Analytics in Higher Education
The pathway to our future

Robert (Bob) Goldstein
Vice Provost, University of Louisville

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The Pronunciation Conundrum:

- Lewis-vil
- LOO-a-vul
- LUH-vul
- Loo-A-vil
- LOOEY-vil
Louisville
ABOUT THE CITY

Home of:

The Kentucky Derby
  • Multi-Week International Festival
  • First Saturday in May
  • 150,000+ attend

Muhammad Ali
Jennifer Lawrence

...and, of course...
• “Analytics is the use of data, statistical analysis, and explanatory and predictive models to gain insights and act on complex issues.”
  
  Source: EDUCAUSE

• “Analytics is the purposeful and intentional use of data, statistical analyses, and explanatory and predictive models to gain strategic insights to act on institutional priorities.”

  Source: EDUCAUSE/Goldstein
Decreases in state appropriations

UofL has moved from a state-supported institution (in 1998-1999, the Commonwealth of Kentucky provided 71% of total public funds) to a state-assisted institution (by 2017-18, that support had dropped to 30%)

Concerns about affordability of higher education

Questions regarding the value of a college degree (return on investment)/debt upon graduation

Increasing competition (for-profit institutions, massive open online courses (MOOC))

Shifting student demographics with varying levels of academic preparedness
HOW HAS THE INTERNAL EDUCATIONAL LANDSCAPE EVOLVED?

- Implementation of institutional strategic plan and associated priorities
- Need for the alignment of resources to advance identified areas of institutional strength
- Demand for transparent accountability requiring the creation of performance metrics consistent with federal and state requirements
- Positioning institutions to create local and global partnerships (serving as an economic engine/community engagement catalyst)
What strategic priorities can benefit by the use of analytics

- Enrollment management
- Student success
- Academic scholarship and entrepreneurial research
- Faculty productivity (promotion and tenure)
- Continuous quality improvement
- Resource allocation
- Facilities management
- Community engagement (local and global)
- Academic program development
- Strategic Planning and Implementation Group (SPIG) and Budget Advisory Committee (BAC)
• Failure to optimize the use of data collected in the institution’s information management system and associated software applications (e.g., faculty productivity, course evaluations, etc.)

• Small fraction of collected data are used now – primarily in enrollment management, finance and budgeting, and student progress.

Source: EDUCAUSE

Number of tables in PeopleSoft compared to the number of tables used to create official files
What is stopping us?

- Lack of a universal culture valuing data-driven decisions
- Concerns that accountability will change the academic enterprise
- Varying opinions on how best to assess quality and institutional effectiveness
- Costs (staff, training, statistical tools)
- Misinterpretation of data
- Data quality
Disagreement regarding the appropriate use of transactional data versus census data
  Balancing “real time” reporting against replicability
Belief that unit-/discipline-specific silo data systems are more programmatically descriptive
Resistance to standardizing data definitions and the use of the university’s information management system
Trust (relinquishing control)
WHAT IS IN PLACE?

- Senior leader interest
- Identification of key outcomes
- Accepting administration
- Data capacity
- Information security readiness
- IR professionals
- Right data
- Data access policies
- Right tools
- IT professionals
- Clean data
- Data-driven culture
- Standardized data
- Good reports
- Investment orientation
- Dedicated analytics professionals
- Business professionals
- Process to use data in decisions
- Faculty acceptance
- Funding
- Analysts

Source: The 2012 Study of Analytics in Higher Education (Jacqueline Bichsel, Ph.D.) – EDUCAUSE 2012 Annual Conference
**SO ... WHAT DOES THIS SAY?**

[Chart showing analytics readiness metrics with categories like "Senior leader interest", "Right data", "Data-driven culture", etc., and red and green bars indicating percentage of metrics in place or not in place.]
WHAT ARE THE FUNDAMENTAL TENETS TO ENSURE SUCCESS?

- Need strong, public, and consistent executive sponsorship
- Establish questions that drive data/statistical analyses
- Effectively use collected data to answer established questions
- Engage in open and transparent communication among key stakeholders
- Engender the trust of the university community by providing appropriate and informing analyses (create successes/demonstrable “win/win” examples)
- Leverage existing infrastructure and investments
WHAT SHOULD WE BE MINDFUL OF TO ENSURE SUCCESS?

• Underestimating the value of the role of functional subject matter experts in interpreting the data
  Statistical software /application does not have discernment requiring trained and skilled analytic oversight

• Rushing the acquisition and deployment of analytic tools without establishing system and reporting requirements
Formative Assessment

Gathering of information about student learning—during the progression of a course or program and usually repeatedly—to improve the learning of those students.

Formative Assessment Examples

- Student Work Analysis
- Strategic Questioning
- Classroom Polls
- Journals
- Quizzes
- Self Assessments

Summative Assessment

Gathering of information at the conclusion of a course, program, or undergraduate career to improve learning or to meet accountability demands. When used for improvement, impacts the next cohort of students taking the course or program.

Summative Assessment Examples

- Capstone Projects
- Final Projects
- Midterm/Final Exams
- Papers
- Portfolios
- Recitals/Performances
Develop or modify SLOs

Develop, modify or review course or program

Design & measure SL resulting from course/program

Determine refinements based on outcomes data

Collect, discuss, and analyze data

Standard Assessment Cycle
Process of Institutional Effectiveness

Source: David Garrison, and Carol Yin, LaGrange College, used by permission.
Our Experience
Enrollment: 22,367 (fall 2015)
  • Undergraduate: 15,985
  • Graduate/Professional: 5,595
  • Post-Doc/House Staff: 787

13 Academic Colleges/Schools (including University Libraries)
  • 200+ undergraduate and graduate programs
  • 3 professional programs – medicine, dentistry, law
  • 3 campuses (Belknap, HSC, Shelby)
  • Confers ≈5,000 degrees/credentials annually

1,795 Full-time Faculty and 4,405 Full-time Staff
Office of Institutional Research and Planning consists of 6 FTEs

Blackboard Analytics (formerly iStrategy) limited deployment to key functional users

Fall 2009/Spring 2010: Pilot projects for online course evaluations
Fall 2010: University-wide transition

Academic Analytics faculty productivity platform introduced on PhD level; Expanded to department- and faculty-level detail

Institutional research and Planning completes 723 ad hoc data requests in 2017. 608% increase over 2003.

Office of Institutional Effectiveness created with 3 FTEs

Compliance Assist implemented to track student learning outcomes (SLOs)

Dynamic reporting for university leadership developed using SAS VA. Expanding to public-facing portal in 2017.

Office of Institutional Research and Planning consists of 7.8 FTEs
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Questions?

For more detailed information regarding the material presented, please contact

Robert (Bob) S. Goldstein
Vice Provost
rsgold03@louisville.edu