None) |
| | | MAT 266 | B | 3.0 | Fall 2011 | (None) |

Career Coach

- Employment projections
- Information about
 - Employment trends
 - Income potential
 - Required education
- Adapt courses based on trends
 - *Mauger, Schwartz, Greico, 2012*

Career Coach

Home Search Resume Builder

Search careers & degrees by keyword...

[Browse all careers and degrees](#)

Montgomery County Community College

Career Coach is designed to help you find a good career by providing the most current local data on wages, employment, job postings, and associated education and training.

CAREER COACH

Career Coach

Home Search Resume Builder

biology

Careers Degrees

☆ [Biological Science Teacher, Postsecondary](#)
\$33.29 Hourly Wage 52416 Currently Employed
May be known as Applied Biology Professor; Biology Department Chair; Biology Faculty Member
Teach courses in biological sciences.

☆ [Biological Technician](#)
\$20.77 Hourly Wage 3308 Currently Employed
May be known as Biology Laboratory Assistant; Biology Research Assistant; Biology Specimen Technician
Assist biological and medical scientists in laboratories. Set up, operate, and maintain laboratory instruments and equipment, monitor experiments, make observations...

☆ [Agricultural Sciences Teacher, Postsecondary](#)
\$33.29 Hourly Wage 52416 Currently Employed
May be known as Plant Biology Professor; Soil Biology Teacher
Teach courses in the agricultural sciences. Includes teachers of agronomy, dairy sciences, fisheries management, horticultural sciences, poultry sciences, range...

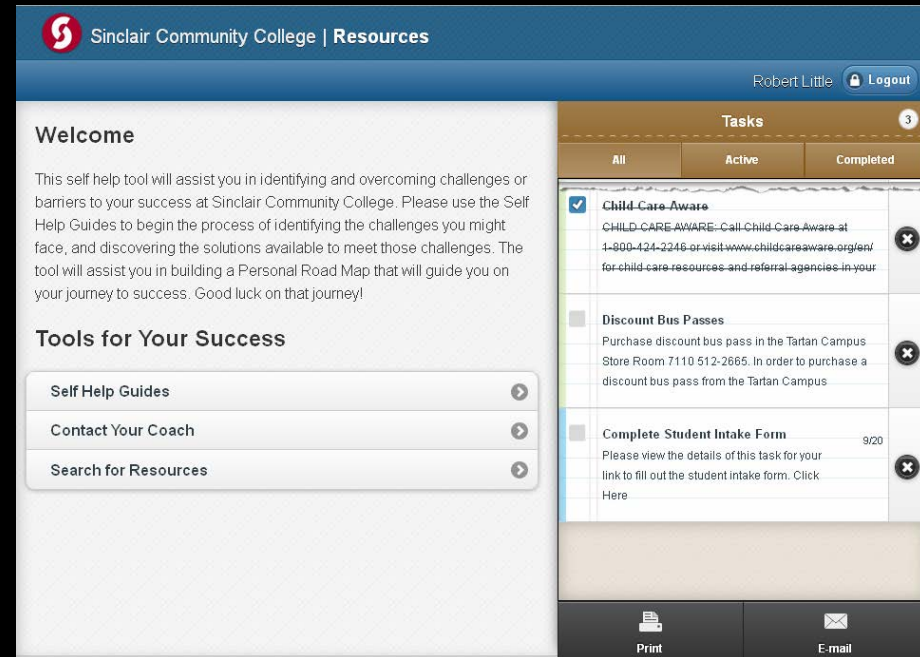
Sort by relevance
Sort alphabetically
Sort by wage
Sort by employment

All wages
\$10+
\$20+
\$30+
\$40+
\$50+

All education levels
High School

Student Success Plan

- Counseling and intervention software
- Case load management
 - Monitor
 - Engage
 - Support
- Early alert
- Student interface
- Results
 - First term success rate 97% vs 59%
 - 37% higher retention term-to-term
 - Five times more likely to graduate in 6 years



Better informed choices

- Personal recommendations tailored to
 - Program of study
 - Abilities
- Keyed to degree program and course sequencing
- 4% increase in A, B or C grades
- Grade prediction 90% accurate

Courses To Consider

Course Suggestions for You from **THE GOV**:



You may not need to take all of the courses listed to graduate but each of the courses listed satisfies one of your degree requirements. When several courses might satisfy a degree requirement, the rating and projected grade may be helpful in selecting which course to choose. Please consult your Advisor or degree evaluation for specific program requirements.

