

Ethical Principles of Learning Analytics at Colorado State University

A report created by the CoTL Task Force on the Ethics of Learning Analytics

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Introduction

Data science, and the specific application of data science in the context of the teaching and learning environment known as learning analytics (LA), involves the collection, measurement, analysis and reporting of data about learners, their behaviors, and their contexts (broadly defined). At its best, LA provides opportunities to employ evidence-based learning and teaching practices in pursuit of our educational mission. Inherently such opportunities are also coupled with significant ethical challenges. In the essay "[What is Data Ethics?](#)", Floridi & Taddeo (2016) observe that "*the extensive use of increasingly more data--often personal, if not sensitive (big data)--and the growing reliance on algorithms to analyze them in order to shape choices and to make decisions, as well as the gradual reduction of human involvement or even oversight over many automatic processes, pose pressing issues of fairness, responsibility and respect of human rights*".

The principles that are put forward in this report are based on the following foundational observations. First, at best, LA may inform and equip, but can never replace individual instructors or their interactions with students in the context of teaching and learning. Second, LA tools are not inherently good, or even neutral with respect to the learning environment. Like any

educational tool, the unreflective application of LA can in fact harm students and the learning environment. Any “good” for educational aims depends on thoughtful and informed application of LA by responsible instructors. Third, at best, LA and the attendant algorithms may help inform the learning environment for students. No algorithm should be taken to wholly define an individual student, nor can LA be taken as “determining” any specific educational outcomes for an individual student.

The Purpose

The purpose of this report is to establish and clarify a list of ethical principles that will guide the implementation and use of Learning Analytics at CSU. We recommend that CoTL develop a code of practice and guide the creation of faculty professional development initiatives based on these principles. In addition, in an effort to understand and practice Learning Analytics with the highest of standards that reinforce our commitment to the Colorado State University System mission and to its Principles of Community, we want to recognize that changes in institutional policy may be needed to reinforce the ethical principles in this report.

CoTL’s Task Force for the Ethics of Learning Analytics

During fall 2017, the Faculty Council Standing Committee on Teaching and Learning (CoTL) charged a task force to propose guiding principles for the design, development, and implementation of tools and technologies that employ LA on the CSU campus. The task force members were cautiously optimistic about the potential of LA to support teaching and learning. This cautionary tone grew stronger over time as the task force members deliberated on the ethical challenges presented by such work. This document is the result of that ongoing work and outlines principles that the task force considers essential for the ethical use of these advanced approaches on our campus.

The task force is convinced that decisions about how LA and related educational technologies are brought into learning environments are fundamentally decisions about CSU’s community and educational mission; LA is not merely a “technology choice.” Furthermore, these approaches are increasingly amorphous and are being employed across a spectrum that ranges from enterprise tools adopted campus-wide to the unique tools and techniques deployed in a single classroom. Moreover, LA and the attendant student data are not simply confined to the CSU environment; student data can move into vendor databases, where the subsequent uses of LA data, privacy protections, and ownership may not be clear. Deployment of LA at all levels can impact the community.

The Principles of Learning Analytics are currently under active development and review. Given this ongoing development, the committee is actively looking for critical review and feedback on this document. We recommend that CoTL continues to seek feedback from all stakeholders within our community including but not limited to students, faculty, staff, and administrators. We encourage all stakeholders to provide feedback. When seeking feedback we suggest that you consider and share with stakeholders the following tenets that arose repeatedly during our task force meetings and that guided the development of the language of the principles.

1. These ethical principles are intended to be a foundational component of our institutional ethos.
2. These ethical principles are intended to be congruent with our Principles of Community.
3. These ethical principles should guide the selection of Learning-Analytics technologies that are used on our campus.
4. These ethical principles should guide the application of Learning Analytics methods (including but not limited to technologies, algorithms, tools, and interventions) used in our institutional educational endeavors.
5. Evidence-based research is central to understanding the impact of LA on our community. We will hold this tenet central to all LA based projects, applying methods that adhere to the rigors of open science methodologies. It is critical that these methods, projects, and tools be open to critical review and evaluation.
6. LA resources and research efforts should be used with special attention to enhancing educational attainment opportunities for those most vulnerable within our community. Consistent with our ongoing Student Success Initiatives, projects should be selected that, when successful, will improve the learning opportunities for vulnerable populations and the entire community of learners at CSU.

Related CSU Policies:

This code of ethics has been developed with reference to and in support of the following principles, policies, guidelines and rules at CSU.

