Learning Analytics at UBC: purpose and principles

The purpose of Learning Analytics at UBC

For this project, we adopt the definition of Learning Analytics (LA) activities suggested by SOLAR: Measurement, collection, analysis and reporting of data about learners and their contexts with the goal of understanding and optimizing learning and learning environments.

The goal of the LA project is to better understand and to improve the learning experiences of UBC students and learners[1] through collection and analysis of relevant data, leading to insights and actions. The project aims to develop UBC-wide capacity, expertise and experience to enable data-informed enhancement of learning contexts, activities, courses and programs. Utilized widely, these approaches can become established as a regular part of on-going improvement activities by UBC persons.

LA activities can range from micro to macro: from an individual to the institution, depending on the granularity of the data and the actions taken as a result. Data and insights may be shared with individual learners as well as to defined groups (via combinations of characteristics and or behaviors) and to whole cohorts. Instructors may propose short or longer-term interventions to enhance individual learning activities or entire courses. Aggregate information about programs and the broader learning experience can inform Departmental, Faculty or institutional priorities. In all cases, the principles we outline below remain equally relevant.

By implementing learning analytics, UBC's aim is to enhance the learning success and achievement of all learners, not merely those deemed to be 'at risk' by some measure. It will strive to provide quality feedback to learners, some of which will be personalized to the individual. The intention is to support learners to take responsibility for their learning through reflecting and acting upon their learning data. LA at the course or program level will enable instructors to gain a more nuanced view of a cohort or sub-populations within it, with the aim of designing positive interventions as a result. Aggregate data and insights will support measurement of impact: of different pedagogical approaches, of course and curriculum designs, and of enhancement funding to support teaching and learning.

[1] 'Students', as defined by the University Act, are *persons presently enrolled at a university in a credit course*; the term 'learners' includes students as well as other persons engaged in *non-credit* learning activities (e.g., career and professional development). For clarity, we will use the broader term throughout this document, unless applicability is only to students.

Our intention is to develop 'Learning Analytics for all': tools and approaches that can give learners and faculty access to data, visualizations and analysis that can result in actionable insights. These approaches will need to be valid and robust, applicable to different learning contexts, adaptable for extension and improvement and straightforward to learn and use. The focus is strictly on supporting student learning and achievement and not on comparative analysis of faculty teaching performance.

Realizing LA capability at scale will require an institutional shift in how we think about enhancing learning and the teaching activities that facilitate this. We must involve learners as active agents in this process, and as collaborators and co-interpreters, not simply as passive recipients. We must seek out potential efficiency gains that can be realized as a result of insights gained from analysis of learning data. Above all, we must ensure all aspects of LA activity are pursued in a manner that is sensitive to the ethical and privacy concerns inherent in collection, analysis and retention of this data.

The principles to guide our approach

The following principles will guide not only the LA project but also the formulation of policies where appropriate.

1. **Respect for persons**: Data and its analysis can never automatically provide the whole picture about a learner's likelihood of success or capability in their studies, and as such will never solely be used to inform actions of consequence at an individual level, as this must always involve human and personal intervention. We recognize that trends, norms or grouping of learners may introduce or reinforce bias in learner, faculty or institutional perceptions and behaviors, and will actively work to recognize and minimize these, by communication, by education, and by limiting who has access to which data elements. We will practice 'data minimization', accessing only what data is necessary.
2. **Learners as autonomous agents**: Learners are key stakeholders in LA, and will be involved in the LA project and all activities as collaborators and co-interpreters. They have the right to access the data collected related to their learning, to act on it and, if necessary, to verify it.
3. **Responsibility**: Information that LA may provide should be used and acted upon if feasible to do so. As learners, as educators and as an institution, we have a responsibility to use and extract meaning from learning data for the benefit of learners.
4. **Equity**: We will use learning analytics to help all learners achieve their learning goals, in order to succeed and excel, not merely those who may be deemed at risk of failure.
5. **Stewardship and privacy**: Data will be stewarded (collected, stored, granted access to, deleted) so as to comply with privacy and security best practices, policies and legislation, including adhering to principles of data minimization and individual choice / consent to the extent possible.

6. **Accountability and transparency**: Governance of LA activities will be ethically conducted, aligned with institutional policy, strategy and values and will include all stakeholders. It will include acknowledging the possibility of unforeseen consequences and mechanisms for redress. We will be transparent in communicating how data is collected, what is collected and how it is used. We will regularly report back to and engage with stakeholders.
7. **Evolving and dynamic**: As the use of learning data in new ways will have impacts on current assumptions and practices, we will commit to an on-going process of review and refinement of approaches, policies and practices as necessary, including regularly engaging all stakeholders, particularly students.

References

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Is Privacy a Show-stopper for Learning Analytics? A Review of Current Issues and Solutions, Learning Analytics Review 6, February 2016. Available online at: http://www.laceproject.eu/learning-analytics-review/is-privacy-a-show-stopper/

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Practice Guidelines for Instructors

1. Instructors who access data for learning analytics purposes and in the context of quality assurance should so inform their students on the course syllabus.
2. In order to reduce the potential for bias, instructors should not have access to demographic data about their students. Where this data would be useful to the analyses, these should be conducted at the Department / Program level and presented to the instructor as aggregate.