

Policy and procedures for developing and managing Learning Analytics activities



THE UNIVERSITY
of EDINBURGH

Purpose of Policy and Procedures

The document sets out the policy and procedures that will guide the University's development and management of learning analytics activities. It complements the Principles and Purposes for Learning Analytics.

Overview

The document sets out how the University handles issues such as data governance, consent and security when developing and operating learning analytics systems.

Scope: Mandatory policy

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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1 Overview

The University's statement of its Principles and Purposes for Learning Analytics is set out at:

<http://www.ed.ac.uk/files/atoms/files/learninganalyticsprinciples.pdf>

This document complements that statement by setting out how the University handles issues such as data governance, consent and security when developing and operating learning analytics systems.

2 Definitions

- 'Learning analytics' involves combining different types of data regarding student engagement and learning in order to better understand, and improve, the learning experiences of students. It is distinct from the well-established practice of using individual student datasets (for example, data on course outcomes) for quality and planning purposes and to enable staff (eg Personal Tutors) to support individual students.
- 'Learning analytics pilots' are time-limited learning analytics activities that will, typically, apply to students in some specific areas of the University and be experimental in nature.
- 'Institutional' learning analytics activities are ongoing activities that apply to students in many or all areas of the University.
- 'Data stewards' are the staff responsible for ensuring the security, access, documentation, and quality of the 'golden copy' of data sets that might be used for learning analytics (for example, Student Systems, Information Services Group).
- 'Project managers' are the members of staff in Schools / Colleges or support services who develop and manage learning analytics pilots or institutional learning analytics activities.
- 'Personal student data' is data on identifiable individual students.
- 'Anonymised student data' is a student dataset which has been aggregated and / or anonymised so that it is not possible to identify individual students (note that data is not considered anonymised if it is possible to convert it back into personal data).

- ‘Interventions’ are activities involving individual students, whether automated or human-mediated, which result from the processing of learning analytics data.

3 Types of learning analytics

- **Personalised individual student support** – where data on identifiable individual students’ activities is used to support targeted and tailored interventions with those individuals.
- **Understanding and improving the quality of our students’ learning experience** – where data is used to provide feedback to staff on the efficacy of pedagogical design, to enable individual staff to reflect on the impact of their teaching, or to allow student support services to understand the effectiveness of their activities and to plan for future delivery, and to allow students to reflect on anonymised data regarding their peers’ learning.
- **Research activities** – where data is used to explore whether there is a relationship between variables, for example between a successful student outcome and particular learning activities.

In general, the requirements for developing and managing learning analytics are more rigorous for learning analytics activities involving personalised individual student support, or otherwise utilising personal student data, than learning analytics activities utilising anonymised student data. For example, staff utilising aggregate learning analytics data for relatively routine quality assurance purposes are unlikely to need to undertake additional steps as a result of this policy.

For research activities that require research ethics approval, this approval would be in addition to approval from the Learning Analytics Review Group (see section 7 below)

The attached table summarises key requirements for these different categories of learning analytics activities.

4 Responsibility for learning analytics

- **The Senate Learning and Teaching Committee (LTC) and Knowledge Strategy Committee (KSC)** are responsible for overseeing the University’s operation of learning analytics in line with this Policy. LTC will oversee and monitor the pedagogical and supportive uses that the University is making of learning analytics, and KSC will oversee and monitor the University’s data stewardship arrangements for its learning analytics activities.
- LTC and KSC have established a **Learning Analytics Review Group** with responsibility for reviewing and approving proposals for learning analytics projects. The group is also available to provide advice regarding other categories of learning analytics activities. The group comprises the Assistant Principal with strategic responsibility for Learning Analytics, a student representative, the Data

Protection Officer, representatives from relevant service units (Universities Secretaries Group and Information Services Group), the Chief Information Security Officer, and a member of academic staff with expertise in research ethics. It will be convened by a senior academic member of staff with expertise in Learning Analytics, nominated by the Senior Vice-Principal. The group will report annually to LTC and KSC.

- **Project managers** are responsible for developing proposals for learning analytics activities and for managing the delivery of the activities in line with this Policy.
- **Data Stewards** are responsible for approving the release of 'their' golden copy data sets for learning analytics (where not already available to relevant staff via standard reporting tools), and – as members of the Learning Analytics Review Group - for approving the use of 'their' data sets for specific categories of learning analytic activities in line with this Policy (see Section 7, below).

5 Sources of data for learning analytics

The main categories of student data available to the University for the purposes of learning analytics are:

- Admissions data;
- Course and programme enrolment data;
- Data on student engagement, progression and achievement in assessments, courses and programmes;
- Data on student engagement with Virtual Learning Environments, assessment services and media platforms;
- Data on student use of library systems and services;
- Data on student utilisation of other University services and facilities related to learning and teaching; and
- Card access data;
- Student survey responses.