| | | |
|---------------------------------------|-------|-------------------------------|
| PM3230 - Public Personnel Admin | ★★★★★ | View Sections |
| HIST1220 - World History II | ★★★★★ | View Sections |
| PM3180 - Criminal Procedures | ★★★★★ | View Sections |
| PM3760 - Methods of Research | ★★★★★ | View Sections |
| CRJ3020 - Criminal Evidence Procedure | ★★★★★ | View Sections |
| CRJ3410 - Domestic Terrorism | ★★★★★ | View Sections |
| CRJ4000 - Law Enforcement Admin | ★★★★☆ | View Sections |
| CRJ3420 - International Terrorism | ★★★★☆ | View Sections |
| CRJ3430 - Management of Incidents | ★★★★☆ | View Sections |

Filter:

These suggestions are courses in which other students similar to you have made successful progress in your program of study. You should always consult your advisor when planning your schedule. [What is this? Feedback](#)

—Denley, 2012

Educational pathways

- Cross-institutional online advising/degree attainment support system (10 campuses of University of Hawaii)
- Real-time “academic journey system”
 - Course choices and effect of choices on degree program
 - Courses from other campuses that meet degree requirements
 - Lets advisors know which students are off-track
 - Increases transfers from community colleges to 4-year programs
 - Automatically transfers credits from 4-year institution back to community college
- Decreased time to graduation and increased graduation rate reducing cost to student, state and support programs



A Few Facts about Analytics

Analytics is more than reporting



Data and Information

The capture and reporting of relevant data that contributes to effective planning and decision making.

Metrics and Benchmarking

Specific determinable measures of outcomes or performance that tie closely to an organization's strategic goals.

