CULTIVATING A DATA-INFORMED CULTURE FOR STUDENT SUCCESS

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ABSTRACT

As institutions place greater accountability for student success, use of data to support decision-making has become increasingly critical. The democratization of data analytics has fueled unprecedented, and often overwhelming demands on faculty, staff, and administrators to use this data to promote student success. Factors impeding student success are complex and student success intervention can vary widely among disciplines. Even though there are large volumes of data, there is a growing gap in comprehending and using this data to take on meaningful data-informed interventions. This presentation focuses on the strategies that are necessary in establishing a university-wide culture that leverages data-informed decision-making.

Keywords: data culture, student success, data-informed decision-making, decision-making
CULTIVATING A
DATA CULTURE
FOR STUDENT SUCCESS

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CULTIVATING A

DATA CULTURE

FOR STUDENT SUCCESS

- Student Success
- Data Challenges
- Data Culture
- Cultivating a Culture
STUDENT SUCCESS
An Institutional Priority
PERFORMANCE-BASED FUNDING

In place at two-year institutions
In place at four-year institutions
In transition

STUDENT SUCCESS METRICS

- Improving Retention
- Increasing Graduation Rates
- Reducing Achievement Gaps
- Reducing Time to Degree
- Improving Course-level Performance
- Increasing Student Access
CA LEGISLATION

• CA Assembly Bill 1602 – Graduation Initiative
  – Graduation rate goals for 2025
    • Freshmen 40% for 4-year & 70% for 6-year
    • Transfer 45% for 2-year & 85% for 4-year
  – Eliminate both URM & PELL GAP

• CA Senate Bill 402 – The California Promise
  – Provide high priority four-year pathways for freshmen & two-year pathways to transfer students
6-Year Freshman Graduation Goal

Remember, there is still time to make changes to reach your goals for 2025.

Summary
Long Beach has made **good progress** toward its 2025 goal that 77% of all freshmen will graduate within 6 years.
DRIVE FOR DATA-INFORMED DECISION MAKING

Tracking Progress
Measuring Change
Targeting Interventions
DATA CHALLENGES
LARGE VOLUMES OF DATA

• We have accumulated large volumes of sophisticated student data in institutional silos
  • Institutional Research
  • Enrollment Services
  • College and Department Level
  • Data Analytics
  • Campus System Data
  • Others

https://www.instagram.com/p/BTVcelmizCE/?hl=en
DATA PUSH vs PULL

• Primary strategy has been ‘Pushing Data’ from central institutional offices to Colleges and units.
  – Not necessarily useful for day-to-day intervention for an advisor or faculty

• Data-pull - customized data for unique user needs.
DATA CULTURE
WHAT IS DATA CULTURE?

- **DATA-CENTRIC**: When you bring people together around data as the central driver to help make decisions.

- **DATA-INFORMED**: When you take the data and its context as inputs to your conversation and decision-making process.

- **DATA-DRIVEN**: When you look at the data to find out what to do or how to approach something.
DATA CULTURE MATURITY

1. Absent/ad hoc
2. Low Support
3. Some Support
4. Good Support
5. Highest Support
LEADERSHIP
to advance data culture

• Essential element in building a culture.

• Commitment at the senior leadership level is key.
  – Provost focused on student success with direct access to college deans

• Delegating this responsibility to IR or similar data-centric office is not effective.
STUDENT SUCCESS TEAM

to advance data culture

- Department Staff/Advisors
- Faculty
- Department Chairs
- Associate Deans
- Deans
- Senior Institution Leaders
- Institutional Research Staff
- Student Affairs Staff
- Enrollment Services Staff

http://www.alexander-woerlsinger.de/teamwork-warum-teams-nicht-immer-funktionieren/
DATA EFFICACY
to advance data culture

• Quality and standardization

• Accessibility to desired data

• Ability to review the data from the user perspective
  – Data push vs data pull

• Predictive analytics tools lack transparency
  – Lack of openness to core assumptions and algorithms

Pam Arroway et al., Learning Analytics in Higher Education, EDUCAUSE Center for Analysis and Research (2016): www.educause.edu/ecar
CULTURAL BARRIERS
BARRIERS
to cultivating a data culture

