Data for Decision Making

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ACHIEVING THE DREAM

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Think about one piece of data that has made a difference in your life.

What was that data?

Pair and share

WHAT GETS MEASURED GETS MANAGED

"The other foot too, Mrs. Thomas"

LEADING VS. LAGGING

Lagging Indicators

Rear facing and cannot be altered; the institution's performance, actions, interventions that affected these metrics are in the past

- Total degrees awarded

- Graduation rates

- Expenditures

Leading Indicators

Forward facing and are both predictive and influencable

- Course success rates

- Term to term persistence

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INSTITUTIONAL CAPACITY FRAMEWORK

TEACHING & LEARNING

ENGAGEMENT & COMMUNICATION

EQUITY

STRATEGY & PLANNING

Student-Focused Culture

DATA & TECHNOLOGY

POLICIES & PRACTICES

LEADERSHIP & VISION
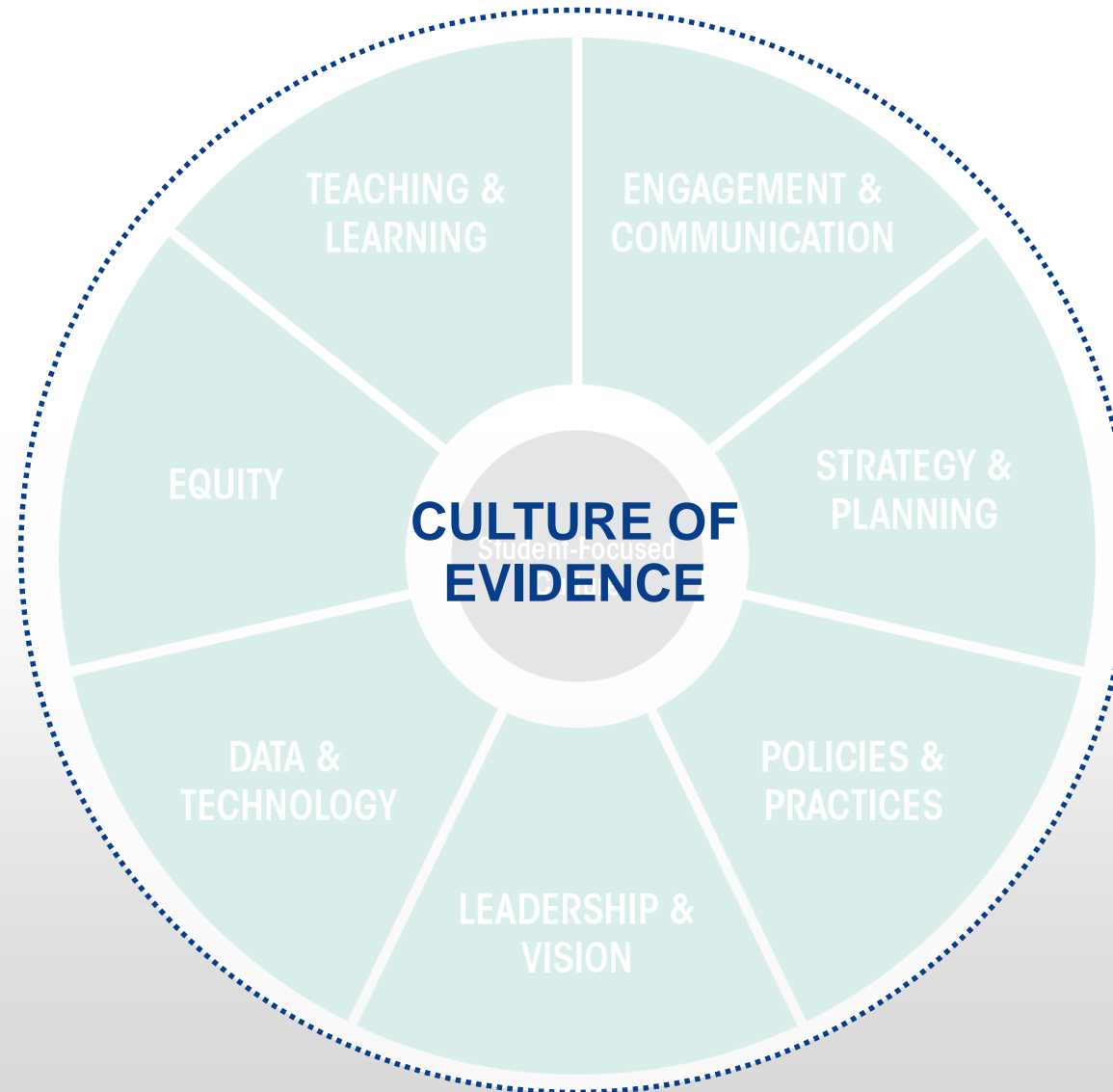
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INSTITUTIONAL CAPACITY FRAMEWORK

