

# Learning Analytics Principles and Purposes



THE UNIVERSITY  
of EDINBURGH

## Purpose of Principles and Purposes

This document sets out the principles and purposes that will guide the University's development of learning analytics activities.

The document defines learning analytics, and sets out the University's principles and purposes for learning analytics. It will be accompanied by a more detailed policy and procedure setting out how the University will manage data stewardship issues such as transparency, consent, ethics, privacy and access, retention and disposal of data in line with these principles and purposes.

## Scope: Non-mandatory guidance

It applies to all staff involved in developing and managing learning analytics activities, and to all students engaging with those activities.

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## Document control

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# Learning Analytics Principles and Purposes

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## Overview

Learning analytics has been defined as ‘the measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimising learning and the environments in which it occurs’ (Society for Learning Analytics Research, 2012). Fundamentally, learning analytics is concerned with combining different types of data regarding student engagement and learning (eg data generated by learning management systems, student systems, library systems and other sources related to learning and teaching) in order to better understand, and improve, the learning experiences of our students. Learning analytics can be particularly valuable when teaching at scale, or online, makes it more challenging for staff to know how their students are learning.

While the University’s use of learning analytics is in its early stages, we are in a strong position to learn from our own pilot activities, and our existing expertise in education and learning sciences.

The following is the University’s statement of the Principles and Purposes that will guide the development of our Learning Analytics activities. It will be accompanied by a more detailed policy and procedure to set out how we will manage data stewardship issues such as transparency, consent, ethics, privacy and access, retention and disposal of data in line with these Principles and Purposes. It is possible that, once we have more experience of Learning Analytics, we will wish to review and update these Principles and Purposes.

## Policy Principles

The policy starts from the position that all uses of data analytics for learning and teaching within the University should be ethical, transparent and focused on the enhancement of the student experience.

1. As an institution we understand that data never provides the whole picture about students’ capacities or likelihood of success, and it will therefore not be used to inform significant action at an individual level without human intervention;
2. Our vision is that learning analytics can benefit all students in reaching their full academic potential. While we recognise that some of the insights from learning analytics may be directed more at some students than others, we do not propose a deficit model targeted only at supporting students at risk of failure;
3. We will be transparent about how we collect and use data, with whom we share it, where consent applies, and where responsibilities for the ethical use of data lie;
4. We recognise that data and algorithms can contain and perpetuate bias, and will actively work to recognise and minimise any potential negative impacts;



# Learning Analytics Principles and Purposes

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5. Good governance will be core to our approach, to ensure learning analytics projects and implementations are conducted according to defined ethical principles and align with organisational strategy, policy and values;
6. The introduction of learning analytics systems will be supported by focused staff and student development activities to build our institutional capacity; and
7. Data generated from learning analytics will not be used to monitor staff performance, unless specifically authorised following additional consultation.

## Purposes of Learning Analytics

Learning analytics approaches can support a range of activities within the institution. While to date they have been explored by universities primarily as means to improve retention, they also have potential benefits for the enhancement of student experience, currently of more importance to the University of Edinburgh:

- **Quality** – Learning analytics can be used as a form of feedback on the efficacy of pedagogical design. Academic teams can use analytics about student activity (individual or cohort) as part of course review and re-design processes as well as potentially using analytics as a form of in-course monitoring and feedback. Individual staff can use learning analytics to reflect on the impact of their teaching.
- **Equity** – Learning analytics approaches can allow us to see more nuanced views of our highly diverse student population, challenge assumptions that we may be making, and allow supportive resource to be directed where it is most needed.
- **Personalised feedback** – Learning analytics can be used to tailor the messages and support that we offer to our students, providing more personalised feedback to support student reflection and academic planning.
- **Coping with scale** – With the challenge of growing cohorts of students, learning analytics can help to strengthen the academic relationship by doing some of the heavy lifting of identifying individuals or groups of individuals that might benefit from particular interventions or information from staff.
- **Student Experience** – In addition to supporting a more personalised experience, learning analytics can improve progression and retention, ensure that our academic offerings align with the needs and goals of students, and support satisfaction and wellbeing. Analytics can also be used to promote critical reflection skills and enable our students to take responsibility for their own learning.
- **Skills** – Interactions with analytics as part of the University learning experience can help our students build 'digital savviness' and prompt more critical reflection on how data about them is being used more generally, what consent might actually mean and how algorithms work across datasets to define and profile individuals. Learning



# Learning Analytics Principles and Purposes

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analytics approaches can also be used to promote the development of key employability skills. Supporting staff to develop skills in working with learning analytics applications is also an investment in institutional capacity and leadership.

- **Efficiency** – Learning analytics can be used to evaluate and demonstrate institutional efficiency through a) measuring the impact of initiatives and validating that benefits are being realised and b) demonstrating that publicly-funded resource is being deployed in support of the best outcomes of all students.

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