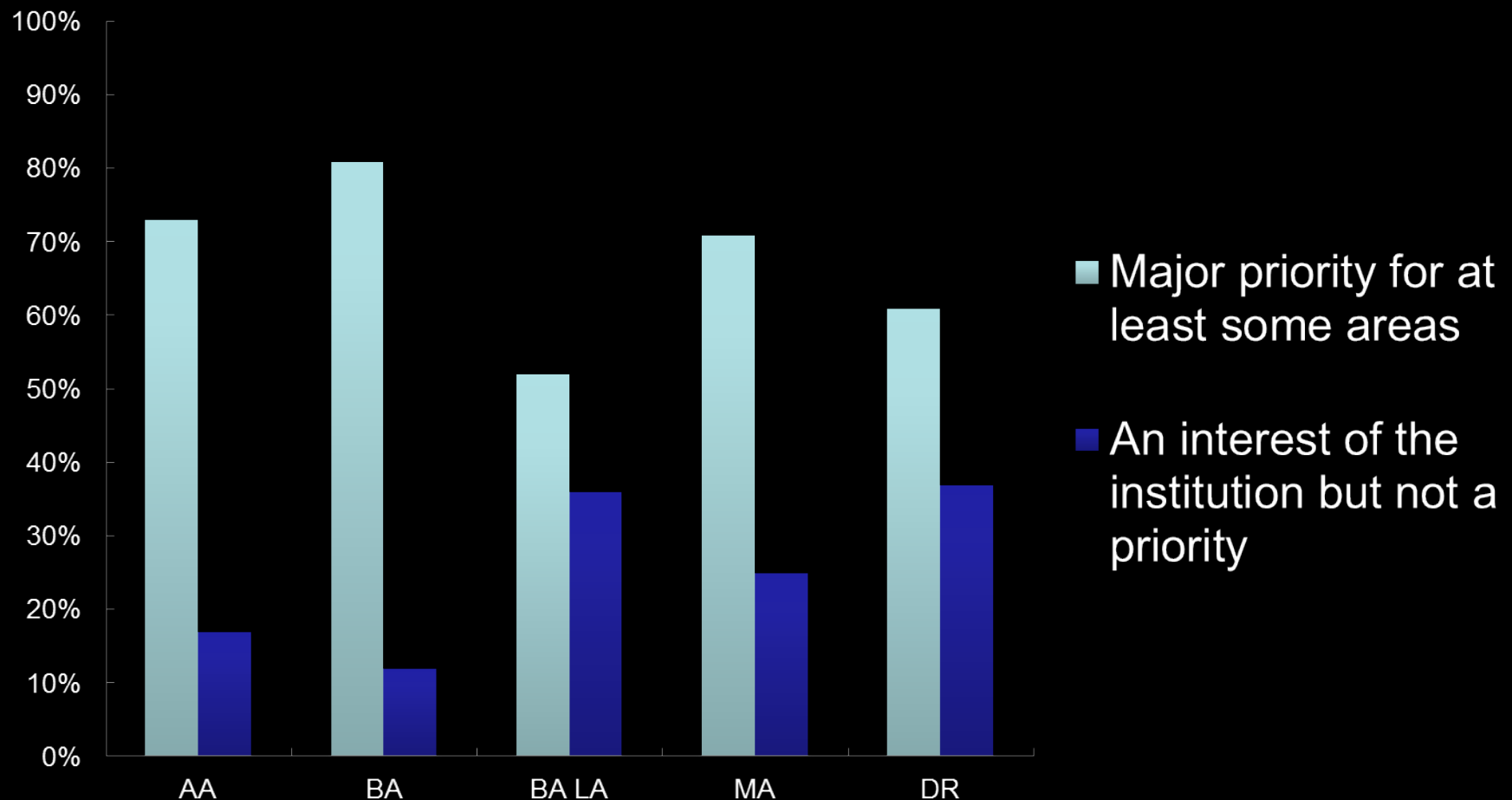
Forecasting and Optimization

Predictive and prescriptive, encompassing statistics, data mining and modeling.

—Grajek, 2012

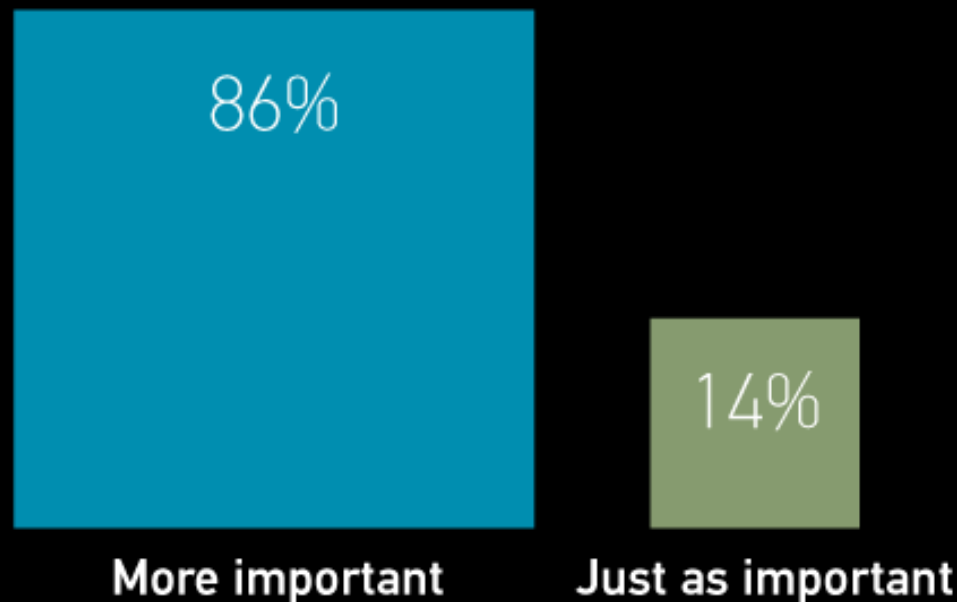
Analytics is a priority

Analytics is a major institutional priority at 24% of higher education institutions