INSTITUTIONAL CAPACITY FRAMEWORK

INSTITUTIONAL CAPACITY FRAMEWORK

VALUES THAT SUPPORT A CULTURE OF EVIDENCE

- **Student-focused**: Every conversation begins with "What is best for the success of our students?"

- **Transparency**: Information is available to all within the institution.

- **Equity**: Fairness versus sameness

- **Inquiry**: Safe to ask questions and challenge urban legends

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CHARACTERISTICS OF A CULTURE OF EVIDENCE

- An increase in the **quality** of data requests, not just quantity

- Increased **evidence** when justifying arguments

- **Use of data** to influence planning, priorities, policy, resource allocation and hiring decisions

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CULTURE AND BEHAVIOR

The kiss of death…saying you are trying to change culture

- Culture*: the beliefs, customs, arts, etc., of a particular society, group, place, or time

- Behavior*: the way a person or animal acts or behaves

* www.merriam-webster.com/dictionary

CULTURE AND BEHAVIOR

CULTURE AND BEHAVIOR

Organizational culture eats strategy for breakfast, lunch and dinner

Culture   Strategy

- How do we begin to recognize and address our institutional culture and the impact it has on our:
  - student success work
  - changes in institutional quality
  - ability to move quickly

- **Culture of inquiry**: ask thoughtful questions and challenge assumptions

- **Culture of evidence**: collect, analyze, share, discuss and use a wide range of data to inform their practice, prioritize actions and guide efforts to improve student success

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A CULTURE OF EVIDENCE AND INQUIRY

WHAT
What success gaps exist?

WHY
Why do success gaps exist?

HOW
How do we eliminate the gaps?

EVALUATE
Is it working?

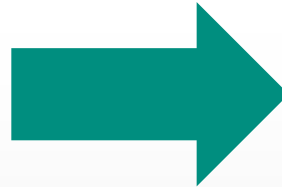Achieving the Dream™
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HAVE YOU HEARD STATEMENTS LIKE THESE AT YOUR COLLEGE?

- We don't offer afternoon classes because students won't register for them
- We have to offer online orientation because students won't come to an in-person orientation
- Students in career programs earn a certificate first as a ladder to the associate degree
- The least-experienced faculty should teach developmental education courses

