UW-Madison’s
Learning Analytics Guiding Principles

October 22, 2019
Beth Martin & Brian Yandell
Learning Analytics
The undertaking of activities that generate actionable data from the learning environment intended to improve student outcomes by informing structure, content, delivery, or support of the learning environment.

Learning Analytics Roadmap Committee (LARC)  https://teachlearn.provost.wisc.edu/learning-analytics/
Student Digital Ecosystem

- **STUDENT INFO SYSTEM**
  - Academic policy
  - Curricular structure
  - Academic approvals
  - Course scheduling
  - Program/Course LO approvals

- **BI TOOLS, TABLEAU**
  - LMS (Canvas)
  - Integrated course-level learning analytics
  - Engage eTexts
  - Other tools

- **CURRICULUM MANAGEMENT SYSTEM**
  - Academic policy
  - Curricular structure
  - Academic approvals
  - Course scheduling
  - Program/Course LO approvals

- **T&L TOOLS – UNIZIN PLUS**
  - LMS (Canvas)
  - Integrated course-level learning analytics
  - Engage eTexts
  - Other tools

- **LEARNING ASSESSMENT – AEFIS**
  - Program & Course-level Learning outcomes (LO)
  - Surveys & direct assessments
  - Plans & reports
  - Syllabi

- **FERPA**
  - Program & Course-level Learning outcomes (LO)
  - Surveys & direct assessments
  - Plans & reports
  - Syllabi

- **ACADEMIC INTEGRITY**
  - Program & Course-level Learning outcomes (LO)
  - Surveys & direct assessments
  - Plans & reports
  - Syllabi

- **ADVISING GATEWAY**

- **PUBLIC**

- **PRIVATE**

- **CAREER SERVICES**
Complex Campus Governance Ecosystem

**Data Governance**
- Classification
- Policy
- Data management plans
- Retention policies

**Data Stewardship**
- Access
- Purpose
- Data Domains
- Data Veracity

**Data Use**
- Stakeholders
- Ethics & Impact
- Purpose
- Action
LADUS

Learning Analytics Data Use Subcommittee

- Appointed Nov 2018 by the Data Stewardship Council
- LADUS will establish guidelines for appropriate use of data for learning analytics as an educational practice
- Multiple listening sessions (including students)
- Guiding Principles approved by the Data Stewardship Council in May 2019
LADUS Members

Kimberly Arnold (co-chair), DoIT Academic Technology
McKinney Austin, Office of Data Management & Analytics Services
Steve Cramer, Provost Office
Sara Hagen, College of Engineering
Beth Martin (co-chair), School of Pharmacy
Timothy Paustian, Department of Bacteriology
Jeff Shokler, Office of Undergraduate Advising
Wren Singer, Office of Undergraduate Advising
Brian Yandell, Dept of Statistics, Dept of Horticulture
What kinds of data do you think are in scope and out of scope?
## Data Scope: In and Out

<table>
<thead>
<tr>
<th>Data used for Learning Analytics Purposes: In Scope</th>
<th>Data used for Learning Analytics Purposes: Out of Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Personal data provided by students at application and/or enrollment, including age, race/ethnicity, and gender</td>
<td>• Student-disclosed mental health information</td>
</tr>
<tr>
<td>• Data from face-to-face, online, and blended courses, and other learning experiences, such as:</td>
<td>• University Health Services records and other HIPAA-protected data</td>
</tr>
<tr>
<td>o student work</td>
<td>• Data on student appeals, misconduct, or complaints</td>
</tr>
<tr>
<td>o learning and student engagement</td>
<td>• Students' financial aid data</td>
</tr>
<tr>
<td>o assessment (grades, rubrics, direct assessment of outcomes)</td>
<td>• Disability status</td>
</tr>
<tr>
<td>o attendance and participation</td>
<td>• Religious, political, or union participation</td>
</tr>
<tr>
<td>o formative and summative assessment</td>
<td></td>
</tr>
<tr>
<td>o course evaluations (for instructors personal use only)</td>
<td></td>
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<tr>
<td>o library use</td>
<td></td>
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<tr>
<td>o tutoring center use</td>
<td></td>
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<tr>
<td>o conference/workshop participation</td>
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<tr>
<td>• Data from University-supported systems, including SIS (Student Information System), Canvas, TopHat, G Suite, Piazza, and Atomic Assessments; publisher tools included as required course materials, and the Unizin Data Platform</td>
<td></td>
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<tr>
<td>• Supplemental data collected by instructors within course context</td>
<td></td>
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<tr>
<td>• Program level data (outcomes, graduation rates, retention metrics)</td>
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</tbody>
</table>

Learning Analytics Guiding Principles

- 4 guiding principles grounded in the preamble

Students are real and diverse individuals, and not just their data or information. These principles aim to uphold the dignity of students while ensuring learning analytics are used to improve educational outcomes.
Principle 1: Beneficence

- Use LA to benefit student learning and success, while potentially improving teaching.

- Ensure good evidence and pedagogical reasons are the backbone for data collection and interpretation.

- Engage students as active agents in designing LA interactions that will support them.
Principle 2: Transparency

• Be transparent regarding collection, access, and use of student learning data for LA purposes.