- [CSU's Principles of Community](#)
- [CSU Policy: Accessibility of Electronic Information and Technologies](#)
- [CSU Policy: Inclusive Physical and Virtual Campus](#)
- [CSU Policy: Environmentally and Socially Responsible Procurement](#)
- [CSU Policy: Information Technology Governance](#)
- [CSU Policy: Human Subjects Research](#)
- [CSU Policy: Central Administrative Data Governance Policy](#)
- [CSU Policy: Information Collection and Personal Records Privacy](#)
- [CSU Policy: FERPA](#)
- [CSU Policy: Research Data](#)
- [CSU Policy: Information Collection and Personal Records Privacy Policy](#)
- [CSU Policy: Information Technology Security Policy](#)
- [CSU Policy: Red Flags Policy](#)
- [CSU Policy: Information Technology Governance Charter \(ITEC\)](#)
- [Colorado Open Records Act \(CORA\)](#)
- [Health Insurance Portability and Accountability Act \(HIPAA\)](#)
- [Colorado State Records Retention Schedule](#)
- [Americans with Disabilities Act \(ADA\)](#)
- [The Electronic Communication Privacy Act of 1986 \(ECPA\)](#)
- [Gramm Leach Bliley Act \(GLBA\)](#)
- [Section 508 of the Rehabilitation Act of 1973](#)

The [CSU Principles of Community](#) clearly articulate the shared values of our institution. The task force has developed the ethical principles of LA to frame the issues at stake and provide a framework on which future decision-making, policy construction, and practice can build. These ethical principles are intended to ensure that LA and related technologies/approaches are designed to serve our community mission of access, research, teaching, service and engagement.

Ethical Principles of Learning Analytics

The Committee on Teaching and Learning acknowledges that Learning Analytics raise a number of ethical and legal issues (including privacy rights). Furthermore, the body of literature makes frequent reference to the imperative that institutions articulate clear guidelines on ethical considerations surrounding such aspects as the rights and dignity of individuals, as well as openness about processes and practices (Pardo & Siemens, 2014; Siemens, 2013; Slade & Prinsloo, 2013). The literature is equally insistent on higher-education institutions ensuring that their legal obligations are being met in relation to personal privacy, data collection, and information protection ([Kay, Korn & Oppenheim, 2012](#); [Siemens, 2013](#)).

The Ethical Principles of Learning Analytics are the foundational principles that define the University's approach to the use of Learning Analytics within CSU's teaching and learning environment. These are more than guiding principles; they are best thought of as the core ethical foundations of Learning Analytics at CSU. All Learning Analytics practices must be consistent with these most basic governing principles.

Principle 1: Learning Analytics serve the teaching and learning mission of CSU.

Learning Analytics, and all information technology in support of the institutional teaching mission, will serve to enhance the teacher and student interaction, placing an emphasis on enhancing individual student learning opportunities and student success.

Principle 2: Learning Analytics serve the aim of Inclusive Excellence in the Learning Environment

Learning Analytics are designed for equity and inclusive excellence in our educational mission. As educational leaders, we are responsible for being mindful of how Learning Analytics may reinforce the exclusion or marginalization of historically excluded groups and guard against such misuse.

Principle 3: Learning Analytics is accountable to academic and institutional integrity

As scholars, educators, and learners we are accountable for understanding the implications of collecting, distributing, analyzing, and making decisions based on Learning Analytics data. This includes the implications of making decisions based on algorithms or statistics that are not disclosed to or understood by the user(s).

Principle 4: Learning Analytics data will be collected and maintained to understand specific pedagogical questions.

Learning Analytics data is collected from learning and teaching systems, retained, and utilized for the purposes of enhancing learning and teaching. Holding true to this principle, LA data will be collected based on predetermined pedagogical reasons, used for those reasons alone, and deleted after that data has served that specific use.

Principle 5: Learning Analytics operates with transparency and accountability

As scholars and educators, we will be fully transparent with students about what types of data are collected, where and how it is stored, who has access to it, and how the threat of a data breach is mitigated. In addition, faculty and administrators are obligated to provide a method for dialog and discussion about any LA assessments. The use of LA algorithms that can not be clearly understood will be avoided.

Principle 6: Learning Analytics data use arises from respect for the individual

All faculty, staff, and students at CSU are valuable members of the CSU community. The design and application of all Learning Analytics methods recognizes the individual dignity, rights, and responsibilities of all students as learners, engaged with faculty in pursuit of educational excellence. Given this, the primary use of Learning Analytics should be formative, helping all students to understand and pursue excellence in learning and all faculty to pursue excellence in teaching.



Colorado State University, 2017

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Attribution: Charles Sturt University, 2015, [CSU Learning Analytics Code of Practice](#)

Attribution: JISC, 2015, [Code of practice for learning analytics](#)