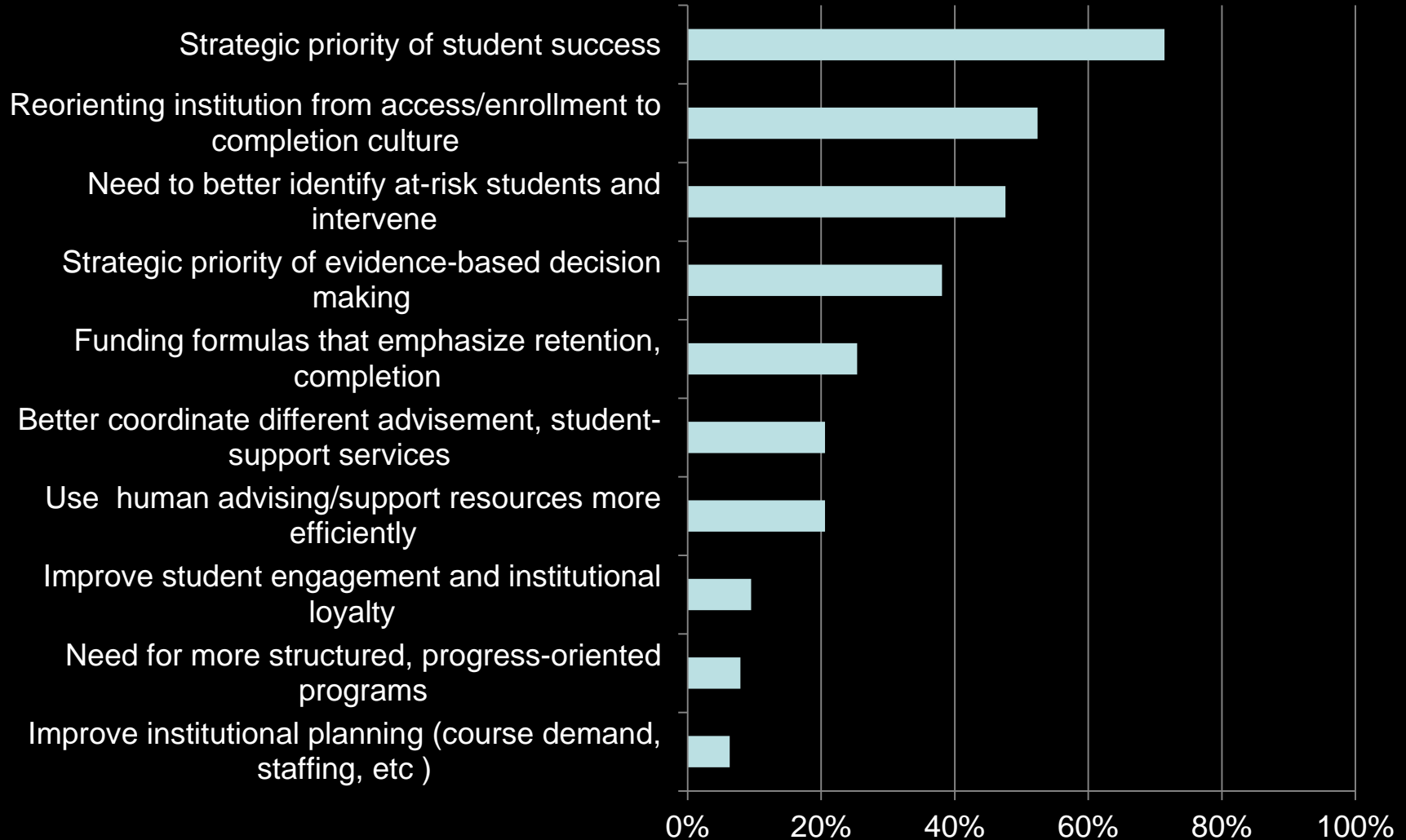
Analytics will become even more important

TWO YEARS FROM NOW, ANALYTICS WILL BE...

