

The Appropriate Use of Data for Learning Analytics Guiding Principles

Introduction & Purpose

UW-Madison is committed to the success of all students and seeks to strategically integrate learning analytics (LA) into the educational practice landscape. The increasing use of LA activities across campus, some central and others operating at local levels, dictate that UW-Madison establish guidelines regarding the appropriate use of data for LA practice. To that end, UW-Madison's Data Stewardship Council convened the Learning Analytics Data Use Subcommittee (LADUS) in fall 2018 and charged them with establishing guidelines for the appropriate use of data for LA as an educational practice. These guiding principles are the first step toward the creation of policies for ethical LA practice at the institution.

The appropriate use of data for learning analytics guiding principles were informed by existing national and international policies specific to LA, as well as local data and technology governance. As the guiding principles document was created LADUS sought input from multiple campus advisory and governance committees, as well as endorsement from the Learning Analytics Roadmap Committee (LARC) to ensure multiple stakeholder views were incorporated, and to ensure process transparency. These guidelines supplement existing data governance, cybersecurity, and other university and UW System policies around data access, use, and retention.

The educational practice of LA holds great promise for enhancing learner support:

- by improving student outcomes
- by improving learning at a personalized level
- by improving the student learning experience
- by optimizing and informing structure, content, delivery, and/or support of learning environments

However, LA is only one data element for consideration, not the sole input for action. LA is intended to be used as a starting point for consideration of interventions. No student or group of students should solely be defined by their data or any interpretation of data about them.

UW-Madison's institutional intent for the use of LA is to use a student-centered approach, engage students as active agents of their learning, and focus on enhancing positive student outcomes.

LA may inform course design, intervention, or support aimed to benefit student learning. Instructors are strongly encouraged to use LA to inform their pedagogical decisions.

In the guidelines below, we discuss:

- The accepted *definition* of LA at UW-Madison
- The *scope* of data to be used (which types of data are considered actionable for LA purposes and which are not)
- The *roles and responsibilities* pertaining to LA for various stakeholders
- The appropriate *use* of LA data as outlined in the *guiding principles*

Definition

LARC, appointed by the Provost, has contextually defined LA as *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.*

Further, LARC has established clear criteria for what data should be considered as part of LA practice. Thus, this document considers all these data, the data sources, and the application of data when establishing appropriate use guidelines.

- Data existing in any enterprise data system used to report/disseminate on learning activities
- Data generated within courses (academic/non-academic) offered at UW-Madison (individual course level, program level, lifelong learning, etc.)
- Data included in the student record as defined by FERPA
- Protected student data (restricted and/or sensitive)
- Data within the Teaching & Learning data domain¹
- Any other data source which is used for student intervention
- Any other data source which is used to justify curricular modification

Scope: What is included in teaching and learning data use and LA activities

As an institution we are required to collect and retain data as part of the student record. Data Governance Policy classifies LA data as “restricted” because the unauthorized disclosure of personal student information could cause potential harm to individuals affected or a significant level of risk to the university. LADUS establishes a clear delineation of what is in scope and what is out of scope for both LA data and LA activities, detailed in the tables on the following page.

¹ <https://data.wisc.edu/data-governance/data-domains/>

Learning Analytics Activities: In Scope	Learning Analytics Activities: Out of scope
<ul style="list-style-type: none"> ● Course improvement ● Improvement of learning activities ● Personalized individual student learning support ● Course materials development and improvement ● Instructional improvement and self-evaluation ● Program review, evaluation, and accreditation ● Advising, including communication among advisors and with instructors, about interventions to improve student outcomes ● Analysis and reporting about targeted student cohorts 	<ul style="list-style-type: none"> ● Research requiring oversight by the IRB² (Institutional Review Board) ● Instructor evaluation by the institution, including tenure review

Data used for Learning Analytics Purposes: In Scope	Data used for Learning Analytics Purposes: Out of Scope
<ul style="list-style-type: none"> ● Personal data provided by students at application and/or enrollment, including age, race/ethnicity, and gender ● Data from face-to-face, online, and blended courses, and other learning experiences, such as: <ul style="list-style-type: none"> ○ student work ○ learning and student engagement ○ assessment (grades, rubrics, direct assessment of outcomes) ○ attendance and participation ○ formative and summative assessment ○ course evaluations (for instructors personal use only) ○ library use ○ tutoring center use ○ conference/workshop participation ● 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 ● Supplemental data collected by instructors within course context ● Program level data (outcomes, graduation rates, retention metrics) 	<ul style="list-style-type: none"> ● Student-disclosed mental health information ● University Health Services records and other HIPAA-protected data ● Data on student appeals, misconduct, or complaints ● Students' financial aid data ● Disability status ● Religious, political, or union participation

² <https://research.wisc.edu/compliance-policy/human-research-protection-program/education-and-social-behavioral-science-irb/>

Guiding Principles/Values

Students are real and diverse individuals, and not just their data or information. These principles -- beneficence, transparency, privacy and confidentiality, and minimization of adverse impacts -- aim to uphold the dignity of students while ensuring LA are used to improve educational outcomes.