These assumptions are circulated as truths
but are they accurate*?*

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DATA RICH, INSIGHT POOR

Milestone/Momentum Point/On-Track Indicator	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Number of Students	1,303	1,304	959	1,022	1,144	1,160	1,179	1,363	1,636	1,698
Completed College Math Credits in First Two Years	50%	55%	59%	57%	56%	57%	61%	63%	68%	
Completed College English Credits in First Two Years	74%	75%	76%	75%	72%	75%	79%	79%	83%	
Attempted 12 or More Credits in First Term	60%	62%	68%	65%	63%	64%	69%	67%	70%	74%
Earned 12 or More Credits in First Term	32%	37%	37%	35%	35%	35%	39%	40%	45%	45%
Earned General Education Credits in First Term	77%	78%	83%	85%	80%	82%	84%	87%	89%	89%
GPA of 2.5 or Greater in First Term	45%	54%	52%	50%	49%	50%	50%	51%	57%	56%
No Withdrawals or Failures in First Term	44%	53%	45%	48%	45%	44%	43%	46%	51%	47%
No Withdrawals or Repeats in First Year	39%	40%	38%	44%	38%	40%	41%	42%	45%	45%
Earned 12 or more Credits in First Year (Any-level)	69%	69%	70%	70%	67%	66%	70%	72%	79%	80%
Earned 12 or more College Credits in First Year	62%	63%	70%	68%	66%	64%	70%	72%	78%	79%
Earned 30 or more Credits in First Year (Any level)	11%	13%	11%	10%	10%	10%	12%	12%	14%	17%
Earned 30 or more College Credits in First Year	9%	11%	11%	10%	9%	10%	12%	12%	13%	17%
Earned 20 or more Credits in First Year	42%	43%	46%	45%	41%	39%	45%	49%	54%	56%
Earned General Education Credits in First Year	85%	87%	89%	90%	86%	87%	89%	91%	93%	93%
GPA of 3.25 or Greater in First Year	15%	19%	20%	21%	20%	21%	18%	23%	24%	22%
GPA of 2.5 or Greater in First Year	40%	43%	47%	45%	44%	44%	44%	47%	53%	52%
Earned at least 80% of Credits Attempted	53%	56%	56%	55%	55%	52%	56%	61%	65%	63%
Pell Award Recipient in First Year	22%	25%	23%	25%	24%	24%	23%	26%	33%	45%
Retained to 2nd Term	81%	83%	82%	83%	80%	78%	82%	82%	86%	88%
Retained to 2nd Year	68%	66%	67%	68%	62%	65%	68%	70%	76%	
Enrolled in First Summer	46%	44%	42%	43%	42%	38%	40%	42%	45%	47%
Enrolled in Second Summer	36%	37%	38%	36%	33%	32%	36%	39%	44%	
No Delay in Enrollment	77%	75%	81%	82%	78%	82%	86%	86%	89%	87%
Underrepresented Race or Ethnicity	41%	47%	42%	46%	52%	53%	55%	58%	57%	61%
Required College Prep	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Foreign Born	23%	28%	27%	26%	27%	27%	26%	27%	23%	26%
First Generation in College								29%	32%	34%
Average number of terms enrolled in First Year	2.3	2.3	2.2	2.3	2.2	2.2	2.2	2.2	2.3	2.3
Age 25 or older at start	9%	9%	6%	6%	8%	6%	3%	5%	4%	5%
Female	53%	52%	48%	47%	47%	49%	46%	47%	50%	48%
Has Enrolled in a Fully Online Course	17%	19%	24%	26%	30%	34%	37%	36%	33%	22%
3-Year success rate	23%	28%	34%	31%	32%	34%	37%	38%		
6-Year success rate	47%	51%	55%	55%	56%					

Fall Term Cohorts

College Ready FTIC Students

Milestone/Momentum Point/On-Track Indicator	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Number of Students	1,303	1,304	959	1,022	1,144	1,160	1,179	1,363	1,636	1,698
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Foreign Born	23%	28%	27%	26%	27%	27%	26%	27%	23%	26%
First Generation in College								29%	32%	34%
Average number of terms enrolled in First Year	2.3	2.3	2.2	2.3	2.2	2.2	2.2	2.2	2.3	2.3

How would you describe your institution's data capacity and culture?
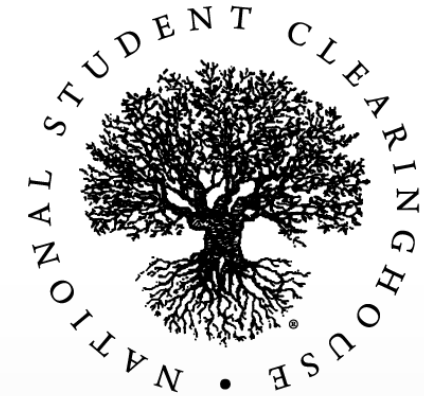
Can you meet demand for data?

Do people trust the data? (e.g. data quality, data integrity)