• Ensure learning analytics are well defined and visible to stakeholders, including methods used to initiate interventions.
Principle 3: Privacy & Confidentiality

• Follow existing campus privacy, data governance and security standards and practices, including those pertaining to access and stewardship

• Protect LA data and their interpretation and use.

• Share data/information only with those who are authorized.

• Anonymize data whenever possible.
Principle 4: Minimizing Adverse Impact

- Promote inclusivity and equity to overcome implicit bias
- Ensure that data are not exploited for unexpected or unwanted uses or outcomes
- Continually evaluate and monitor LA tools, practices, and interventions to assess differential impact and overall efficacy
Scenario

Sam Student is newly enrolled at UW-Madison. Sam Student lives in a dorm on campus, plays on an intramural soccer team, works 10 hours a week and, utilizes university health services. Sam Student is enrolled in 4 courses, all which leverage Canvas.

Discuss: Think about UW-Madison’s guiding principles and each course on the next slides. Is the use of learning analytics in each course in alignment with the principles? Why or why not? What do you think? (Refer to the “Guiding Principles” handout to help you consider each principle.)

Principles:

• Beneficence
• Minimizing adverse impacts

• Transparency
• Privacy & Confidentiality
Sam Student is newly enrolled at UW-Madison. Sam Student lives in a dorm on campus, plays on an intramural soccer team, works 10 hours a week and, utilizes university health services. Sam Student is enrolled in 4 courses, all which leverage Canvas.

Discuss: Think about UW-Madison’s guiding principles and each course. Is the use of learning analytics in this course in alignment with the principles? Why or why not? What do you think? (Refer to the “Guiding Principles” handout to help you consider each principle.)

- Course Coordinator has defined learning analytics in course syllabus and spends some time on the first day of class discussing how the LA data will help track student success and help to personalize learning experience.
- Primary course text is an e-text with built in quizzes and tracking that the Course Coordinator negotiated a great discount on from the publisher.
- During the third week of class, an instructor-facing LA dashboard data shows that Sam Student has not accessed the e-text and attends only 2 of 4 classes per week.
- Chris, the course TA, sends an email to Sam Student (copying the advisor) expressing concern that Sam Student is not engaged enough to be successful in the course, and encourages Sam Student to seek guidance and support from the TA.
Course B

Sam Student is newly enrolled at UW-Madison. Sam Student lives in a dorm on campus, plays on an intramural soccer team, works 10 hours a week and, utilizes university health services. Sam Student is enrolled in 4 courses, all which leverage Canvas.

**Discuss:** Think about UW-Madison’s guiding principles and each course. Is the use of learning analytics in this course in alignment with the principles? Why or why not? What do you think? (Refer to the “Guiding Principles” handout to help you consider each principle.)

- This course uses discussions threads (social learning), low stakes assignments, and higher stakes online quizzes with immediate feedback to students.
- When students complete quizzes in Canvas, they can see their score and how it compares to all students enrolled in the course.
- Due to the multiple assessment activities, a lot of learning analytics data is available from this enterprise tool (Canvas).

- Sam Student reaches out to the instructor to say, “I don’t think this class is right for me because I’m not as good as the other students.”
- After looking at the learning analytics data, instructor agrees with Sam and suggests he either seek a tutor fast or drop the class.

**Beneficence**  |  **Minimizing adverse impacts**  |  **Transparency**  |  **Privacy & Confidentiality**
Course C

Sam Student is newly enrolled at UW-Madison. Sam Student lives in a dorm on campus, plays on an intramural soccer team, works 10 hours a week and, utilizes university health services. Sam Student is enrolled in 4 courses, all which leverage Canvas.

Discuss: Think about UW-Madison’s guiding principles and each course. Is the use of learning analytics in this course in alignment with the principles? Why or why not? What do you think? (Refer to the “Guiding Principles” handout to help you consider each principle.)

- This course is a Freshman Interest Group (FIG) which utilizes a cohort learning model, as well as active learning techniques.
- Thinking that the group would carry much of the work forward, Sam Student often shows up late for class or misses class altogether.
- Sam Student shares on course discussion board that he has had mental health issues in the past.
- Sam Student’s advisor taps the FIG coordinator to check in with Sam Student because Sam’s attendance in all courses is lagging, and time on activity in the FIG Canvas course is far below class average and missing assignments. Coordinator shares concern with advisor about Sam’s potential for mental health issues.

Beneficence | Minimizing adverse impacts | Transparency | Privacy & Confidentiality
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**Discuss:** Think about UW-Madison’s guiding principles and each course. Is the use of learning analytics in this course in alignment with the principles? Why or why not? What do you think? (Refer to the “Guiding Principles” handout to help you consider each principle.)

- This is a traditional lecture course with well-organized lectures. This course uses Canvas as a portal only; it holds the course syllabus, PowerPoints and lecture handouts, and utilizes gradebook for midterm and final exam scores.
- Since this course only awards points for the midterm and final, the Instructor feels strongly that attendance is important. The instructor uses TopHat (the clicker) at the start of each class to track attendance.
- The department head is looking for course metrics to address accreditation demands about learning outcome assessments and approaches the instructor of this course to ask what data might be available.