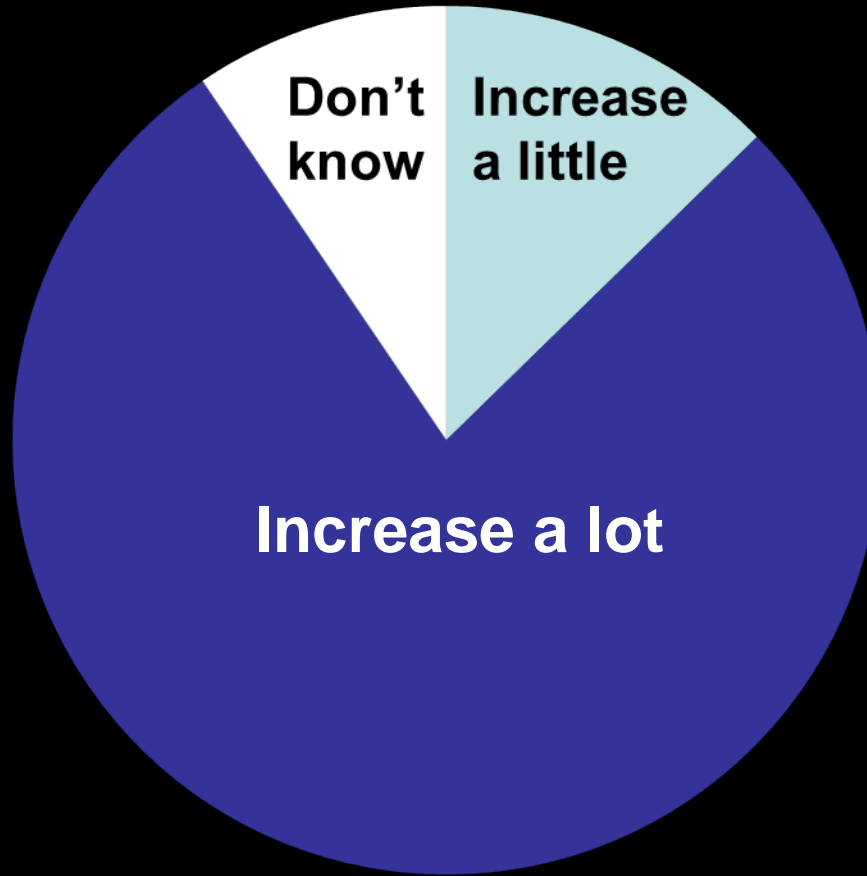


...FOR HIGHER EDUCATION'S SUCCESS

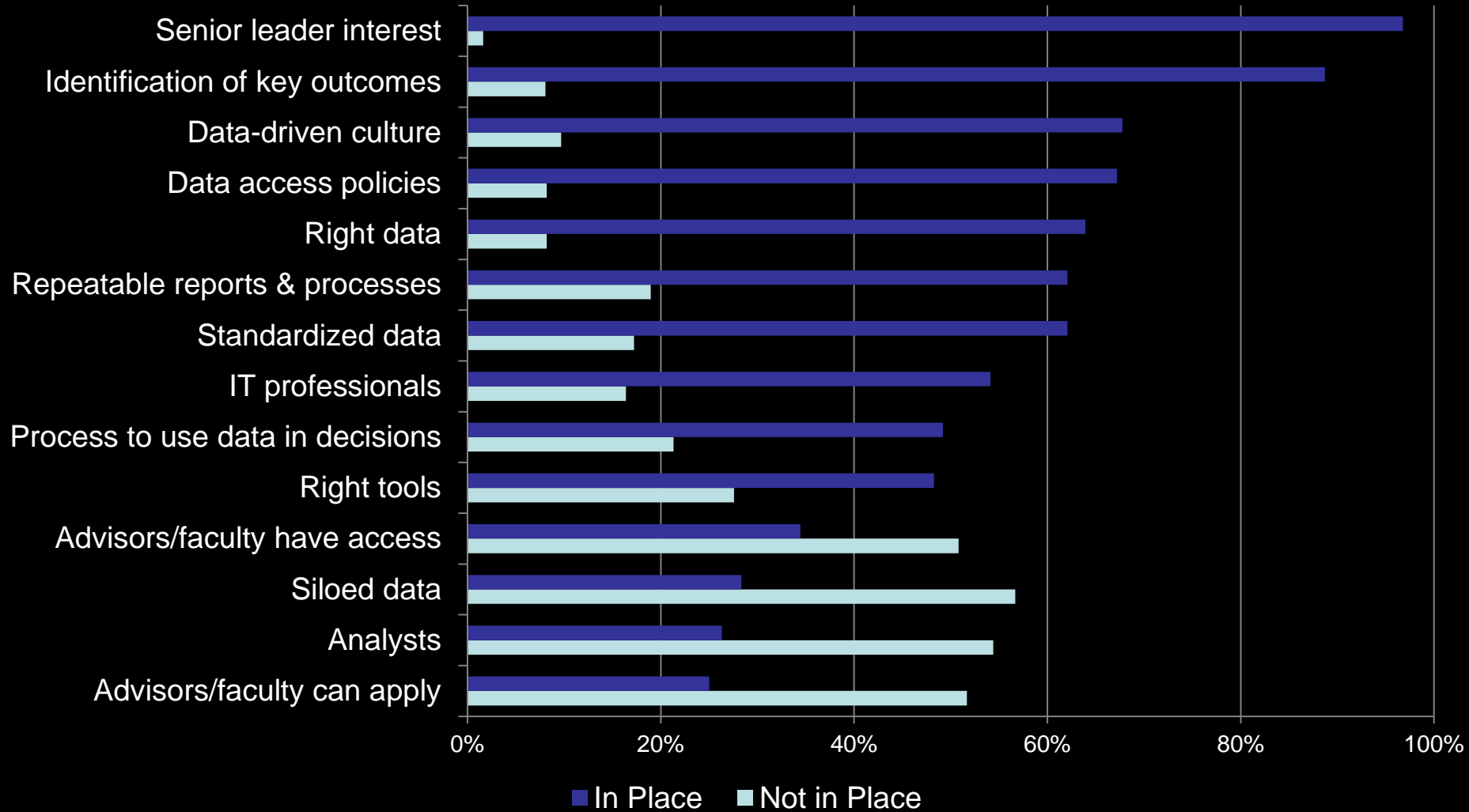
Drivers of IPAS investment



Anticipated use of technology to deliver IPAS services in 5 years



What is in place for student success analytics?