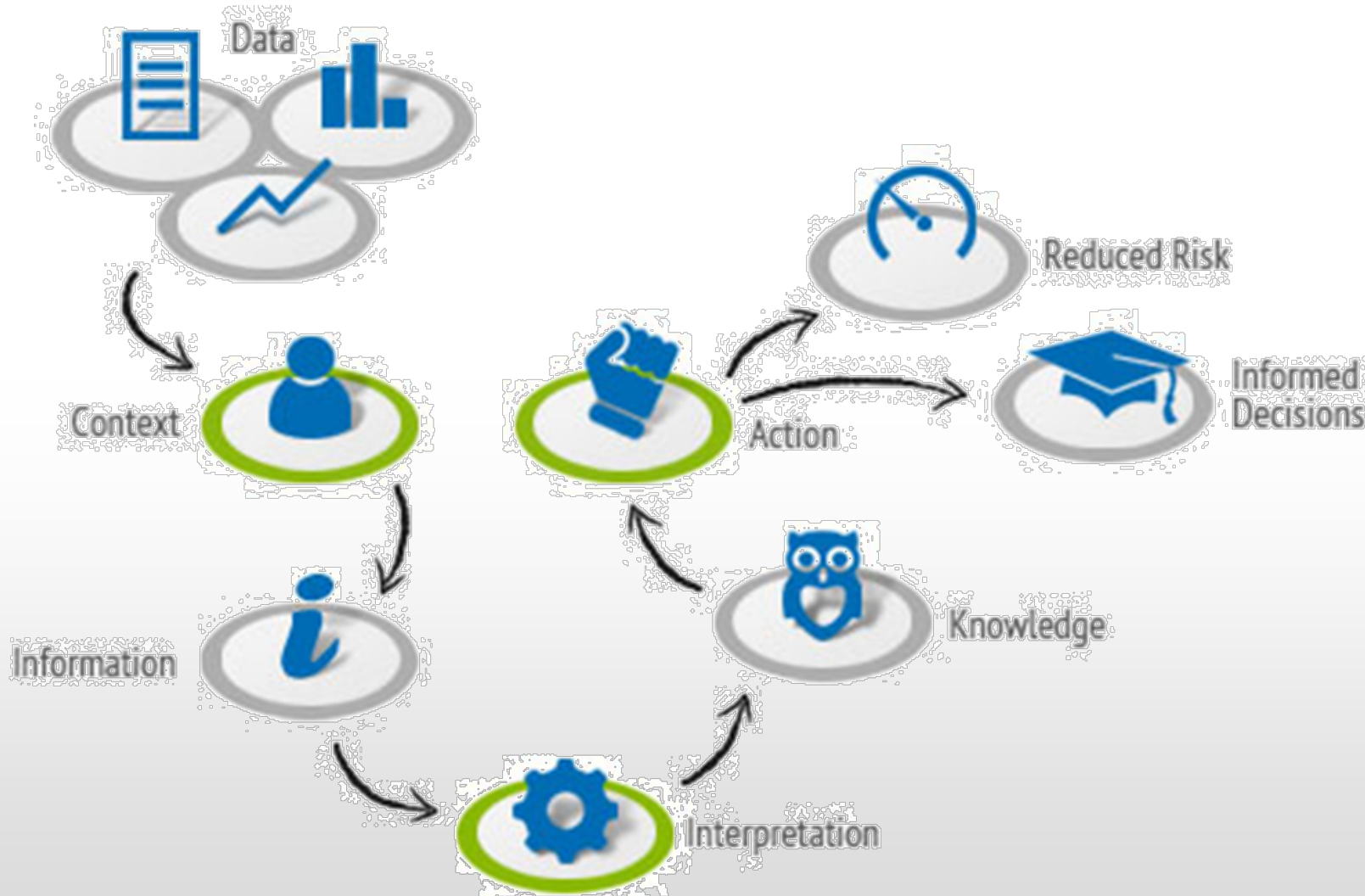Do people know how to use data and research? (e.g. decision making)

Are you data rich but insight poor?

Pair and share

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HOW CAN YOU LEVERAGE THE DATA YOU ARE *ALREADY* COLLECTING / REPORTING FOR DECISION MAKING?

DATA MATURITY MODEL – MOVING FROM INSIGHT TO ACTION

EVOLVING THE ROLE OF IR

Compliance Reporting

Shared Vision for Student Success

IR as Change Agents

CHANGING THE ROLE OF IR

Promote a vision for the IR office/function as:

- Innovator
- Change Agent

Move away from…

- Data "Cruncher" and Gatekeeper

Move towards…

- Data/Information *Facilitator* and *Leader*

DATA DIVA

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WHERE TO START? BUILD A DATA TEAM

- Start with strong cooperation between IR and IT

- Incorporate Data Offices: Registrar's Office (NSC reporting, Financial Aid, and others

- Recruit Faculty: Math Faculty, English Faculty, Social Science Faculty

- Identify and bring in others who have data skills

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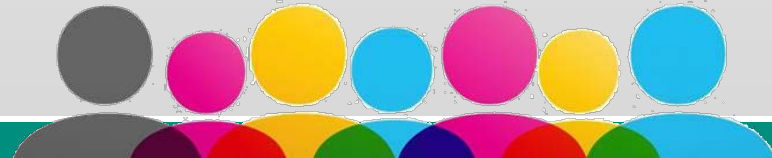
DATA INVENTORY

- Where and how are recorded data stored?
- What are the data issued for?
- How are the data accessed?
- Who is responsible for the data at both an operational and a strategic level?

