What Could We Do, If Only We Knew? Libraries, Learning Analytics, & Student Success

Library Assessment Conference 2018

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National Forum Meetings

• EDUCAUSE Annual Conference, November 2017
• CNI Fall Meeting, December 2017
• CNI Spring Meeting, April 2018
• academic library administrators,
• reference and instruction librarians,
• systems librarians,
• library technology administrators,
• library association leaders,
• IT administrators
• learning analytics experts,
• library vendor partners, and
• learning technology standards representatives
Problem/Impetus – Completion & Debt Crises

- More students dropping out before completion
  - 6-year graduation rate mired below 60%
  - Disproportionately impacts students of color
  - Disproportionately impacts students from low-income families
- More students accruing debt (and defaulting)
Consequences & Negative Impacts

- Educational achievement
- Career aspirations
- Financial security
- Socioeconomic mobility
- Knowledge and skill attainment
- Self-actualization
- Feelings of accomplishment
- Community membership

Research on Reasons for Lack of Retention

- pre-entry student attributes
- institutional characteristics
- insufficient student involvement and engagement (particularly in the first year)
- insufficient participation of faculty in student life in and out of the classroom
- cultural, economic, and social forces within and outside of the institution
- issues of equality and the lack thereof
- external events in student lives
- etc.

“It is one thing to understand why students leave; it is another to know what institutions can do to help students stay and succeed...knowing why students leave does not tell us, at least not directly, why students persist. More importantly it does not tell institutions, at least not directly, what they can do to help students stay and succeed.”

“We need to know more about the nature of [student] experiences in [their] institutions, the ways those experiences influence persistence, and more importantly the sorts of...actions that enhance their success in higher education.”

Learning Analytics
Learning Analytics Definitions

“the measurement, collection, analysis, and reporting of data about learners and their contexts, for the purposes of understanding and optimizing learning and the environments in which it occurs.”


the “collection and analysis of usage data associated with student learning. The purpose of [learning analytics] is to observe and understand learning behaviors in order to enable appropriate interventions.”

“Library Analytics” or Learning Analytics?
Libraries & Student Learning Assessment Arc
Institutional Focus
INTEGRATION

Learning Management System Data
Integrated Planning and Advising Services System Data
Student Information System Data
Co-Curricular Engagement System Data
Next Generation Digital Learning Environment Data
What unique knowledge, skills, and abilities do librarians bring to learning analytics efforts?
collaborate across institutional and organizational silos

possess data, visualization, learning, and privacy expertise, knowledge, and skills

collect large amounts of data for reporting, accountability, and managerial decision-making
collaborate across institutional and organizational silos

possess data, visualization, learning, and privacy expertise, knowledge, and skills

collect large amounts of data for reporting, accountability, and managerial decision-making

have established history of conducting assessments for continuous improvement and embracing change

seek to make an impact on student learning and success
possess data, visualization, learning, and privacy expertise, knowledge, and skills
collaborate across institutional and organizational silos
collect large amounts of data for reporting, accountability, and managerial decision-making
have developed a corpus of research demonstrating the contributions of libraries to student success and learning
are guided by professional principles and viewed as a “trustworthy” profession
possess decades of experience assessing student learning outcomes
have established a history of conducting assessments for continuous improvement and embracing change
seek to make an impact on student learning and success


Is there a role for libraries in learning analytics initiatives?

And if so, what does that role look like?
Ways to Envision Library Engagement in Institutional Learning Analytics

- Identify: problems to solve and stakeholders to support
- Articulate: questions
- Imagine: future actions
- Consider: facilitators
- Anticipate: librarian roles
- Envision: beneficial scenarios
- Reflect: on existing data
- Create: user stories
What do we need (want) to know?
User Stories (an agile design approach to understanding what a system needs to be able to do)

• As [who], I want [what], so that [why].
• As a [user], I want [goal] so that [reason].
• As [stakeholder], I want [to be able to do an activity, to have awareness, to take an action] in order to [achieve outcome, solve problem, meet need].
## Possible Librarian Roles in Learning Analytics

<table>
<thead>
<tr>
<th>Communication</th>
<th>Policy &amp; Procedure Activism</th>
<th>Participation</th>
<th>Meaning Creation</th>
<th>Action</th>
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<tbody>
<tr>
<td>• Engage in discussions about learning analytics across the institution</td>
<td>• Shape policies governing the deployment and use of learning analytics</td>
<td>• Participate in institutional learning analytics by contributing library data</td>
<td>• Consult on meaningful data ingested into learning analytics systems</td>
<td>• Collaborate to act upon findings revealed by learning analytics efforts</td>
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<tr>
<td>• Convene institutional or cross-institutional discussions about learning analytics</td>
<td>• Establish procedures for learning analytics</td>
<td>• Determine the library data to contribute (or withhold) from learning analytics systems</td>
<td>• Provide expertise in data science, curation, stewardship, metadata, taxonomies, classification, and visualization</td>
<td>• Intervene with students seeking assistance through or identified by learning analytics efforts</td>
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<td>• Advocate for data security and privacy</td>
<td>• Experiment and innovate in learning analytics</td>
<td>• Demonstrate and articulate the value of information revealed by learning analytics</td>
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LIILA, page 27
Increase Professional Awareness and Discussion
Be Informed and Forthright about Current Data Practices
Communicate and Negotiate with Vendor and Institutional Partners
Situate Learning Analytics among Other Assessment Approaches
Engage the LA Conversation at the Institutional Level
Identify and Analyze Questions/Problems Meriting a Learning Analytics Approach
Envision Library Data Contributions
Explore Interoperability Standards
Identify Key User Stories
Pursue Pilot Studies