In many cases, the University will use existing corporate datasets such as the University's student record system, virtual learning environments, survey tools, and library and IT systems. In some circumstances the University (or individual Schools) may collect student data for the purposes of specific learning analytics activities.

6 Issues to address when developing and managing learning analytics activities

Project managers and data stewards are responsible for considering the following issues when developing and managing learning analytics activities:

6.1 Alignment with the University's Principles and Purposes for learning analytics

Project managers are responsible for ensuring that the objectives of their learning analytics activities align with the University's statement of Principles and Purposes for Learning Analytics.

6.2 Validity, comprehensiveness and interpretation of data

Project managers are responsible for assessing whether the relevant datasets are sufficiently robust for the intended usage, monitoring the quality and robustness of the data used for learning analytics activities, presenting the data in a way that assists staff and students to interpret it (eg highlighting any inaccuracies or gaps in the data), and arranging training or briefings where appropriate to assist staff and students to interpret and utilise the data. Data stewards will be able to advise project managers on the validity, comprehensiveness and interpretation of data where required.

Project managers are also responsible for ensuring that the analysis, interpretation and use of the data does not inadvertently reinforce discriminatory attitudes or increase social power differentials.

When project managers or data stewards use and / or publish anonymised student data collected for or generated by learning analytics, they are responsible for ensuring that it is not possible to identify individuals from metadata or by aggregating multiple data sources.

6.3 Data Protection Impact Assessment

If the proposed learning analytics activities will involve processing of personal student data, the project manager must undertake a Data Protection Impact Assessment (DPIA) in advance of finalising the plans for the activities. A template for the DPIA is available from the University's Data Protection Officer

6.4 Privacy Notice

In the 'Learning Analytics Principles and Purposes' document, and in the Data Protection Statement (the new version of which will be published in Spring 2018), the University provides an overview of how it uses students' data for learning analytics. The University is developing a new Privacy Statement for student data which will include information regarding how the University uses personal student data for learning analytics purposes. As long as an individual learning analytics activity is

consistent with the statements in the University Privacy Statement, it is not necessary for the project manager to publish a separate Privacy Notice for each individual learning analytics activity. Project managers are however responsible for providing detailed information regarding the algorithms that they are using on request from the relevant students or staff.

6.5 Legal basis for processing student data

It is necessary for the University to identify a legal basis for processing of personal student data, in line with the options set out in the General Data Protection Regulation (GDPR). The University's lawful basis for processing non-sensitive personal student data for learning analytics purposes is "legitimate interests pursued by the controller (The University of Edinburgh) or a third party."

When learning analytics activities involve the processing of sensitive personal student data (referred to as "special category data" under the GDPR), for example, data on race or ethnicity, health or sexual life, or religious or philosophical beliefs, the University's legal basis will be "consent of the data subject":.

The University will only undertake interventions with individual students (for example, in order to target additional student support or sign-post individuals to learning resources) based on learning analytics data processing when it has the prior consent of those individual students.

When the legal basis is student consent, the project manager is responsible for obtaining informed opt-in consent from all the students whose data will be processed prior to undertaking the data processing. When student consent is required prior to undertaking interventions on the basis of learning analytics data processing, the project manager must obtain informed opt-in consent from students prior to undertaking any interventions. The project manager must consult the University's Data Protection Officer regarding the design of the consent form and administering the consenting process.

6.6 Involvement of third parties

Where a data steward or project manager contracts with a third party for the collection, storage, or processing of learning analytics data, they are responsible for ensuring that the third party is compliant with this Policy. Where commercial providers of learning analytics services are used, algorithmic transparency will require to be assured during procurement. All engagements involving the exchange of University data must be supported by an appropriate contract that details the University's requirements for protecting University data. The third party must provide detailed evidence of the information security controls they have in place.

6.7 Data security and access to data

Data stewards and project managers are responsible for ensuring the security of datasets used for learning analytics, in line with relevant University policy and

standards. Data stewards and project managers are responsible for restricting access to learning analytics data to those staff that have a legitimate need to access it.

Project managers and data stewards are responsible for providing students on request with access to all their personal student data collected for and generated by learning analytics, and for giving students an opportunity to correct any inaccurate personal data held about themselves. Where project managers become aware of inaccuracies in a 'golden copy' data set, they should inform the relevant data steward.

6.8 Retention and disposal of data

Managing departments are responsible for retaining and disposing of personal data that they collect or generate for learning analytics purposes in line with the University's Retention Schedule.

Project managers are responsible for ensuring that all staff who access and use the data during the project comply with retention periods for data collected for or generated by learning analytics. If the University's Retention Schedule does not specify the appropriate retention periods, prior to the start of the learning analytics activities the project manager must agree with Records Management an appropriate retention period.