Questions

- Are we leveraging technology to empower students, advisors, and faculty?
- If we don't provide empowerment tools, will students get the information elsewhere?
- What else could we do if we leveraged empowerment tools?

Alternative Models

Joint ventures

- Increasing number of public-private joint ventures
- Augment existing skills, resources
- 2U: online platform to expand graduate programs
 - Technology and infrastructure
 - Fieldwork sites
 - Creates instructional material with faculty
 - Capital investment
- Shares tuition revenue
- “School-as-a-service”

University of Southern California

MAT@USC
Master of Arts in Teaching
DELIVERED ONLINE

1.888.628.1872 LIVE CHAT OFFLINE APPLY

ABOUT ADMISSIONS ACADEMICS BLOG STUDENT

A RENOWNED School of Education
An ACCLAIMED Master of Arts in Teaching
A TRAILBLAZING Online Platform

LEARN MORE ABOUT THE MAT@USC >

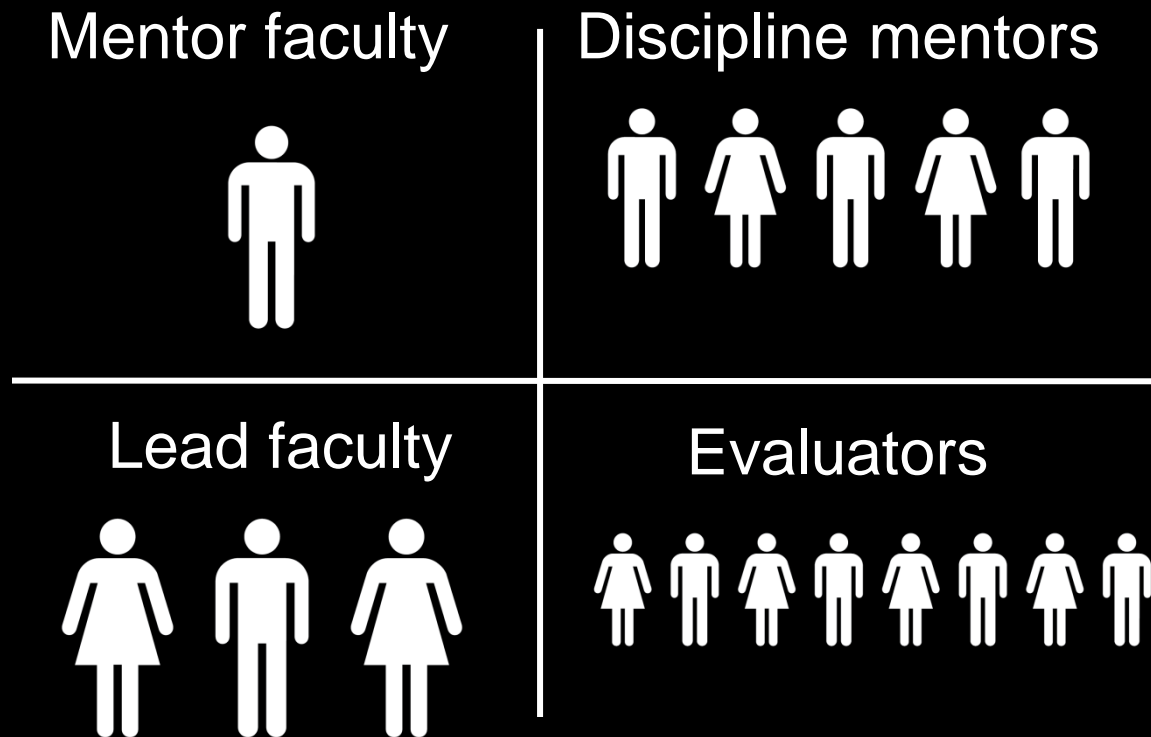
1 2 3 4 5

REQUEST INFORMATION Which best describes you?
I want to become a teacher

NEXT

Disaggregation of faculty roles

- Western Governors University
- Northern Arizona University



Competency-based

- 120 defined competencies
- Organized as mastery triads
 - Foundational
 - Personal and social skills
 - Content knowledge
- Demonstrate mastery by completing tasks