DATA PROCESSING

- Create student success metrics for institutional tracking including **leading and lagging measures**

- Collect and analyze **longitudinal** / **cohort data**

- Review/process student success data you are **already reporting** for meaning and implications

- Make recommendations regarding **data findings** to college committees/teams

- Identify and recommend **additional sources of data**

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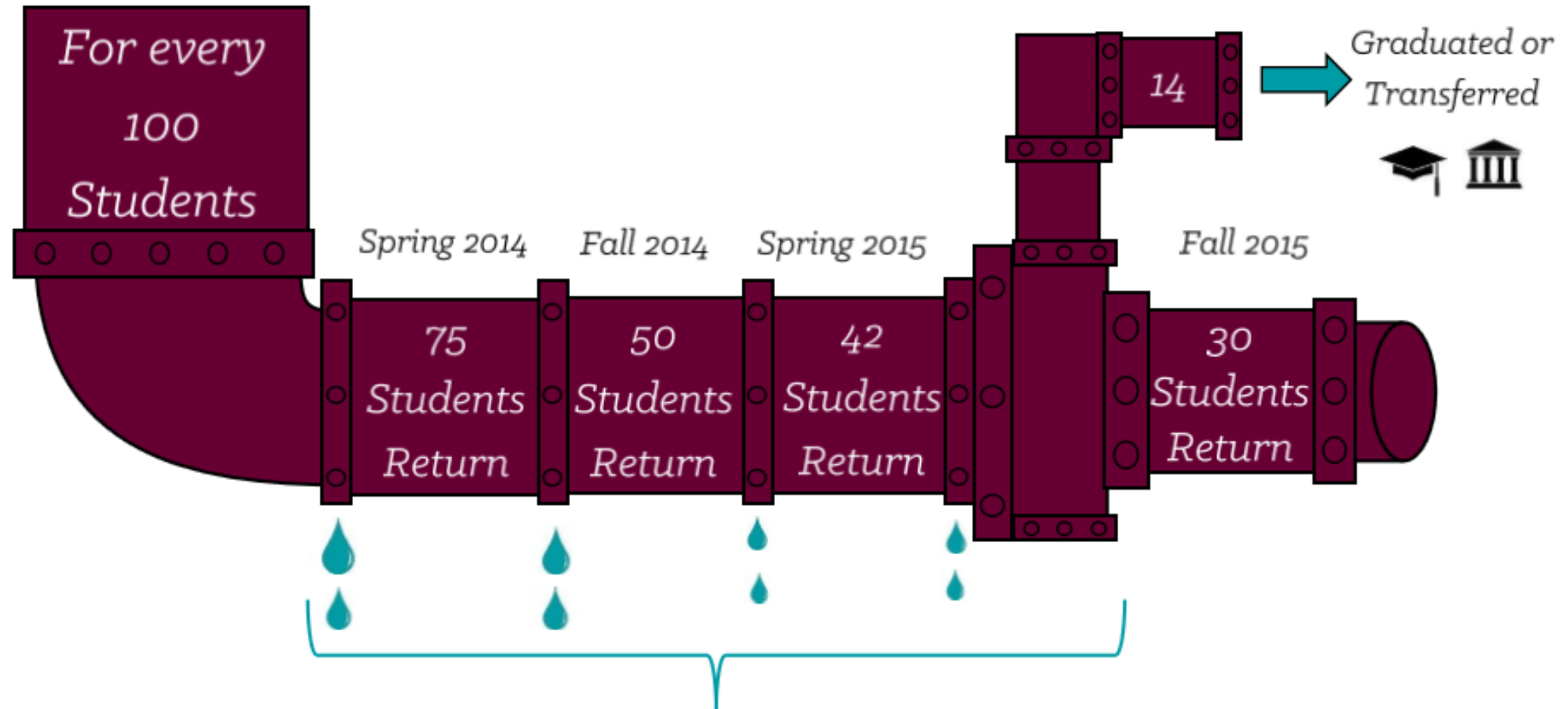
FOUNDATIONAL STUDENT SUCCESS QUESTIONS

- What percent of students who start in the fall semester return the following spring semester? The following fall semester?