Next Steps
This is complicated.
This is important.
We need to talk.

Yup.

Yes, we do.
Questions?

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Library Assessment Conference 2018
Director’s Cut
Meeting 1 - What could or should be done?

Discussed, envisioned, and articulated:

• **the role of learning analytics** in discovering, describing, analyzing, predicting, and ensuring student success;

• **the value that academic libraries can provide** and demonstrate by integrating library data in learning analytics; and

• **the active role librarians can play**, by leveraging institutional learning analytics, in maximizing student learning, intervening in learning trouble spots, and supporting the teaching role of faculty.

Developed a prioritized set of “**user stories**” that articulated some ways in which the integration of library data in institutional learning analytics could impact student learning and success.
Meeting 2 - What can be done?

Using the refined set of user stories from the first meeting as a starting point, participants:

• analyzed the feasibility of enacting those user stories based on existing systems and structures, strategies for ameliorating known challenges (privacy, data ownership, etc.),

• evaluated the potential value the user stories could provide to student learning and success efforts.

• brainstormed and described additional potential user stories, analyzing the data implications of each based on the accessibility and transferability of data between systems.
Meeting 3 – **How** can this be done?

• Brainstormed library data profiles that could be used with learning analytics standards to integrate library data with institutional data stores.

• Exchanged information about related projects currently underway.

• Considered how to move forward in implementing one or more user stories from the prior meetings.
Coalescing Facilitators for Library Engagement in Learning Analytics
Complicating Factors for Library Engagement in Learning Analytics

- Anonymity, Confidentiality, and Privacy
- Personally Identifiable Information
- Data Privacy and Security
- Opt-In and Opt-Out
- Institutional Data Sharing and Storage
- Risk Mitigation Practices

Privacy

New Roles
- Lack of Awareness with Library Community
- Institutional Perceptions of Librarian as Uninvolved in Student Learning and Success Efforts

New Territory
- Institutional Perceptions of Library Data as Disconnected from Student Learning and Success

Organizational Culture
- Dearth of Library Financial, Technical, and Personnel Resources
- Lack of Capacity
- Fear of Demonstrating Little to No Library Impact on Student Learning and Success
- Expecting a Panacea for Library Value Advocacy

Data
- Quality
- Granularity
- Access
What are the options for librarian involvement in learning analytics going forward?
Some Possible Future States of Library Involvement in Learning Analytics

1. Institutional data ingested into library, paired with library data, and analyzed within library for student success implications
2. Library integration into early alert and/or integrated planning and advising for student success (IPASS) system with focus on communication and intervention
3. Select library data relevant to student success emitted from library into institutional learner record store (LRS)
4. All library data relevant to student success emitted from library and vendor partners to institutional learner record store
Integrated Planning and Advising for Student Success (IPASS) Systems

- offer an “integrative approach to student success that promotes **shared ownership for educational progress** among students, faculty, and staff.”

- help “students **formulate and advance toward educational goals, including advising, counseling, progress tracking, and academic early alerts.**”

- contribute by “**documenting and tracking students’ educational plans**, improving data analysis, **offering self-service resources** that reduce advisor workloads, and **triggering interventions** based on student behavior or faculty input.”

Systems to Know

Blackboard Analytics for Learn
Blackboard Predict

Starfish by Hobsons

Aviso Retention

D2L™

Nuro Retention

Civitas Learning

AdvisorTrac

Pharos

EAB
TYPES OF ANALYTICS

Predictive and Prescriptive Analytics
(“So What”)

Descriptive Reporting and Access

OPTIMIZATION
“What’s the best that can happen?”

PREDICTIVE MODELING/FORECASTING
“What will happen next?”

RANDOMIZED TESTING
“What happens if we try this?”

STATISTICAL ANALYSIS
“Why is this happening?”

ALERTS
“What actions are needed?”

QUERY/DRILL DOWN
“What exactly is the problem?”

AD HOC REPORTS
“How many, how often, where?”

STANDARD REPORTS
“What happened?”

International Institute for Analytics
http://www.educause.edu/events/administrative-it-summit/2015/opening-session
Where is this coming from?