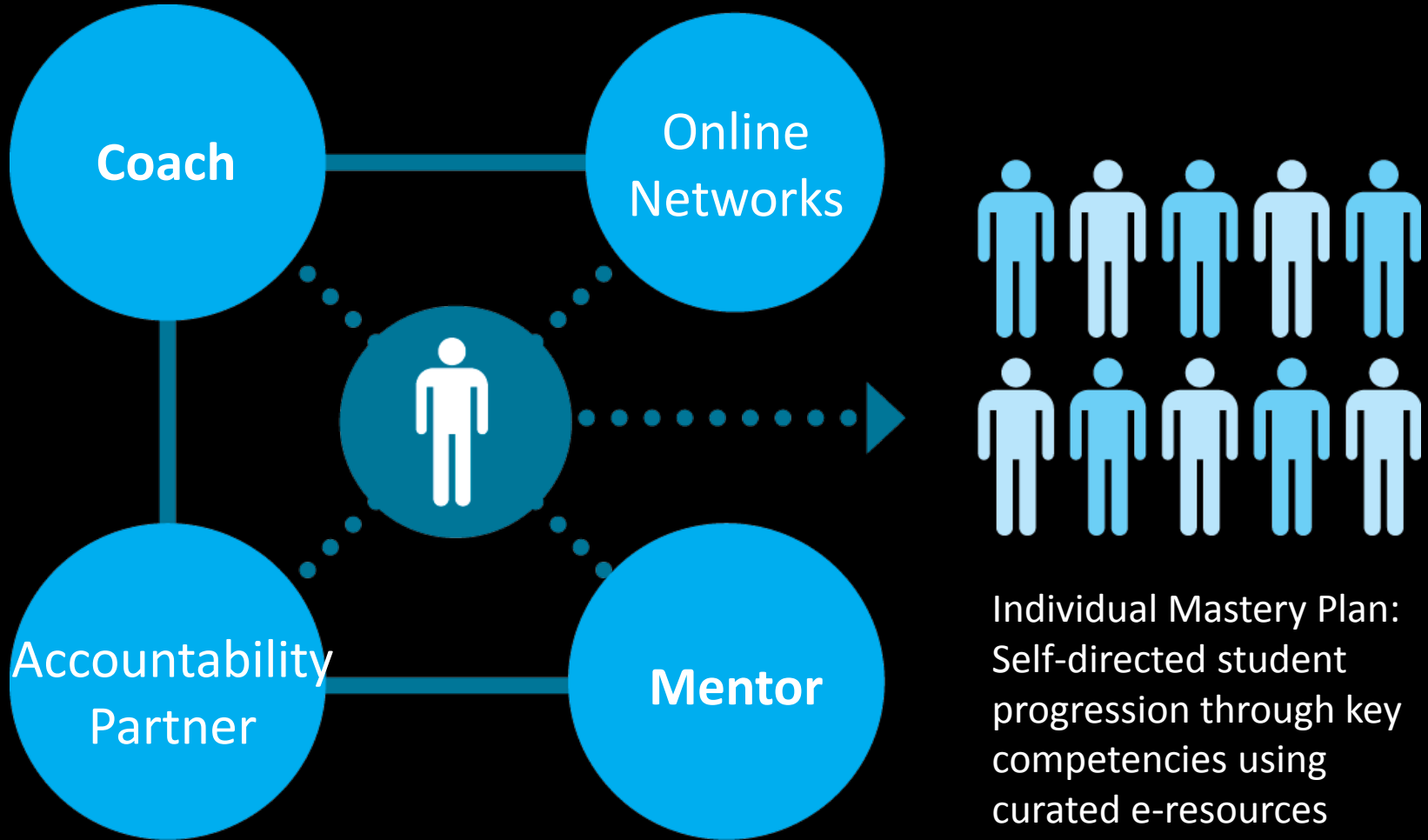
VIEW ALL COMPLETED

VIEW ALL ATTEMPTED

VIEW ALL REMAINING



Support model

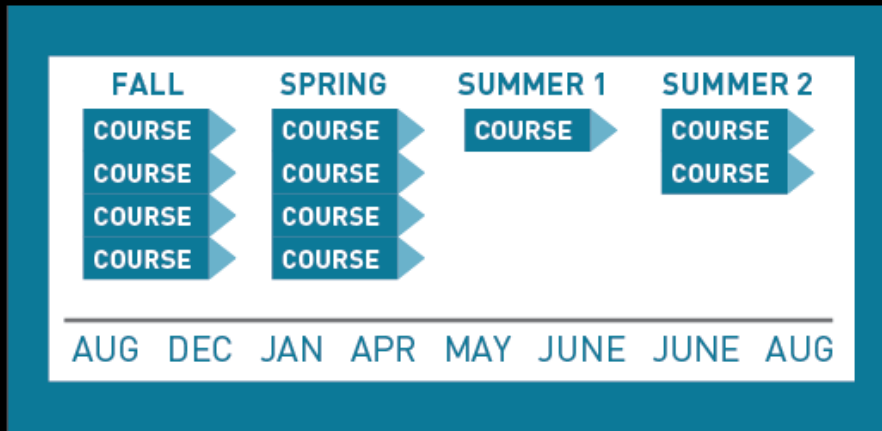


College for America

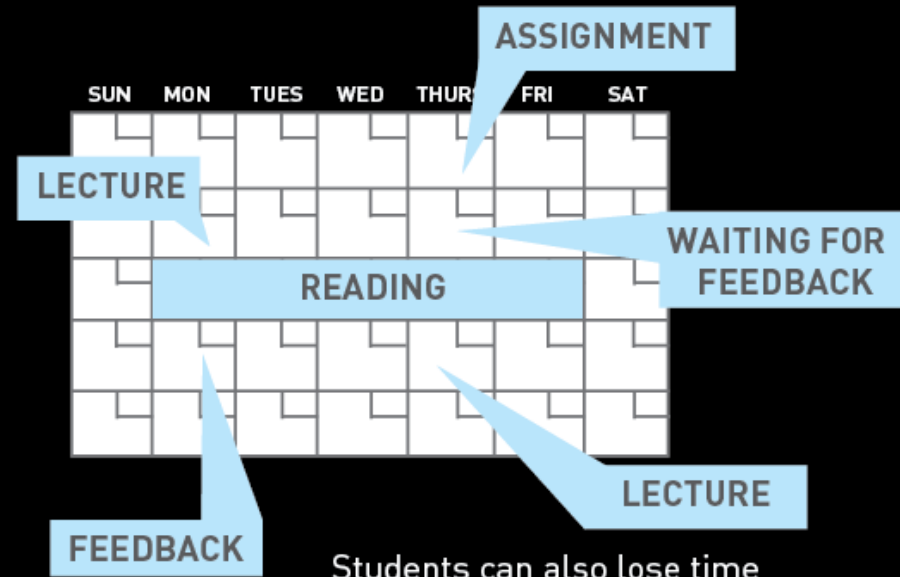
Self-paced, online associate's degree program; \$2500/year

Time

Traditional Academic Schedules

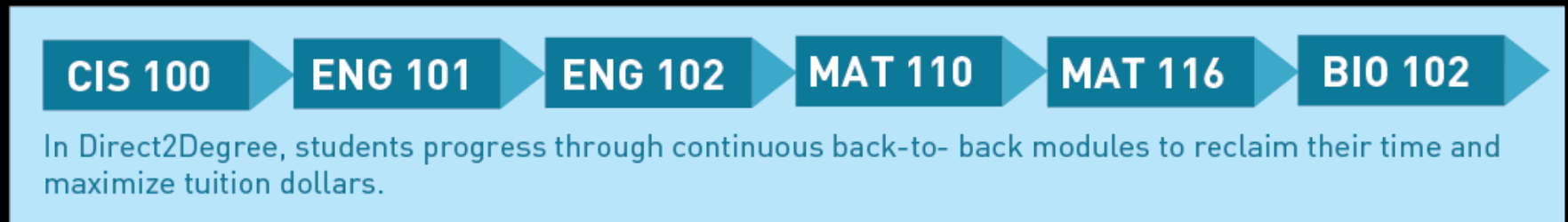


In a traditional model, students can lose time between terms, up to 76 days lost per “academic” year.



Students can also lose time between fixed classes.

Direct2Degree



In Direct2Degree, students progress through continuous back-to-back modules to reclaim their time and maximize tuition dollars.

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APPLY! >



Questions

- How do you assure quality for a product or process that is emergent?
- Can you set standards ahead of praxis?
- As educational processes are being decoupled and reassembled, does the process alter the definition of quality?
- Who assesses quality? The provider or the receiver?

Closing Thoughts

Change is a choice. The
best choice is an
informed choice.

The greatest challenge may be our assumptions about teaching, learning, and education.

IT is a game
changer.

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E D U C A U S E