- How many credits are students accumulating in their first term? And in their first year?

- What is the ratio of credits attempted to credits earned by students in their first year?

- What percent of students successfully complete gateway math within their first year? Gateway English? Both?

- How long does it take students to earn a certificate? An associate's?

- What percent of students transfer to a four-year institution with/without a certificate or degree? What percent earn a bachelor's degree?

- What percent of students are employed upon completing a certificate or degree? What are their median earnings?

EQUALITY   **EQUITY**   **REMOVAL OF STRUCTURAL BARRIERS**

RESEARCH DESIGN

- Conceptualize student success research questions and data analyses

TIP: *Begin with the end in mind –*
student success and completion
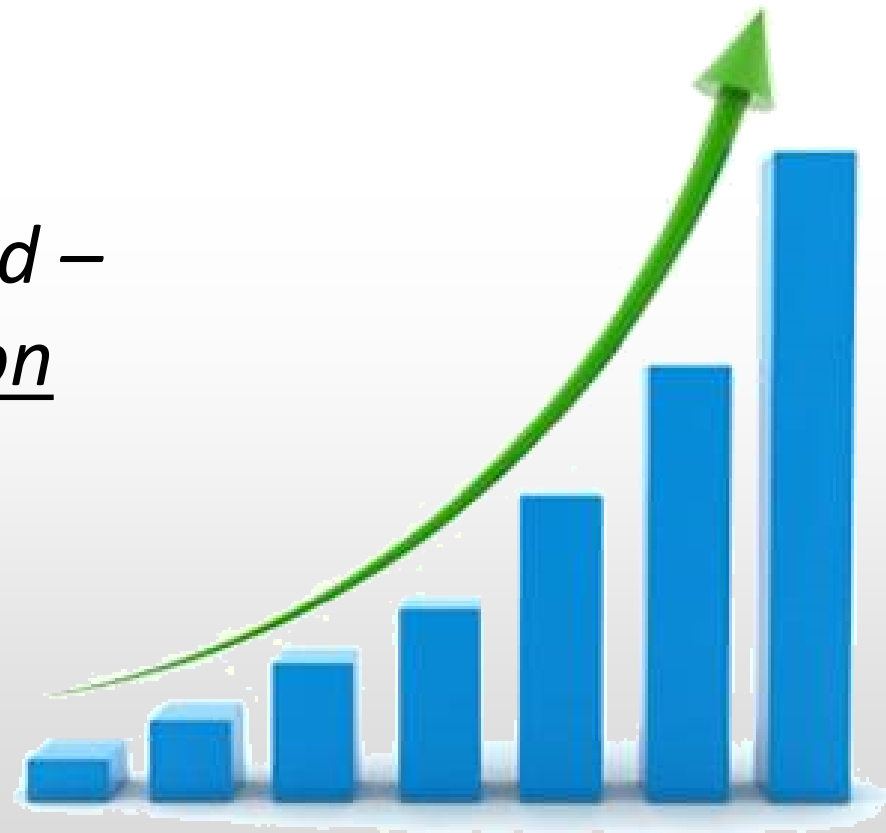
DATA PACKAGING AND DISSEMINATION

- Share student success data in **easy-to-understand formats** for campus wide dissemination

- Plan **data summits** share and discuss student success data findings with the campus community

- Get creative and develop strategies for data dissemination using multiple formats

DATA

DATA INTEGRATION

- Develop data integration strategies
- Incorporate student success metrics into **existing data reports and tools** like enrollment tracking reports, institutional indicators of effectiveness, or academic program reviews

EVALUATION OF STUDENT SUCCESS INTERVENTIONS

- **Continuously evaluate** and review interventions for effectiveness and ability to scale

- Assist "intervention teams" with the **design of evaluation plans** and data compilation

- Evaluate student success efforts through an equity lens through **disaggregated data**

