Data for Decision Making

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ACHIEVING THE DREAM

JULY 26, 2017
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
INSTITUTIONAL CAPACITY FRAMEWORK

- Teaching & Learning
- Engagement & Communication
- Strategy & Planning
- Policies & Practices
- Leadership & Vision
- Data & Technology
- Equity
- Student-Focused Culture
INSTITUTIONAL CAPACITY FRAMEWORK

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INSTITUTIONAL CAPACITY FRAMEWORK

CULTURE OF EVIDENCE

- Teaching & Learning
- Engagement & Communication
- Strategy & Planning
- Policies & Practices
- Leadership & Vision
- Data & Technology
- Equity

Achiving theDream Community College Chief
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
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
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

No thanks!

We are too busy
CULTURE AND BEHAVIOR

• 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
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?
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?
DATA RICH, INSIGHT POOR
## College Ready FTIC Students

<table>
<thead>
<tr>
<th>Milestone/Momentum Point/On-Track Indicator</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
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<tr>
<td>Number of Students</td>
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<td>1,304</td>
<td>959</td>
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<td>1,144</td>
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<td>1,363</td>
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<tr>
<td>Completed College Math Credits in First Two Years</td>
<td>50%</td>
<td>55%</td>
<td>59%</td>
<td>57%</td>
<td>56%</td>
<td>57%</td>
<td>61%</td>
<td>63%</td>
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<tr>
<td>Completed College English Credits in First Two Years</td>
<td>74%</td>
<td>75%</td>
<td>76%</td>
<td>75%</td>
<td>72%</td>
<td>75%</td>
<td>79%</td>
<td>79%</td>
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<tr>
<td>Attempted 12 or More Credits in First Term</td>
<td>60%</td>
<td>62%</td>
<td>68%</td>
<td>65%</td>
<td>63%</td>
<td>64%</td>
<td>69%</td>
<td>67%</td>
<td>70%</td>
<td>74%</td>
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<tr>
<td>Earned 12 or More Credits in First Term</td>
<td>32%</td>
<td>37%</td>
<td>37%</td>
<td>35%</td>
<td>35%</td>
<td>35%</td>
<td>39%</td>
<td>40%</td>
<td>45%</td>
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</tr>
<tr>
<td>Earned General Education Credits in First Term</td>
<td>77%</td>
<td>78%</td>
<td>83%</td>
<td>85%</td>
<td>80%</td>
<td>82%</td>
<td>84%</td>
<td>87%</td>
<td>89%</td>
<td>89%</td>
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<tr>
<td>GPA of 2.5 or Greater in First Term</td>
<td>45%</td>
<td>54%</td>
<td>52%</td>
<td>50%</td>
<td>49%</td>
<td>50%</td>
<td>51%</td>
<td>57%</td>
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<tr>
<td>No Withdrawals or Failures in First Term</td>
<td>44%</td>
<td>53%</td>
<td>45%</td>
<td>48%</td>
<td>45%</td>
<td>44%</td>
<td>43%</td>
<td>46%</td>
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<td>47%</td>
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<tr>
<td>No Withdrawals or Repeats in First Year</td>
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<td>40%</td>
<td>38%</td>
<td>44%</td>
<td>38%</td>
<td>40%</td>
<td>41%</td>
<td>42%</td>
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<tr>
<td>Earned 12 or More Credits in First Year (Any-level)</td>
<td>69%</td>
<td>69%</td>
<td>70%</td>
<td>70%</td>
<td>67%</td>
<td>66%</td>
<td>70%</td>
<td>72%</td>
<td>79%</td>
<td>80%</td>
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<tr>
<td>Earned 12 or More College Credits in First Year</td>
<td>62%</td>
<td>63%</td>
<td>70%</td>
<td>68%</td>
<td>66%</td>
<td>64%</td>
<td>70%</td>
<td>72%</td>
<td>78%</td>
<td>79%</td>
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<tr>
<td>Earned 30 or More Credits in First Year (Any-level)</td>
<td>11%</td>
<td>13%</td>
<td>11%</td>
<td>10%</td>
<td>10%</td>
<td>10%</td>
<td>12%</td>
<td>12%</td>
<td>14%</td>
<td>17%</td>
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<tr>
<td>Earned 30 or More College Credits in First Year</td>
<td>9%</td>
<td>11%</td>
<td>11%</td>
<td>10%</td>
<td>9%</td>
<td>10%</td>
<td>12%</td>
<td>12%</td>
<td>13%</td>
<td>17%</td>
</tr>
<tr>
<td>Earned 20 or More Credits in First Year</td>
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<td>43%</td>