• ACCESS

• MOTIVATION

• CONFIDENCE

• OPPORTUNITY

• DATA SAVVY

• DRIVE TO ACTION
ACCESS to needed data

• Direct access with broad availability

• Data appropriate for the role (data pull)
  – Administrators
  – Department Chairs
  – Faculty
  – Staff

• Balancing access with compliance
  – FERPA (Family Education Rights and Privacy Act)
  – IRB (Institutional Review Board)
MOTIVATION & CONFIDENCE in using data

- Create right incentives and expectations
  - Making data relevant to user roles increases motivation and creates opportunity

- Support for both data-phobes and data-philes
  - Some thrive in the use of data, while others are challenged

- Engage data skeptics
  - Some don’t trust any data they did not pull together
DRIVE TO ACTION
to promote student success

• Engaging the spectrum of data literacy needs is critical
  – Need for data literacy, not data scientist
  – Data savviness vary among academic colleges and disciplines
  – Team approach is critical in promoting diverse data literacy needs

• Guiding teams to develop insights is key
  – “Aha moments”
  – Guiding and supporting teams to avoid analysis paralysis

Jamie Studwell, The leaky pipeline of data enablement, EAB Student Success Insights Blog, 2017
DATA FELLOWS
FOR STUDENT SUCCESS

@ California State University – Long Beach
www.csulb.edu/data-fellows
DATA FELLOWS CHARGE

• Fellows
  – Each college is represented by Faculty, Staff, and Associate Dean.
  – Academic Affairs, Student Affairs, Institutional Research, Enrollment Service, and University Research Office are represented by one or two staff members.
  – A total of over 40 members

• Charge
  – Data Fellows are charged with developing a data-informed culture in developing strategies for the new institutional goals
    • Improving four-year graduation rates
    • Minimizing attrition in the first two-years
    • Increasing success rates for all students (PELL & URM)
DATA FELLOWS PROGRAM
at California State University - Long Beach

• Predictive Analytics Team (2018)
  – Faculty researchers pursuing student success related research

• Data Fellows (2016)
  – Teams of Associate Dean, staff, faculty, Department Chair, Academic Senate, Student Affairs, Continuing Education, University Advising Staff, Graduate Program

• Data Action Groups in each College & Unit (2017)

• Data Access Campus-wide Workshops (2018)
EXPECTED OUTCOME

• **EMPOWERMENT**
  – Each college/unit is expected to take greater ownership for their respective student success metrics.

• **COLLABORATIONS**
  – Staff, faculty, and administrators are expected to team up in developing innovative solutions within the departments/units.

• **DATA PULL**
  – Institutional Research, Enrollment Services, and other units that provide data are expected to align with the needs of the Colleges and Departments/units in supporting students success.
EXAMPLE PROJECTS
CUSTOMIZED DASHBOARDS

- User specific dashboards
- Aggregate data as well as student-level data
- Tracking data
- Greater ability to investigate and manipulate the dataset at the local level
FACULTY RESEARCH on Student Success

- **Impact of Class Scheduling on 4- and 2-year Graduation Rates**
  by Burkhard Englert (Engineering) and Chung-min Lee (Natural Science & Mathematics)

- **Shooting for a Better, Fast, and More Efficient System: A Study on Students’ Timely Progress to Graduation**
  by Xuemei (Sherry) Su, Ming Chen, and Hongyu Chen (Business Administration)

- **Rising Tides & Changing Trends: Utilizing Survival Analysis and Qualitative Inquiry to Examine Challenges to Freshman Timely Degree Progress**
  by Avery Olson, Erika Baldwin, and Don Haviland (Education)
CHALLENGES
LACK OF HOLISTIC DATA

Academic:
- Transcripts
- EAB/Advisor Notes
- Academic Standing
- GPA
- Course taking pattern
- Course Load
- Academic Progress

Non-Academic:
- Work / Internship
- Extracurricular Activities
- Family Responsibilities
- Commute Time
- Level of Comfort with Course load
SUMMARY

• Confidence in Analytics
  – Not considering both quantitative and survey data (personal and non-cognitive factors) can lead to lack of confidence.
  – Need to build survey data warehouse to complement quantitative data

• Cultivating a data culture is a journey, not a destination
  – Change in culture requires sustained long term commitment.
  – The culture change is necessary within both data providers and data users.
  – Change in culture requires active and broad engagement.
Thank you!