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.

Minimization of adverse impacts

- Promote inclusivity and equity³ to mitigate 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.
- When taking action based on LA information, more than one data element should be considered.

Transparency

- Be transparent regarding the policies and procedures for collection, access, and use of student learning data for LA purposes.
- Ensure LA are well defined and visible to stakeholders, including methods used to initiate interventions.

Privacy and Confidentiality

- Follow existing campus privacy, data governance and security standards and practices, including those pertaining to institutional data access and stewardship.
- Share data/information only with those who are authorized.
- Use data in the most anonymous format possible that is still useful.

³ <https://secfac.wisc.edu/events-programs/new-faculty-welcome/diversity-equity-inclusion/>

Roles & Responsibilities

The LA guiding principles apply to everyone. Every stakeholder group has a responsibility to understand this document.

All stakeholders have the responsibility to

- Refer to data governance⁴, cybersecurity,^{5,6} and other university and UW System policies around data access, use, and retention. [insert link to policies]
- Be aware of opportunities to engage with LA
- Generate and use LA data ethically
- Make inquiries when LA activities are unclear or produce real or perceived negative impacts on students

Specific roles and responsibilities for each stakeholder group are as follows:

Students have the responsibility to

- Be aware of how LA data are being used for their benefit
- Respect the privacy of other students' data
- Consider insights or interventions presented to them via LA activities
- Generate their LA data ethically

Instructors have the responsibility to

- Understand FERPA and their responsibility regarding systems and data subject to it
- Understand the LA data/results and their implications before acting
- Consult with the appropriate supervisor or support person when needed
- Consider insights provided by LA and act in a sensitive manner appropriate to the instructional role
- Inform students about centrally-available or instructor-created resources and training to help students understand LA data/results
- Use de-identified data whenever possible, especially with longitudinal datasets
- Only use enterprise systems unless authorized by the institution⁷
- Consult with Academic Technology when considering the use of teaching and learning technology or products not supported by UW-Madison
- Track instructional interventions triggered by LA

⁴ <https://data.wisc.edu/data-governance/policies-procedures/>

⁵ <https://it.wisc.edu/about/division-of-information-technology/cybersecurity/cybersecurity-regulatory-compliance/>

⁶ https://it.wisc.edu/wp-content/uploads/Cybersecurity-Data-Management-Plan_v1-1_Final_2018-06-15.pdf

⁷ <http://www.bussvc.wisc.edu/purch/ppp14.html>

Advisors (Academic/Career Services and Student Affairs) have the responsibility to

- Understand FERPA and their responsibility regarding systems and data subject to it
- Understand the LA data/results and their implications before acting
- Consult with the appropriate supervisor or support person when needed
- Inform students about centrally-available or instructor-created resources and training to help students understand LA data/results
- Consider insights provided by LA and act in a sensitive manner appropriate to the advisor role
- Use de-identified data whenever possible, especially with longitudinal datasets
- Track advising interventions triggered by LA, and ensure appropriate communication among academic, student affairs and career services advisors

Program and Institution Leadership have the responsibility to

- Understand FERPA and their responsibility regarding systems and data subject to it
- Develop and support the technical infrastructure underpinning LA data use
- Develop, review, and strive to ensure compliance with student intervention policies, procedures, and standards
- Provide LA resources and training to help data users understand data/results
- Clearly communicate how students can engage with LA presented to them
- Safeguard data access
- Collect and incorporate LA data for reporting and accreditation purposes as required
- Use de-identified data whenever possible, especially with longitudinal datasets
- Practice non-maleficence (do no harm)

These guiding principles were written by the Learning Analytics Data Use Subcommittee. We acknowledge the following individuals for their contributions:

Kimberly Arnold (co-chair), Learning Analytics Lead, DoIT Academic Technology
McKinney Austin, Associate Director, Office of Data Management & Analytics Services
Steve Cramer, Vice Provost for Teaching & Learning, Provost Office
Sara Hagen, Academic Planner and Data Analyst, Engineering
Beth Martin (co-chair), Professor (CHS) and Assistant Dean Assessment, Teaching & Learning, Pharmacy
Timothy Paustian, Distinguished Faculty Associate, Microbiology
Jeff Shokler, Associate Director for Advising Technology and Assessment, Office of Undergraduate Advising
Wren Singer, Associate Vice Provost, Undergraduate Advising and Career Services Office of Undergraduate Advising
Brian Yandell, Professor Horticulture and Statistics, Director of Biometry Program, Interim Director of the American Family Insurance Data Science Institute

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