BUILD CAPACITY

Education (free or low cost options)
- Quantitative and qualitative research techniques (e.g. focus groups)
- Outcome-based evaluation techniques
- Data presentation, visualization, and dissemination

Staffing
- Faculty release time to work in IR office
- Center for Applied Research
- Four-Year Partners
- Student Interns

Technology
- Build strong relationships with IT

I'VE GOT 99 PROBLEMS
AND DATA IS NOT ONE

ADDRESSING DATA CHALLENGES

Data Accuracy

- Data entry errors
- Inconsistent data formats or coding
  - E.g. a text string may be entered when a number is required or a number is entered that falls outside of an allowable range
  - E.g. Last name McDonough will sometimes be incorrectly entered as "mcdonough", "mc donough", "Mcdonough" or "Mc Donough,"

TIP: Consider using data validation to create rules that specify what type of data can be entered and the allowable range.

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ADDRESSING DATA CHALLENGES

Data Integrity

- Maintaining the consistency of a data element or calculation over time to prevent unintended changes
- E.g. If a college traditionally calculates overall course success rates including pass grades from developmental courses and then stops including developmental courses (causing success rate variation). Leads to confusion over cause of change: student performance or the calculation

TIP: Develop well-written and agreed-upon data definitions and calculations, colleges can build data literacy and trust.

ADDRESSING DATA CHALLENGES

Operational Definitions

- Clear, concise, detailed definition of a measure
- Unclear or inaccurate data definitions lead to misinterpretation causing confusion
- E.g. Data request about the # of new students enrolled in fall term. Possible definitions for new student include:
  1. A student who entered the institution for the first time in fall with prior college-level course credit
  2. A student who entered the institution for the first time in fall who has never attended college before.

TIP: Develop an institutional data dictionary of common variables used when discussing student success at your institution.

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What <u>challenges</u> does your institution face in building capacity in data and analytics?

Pair and share

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What solutions or strategies could you put in place to positively impact those issues?

Pair and share

RESOURCES

Achieving the Dream
- Data Discovery Guide
- Data & Technology Insight Webinar Series
- Interventions Showcase
- Knowledge Center
- Learning Events
  - Data & Analytics Summit, September 13-15 in College Park, MD
  - Integrated Advising and Student Supports Institute, October 2-5, New Orleans, LA
  - DREAM 2018, February 21-24, Nashville, TN
- ATD Data Coach

RESOURCES

Publications

- [Using Data to Increase Student Success: A Focus on Diagnosis](#)

- [Strengthening Institutional Research and Information Technology Capacity through Achieving the Dream](#)

- [Basics of Longitudinal Cohort Analysis](#)

- [Evaluating Student Success Interventions](#)

- [Using Achieving the Dream to Meet Accreditation Requirements](#)

- [Engaging Faculty in Achieving the Dream](#)

RESOURCES

National Data Collections

- AIHEC AIMS
- National Center for Education Statistics (NCES)
- The Integrated Postsecondary Education Data System (IPEDS)
- National Student Clearinghouse (NSC)
- National Student Loan Data System for Students (NSLDS)
- U.S. Department of Education: College Scorecard

RESOURCES

Voluntary Data Initiatives

- Complete College America
- Voluntary Framework of Accountability
- National Community College Benchmark Project
- Completion by Design
- Predictive Analytics Reporting Framework (PAR)
- Student Achievement Measure (SAM)
- Aspen College Excellence Program
- Institute for Higher Education Policy: Postsecondary Data Collaborative

RESOURCES

Training
- AIR Data and Decisions Academy
- IPEDS Training Workshops Graduate Certificates in Institutional Research
- Perceptual Edge (visual communication courses by Stephen Few)
- Edward Tufte: Data presentation course

Research Centers/Think Tanks
- Community College Research Center (CCRC)
- Institute for Higher Education Policy (IHEP)
- Georgetown University: Center on Education and the Workforce
- RP Group: The Research & Planning Group for California Community Colleges

RESOURCES

Higher Education News Resources
- The Chronicle of Higher Education
- Inside Higher Ed
- Community College Week

Nonprofit Associations
- American Association of Community Colleges (AACC)
- Association for Institutional Research (AIR)
- EDUCAUSE
- Society for College and University Planning (scup)
- Jobs for the Future

Want these slides?

WRITE DOWN YOUR EMAIL ADDRESS

Thank you!

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