<td>46%</td>
<td>45%</td>
<td>41%</td>
<td>45%</td>
<td>49%</td>
<td>54%</td>
<td>56%</td>
<td></td>
</tr>
<tr>
<td>Earned General Education Credits in First Year</td>
<td>85%</td>
<td>87%</td>
<td>89%</td>
<td>90%</td>
<td>86%</td>
<td>87%</td>
<td>89%</td>
<td>91%</td>
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<td>GPA of 3.25 or Greater in First Year</td>
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<td>19%</td>
<td>20%</td>
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<td>20%</td>
<td>21%</td>
<td>18%</td>
<td>23%</td>
<td>24%</td>
<td>22%</td>
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<tr>
<td>GPA of 2.5 or Greater in First Year</td>
<td>40%</td>
<td>43%</td>
<td>47%</td>
<td>45%</td>
<td>44%</td>
<td>44%</td>
<td>44%</td>
<td>47%</td>
<td>53%</td>
<td>52%</td>
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<tr>
<td>Earned at least 80% of Credits Attempted</td>
<td>53%</td>
<td>56%</td>
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<td>55%</td>
<td>55%</td>
<td>52%</td>
<td>56%</td>
<td>61%</td>
<td>65%</td>
<td>63%</td>
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<tr>
<td>Pell Award Recipient in First Year</td>
<td>22%</td>
<td>25%</td>
<td>23%</td>
<td>25%</td>
<td>24%</td>
<td>24%</td>
<td>23%</td>
<td>26%</td>
<td>33%</td>
<td>45%</td>
</tr>
<tr>
<td>Retained to 2nd Term</td>
<td>81%</td>
<td>83%</td>
<td>82%</td>
<td>83%</td>
<td>80%</td>
<td>78%</td>
<td>82%</td>
<td>82%</td>
<td>86%</td>
<td>88%</td>
</tr>
<tr>
<td>Retained to 2nd Year</td>
<td>68%</td>
<td>66%</td>
<td>67%</td>
<td>68%</td>
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<td>65%</td>
<td>68%</td>
<td>70%</td>
<td>76%</td>
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</tr>
<tr>
<td>Enrolled in First Summer</td>
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<td>44%</td>
<td>42%</td>
<td>43%</td>
<td>42%</td>
<td>38%</td>
<td>40%</td>
<td>42%</td>
<td>45%</td>
<td>47%</td>
</tr>
<tr>
<td>Enrolled in Second Summer</td>
<td>36%</td>
<td>37%</td>
<td>38%</td>
<td>36%</td>
<td>33%</td>
<td>32%</td>
<td>36%</td>
<td>39%</td>
<td>44%</td>
<td></td>
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<tr>
<td>No Delay in Enrollment</td>
<td>77%</td>
<td>75%</td>
<td>81%</td>
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<td>78%</td>
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<td>86%</td>
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<td>87%</td>
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<tr>
<td>Underrepresented Race or Ethnicity</td>
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<td>42%</td>
<td>46%</td>
<td>52%</td>
<td>53%</td>
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<td>Required College Prep</td>
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<td>Foreign Born</td>
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<td>27%</td>
<td>26%</td>
<td>23%</td>
<td>26%</td>
<td></td>
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<tr>
<td>First Generation in College</td>
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<td></td>
<td></td>
<td>29%</td>
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<tr>
<td>Average number of terms enrolled in First Year</td>
<td>2.3</td>
<td>2.3</td>
<td>2.2</td>
<td>2.3</td>
<td>2.2</td>
<td>2.2</td>
<td>2.2</td>
<td>2.3</td>
<td>2.3</td>
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<tr>
<td>GPA of 2.5 or Greater</td>
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</tbody>
</table>
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
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
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
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
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**
Fall 2013 FTIC Program - Placed (n = 1,429)

For every 100 Students

Spring 2014: 75 Students Return
Fall 2014: 50 Students Return
Spring 2015: 42 Students Return
Fall 2015: 30 Students Return

Graduated or Transferred

56 leak out over the course of 2 years
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 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
  o 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
  o 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.
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.
What challenges does your institution face in building capacity in data and analytics?

Pair and share
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!

ALLISON RAY AKALONU – AAKALONU@ACHIEVINGTHEDREAM.ORG