If a student asks the project manager to dispose of or anonymise any of the student's personal data that has been collected specifically for or generated by learning analytics, the project manager will do so within four weeks. Data sets generated for a different primary purpose (such as those listed in Section 5) may however not be possible to dispose of or anonymise.

7 Approval processes for introducing learning analytics activities

Project managers for the following categories of learning analytics activities will be required to seek approval from the Learning Analytics review group:

- Projects that involve processing and utilising personal student data in order to provide targeted / personalised student support;
- Projects that involve third parties in the collection, storage, or processing of data for learning analytics purposes;
- Projects involving courses or programmes owned by more than one School;
- Projects involving the processing of personal data of students aged 13 or less;
- Any other learning analytics activities that appear likely to create particular challenges or risks.

When this approval is required, the project manager should submit to the Review Group (via Academic Services) a proposal setting out the following information:

- The data that will be used, including identifying any data that will be collected for the purposes of the planned learning analytics activities;
- The planned arrangements for addressing the issues set out in Section 6.
- Any potentially adverse impacts of the analytics and the steps that will be taken to remove or minimise them, and any other ethical or legal issues that staff should take account of when utilising the data;
- How the findings of pilot activities will be evaluated and disseminated;
- An Equality Impact Assessment.

For proposals for institutional learning analytics pilot activities, if the Review Group is content it will seek formal approval from the Senate Learning and Teaching Committee and the Knowledge Strategy Committee

In addition to making decisions on these proposals, the Group can advise data stewards and project managers on other proposed learning analytics activities.

9 Learning analytics data and the obligation to monitor attendance and engagement of students on Tier 4 visas

Each School is responsible for developing an annual School Engagement Monitoring Plan which must define the engagement and attendance contact points that they will use to monitor their Tier 4 sponsored students' attendance and engagement with their programmes of studies. Schools should not routinely use learning analytics data for Tier 4 student attendance and engagement monitoring purposes, and should instead rely on the defined contact points. It may however be appropriate to use the learning analytics data in extreme and exceptional purposes, for example to assist in establishing the student's patterns of engagement with their learning in response to a police or immigration services enquiry. In these circumstances, University Legal Services must be consulted before any data is released to external bodies.

10 Other relevant policies

In addition to this Policy, other relevant policies and guidelines include:

- The University's statement of its Principles and Purposes for Learning Analytics:
www.ed.ac.uk/files/atoms/files/learninganalyticsprinciples.pdf
- The University's Information Security Policy:

www.ed.ac.uk/information-services/about/policies-and-regulations/security-policies/security-policy

- The University's Data Protection Policy:
www.ed.ac.uk/records-management/data-protection/data-protection-policy
- The University's Protocol for Access to Data in the Corporate Student Record System:
www.ed.ac.uk/student-systems/use-of-data/policies-and-regulations

11 Sources of advice

- The University's Data Protection Officer – for data protection issues
- The University's Chief Information Security Officer – for information security issues
- Records Management – for enquiries regarding retention periods for learning analytics data
- Data stewards (for example in Information Services Group and Student Systems) – for enquiries regarding the potential use of datasets for learning analytics purposes
- The Director of Academic Services – for enquiries regarding the Review Group
- Legal Services – for enquiries regarding the release of personal data to third parties (eg police or immigration services), and contractual negotiations with third parties.

Summary of key requirements for carrying out learning analytics

Purpose	Privacy Impact Assessment required?	Privacy Notice required?	Opt-in consent required?	Arrangements for students to access and correct their data required?	Arrangements for supporting staff or students to interpret the data required?	Approval process?
<i>Personalised individual student support</i>	Yes	Yes	Yes	Yes	Yes	Learning Analytics Review Group
<i>Understanding and improving the quality of our students' learning experience</i>	Yes – if it involves processing of personal student data. If not, no.	Yes – if it involves processing of personal student data. If not, no.	Yes – if it involves processing of sensitive personal student data. If not, no.	Yes – if it involves processing of personal student data. If not, no.	Potentially, depending on how the findings of the analysis will be communicated and used	Learning Analytics Review Group, if involves: third parties; personal data from more than one School; or activities likely to create particular challenges or risks.
<i>Research activities</i>	Yes – if it involves processing of personal student data. If not, no.	Yes – if it involves processing of personal student data. If not, no.	Yes – if it involves processing of sensitive personal student data. If not, no.	Yes – if it involves processing of personal student data. If not, no.	Potentially, depending on how the findings of the analysis will be communicated and used	Learning Analytics Review Group, if involves: third parties; personal data from more than one School; or activities likely to create particular challenges or risks.