Academic Quality Framework

Learning Analytics Policy

Approved by Academic Council

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1. Background

1.1 Definitions

Learning Analytics: Learning Analytics is "the measurement, collection, analysis and reporting of data about the progress of learners and the contexts in which learning takes place"[1].

Macro Learning Analytics: Use of aggregates to provide insights on key performance indicators, such as student numbers, progression rates, retention rates, evaluation of interventions addressed at improving key performance indicators, evidence-based practice.

Micro Learning Analytics: Data analytics for feedback at operational level aimed at enhancing the student experience, and provide feedback and aggregates at student level, module level and programme level.

1.2 Overview

The TU Dublin Strategic Intent 2030 sets delivering a new research-informed and practice-based education to the largest number of diverse learners as one of its priorities. The strategic aims for the application of learning analytics at TU Dublin are to support an evidence-informed learning experience for the student as the primary stakeholder. It further provides relevant and up-to-date business intelligence to all stakeholders to facilitate informed decision-making throughout the University.

Learning analytics can support a variety of functions across TU Dublin, both at a micro, and macro level. It can also enable a more equitable service both in terms of being inclusive of all students and providing a more detailed insight into the requirements of a diverse student population. In addition, exposure to learning analytics as part of their

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[1] Sclater, N., Peasgood, A., & Mullan, J. (2016). Learning analytics in higher education. *London: Jisc.*

learning experience can help our students build digital competencies and prompt more critical reflection on how data about them is being used.

External drivers for the application of learning analytics include:

1. The need for public accountability and transparency.

2. Derivation of performance metrics used to evaluate quality performance, and for the purposes of external benchmarking.

3. Addressing the national focus on improving student success in the context of increasingly diverse intakes.

4. Benefits reported from the use of analytics within Higher Education internationally, and in other sectors of society (e.g., business).

5. Increasing expectations of potential students of a rich and responsive online environment.

Internal drivers for the application of learning analytics include:

1. Enhancement of student success at the University.

2. Evidence-based, and efficiency, in tailoring teaching, learning and support activities and resources.

3. Improved overall satisfaction of students and student empowerment to improve their likelihood of success.

4. Need for real-time, informed, decision-making.

5. Enabling the University meet QA and QE requirements.

1.3   Purpose

This policy defines appropriate use of student data for learning analytics. It recognises that there are potential privacy issues arising from combining sources of student data, and the modelling of that data. Therefore, this policy aims to ensure that data collection and modelling for learning analytics is transparent, has clearly defined boundaries, including for the application of learning analytics outcomes, is done for the benefit of the student to improve their learning experience, and that the use of learning data is continually monitored and evaluated. The policy defines a set of guiding principles to inform the ethical use of learning analytics at the University. The policy should be considered in conjunction with related TU Dublin compliance policies and procedures as listed in **Appendix A**.

2. Policy

2.1   Guiding principles for learning analytics

The following guiding principles will ensure that learning analytics projects and implementation processes are aligned with University strategies, policies, and values. The guiding principles identify that University policies, practices and procedures relating to learning analytics should be respectful of students and staff as partners in learning; and should be cognisant of the principles of academic freedom, student engagement, enabling autonomous learning, mutual responsibilities, and the right to self-determination, privacy, and confidentiality.

Primary focus is on benefit to learning

2.1.1   The primary purpose of learning analytics is to benefit the student learning experience. It is the responsibility of the University to ensure that its capabilities and outputs are not used in any way that conflicts with this primary purpose.

Legal and ethical compliance

2.1.2   Data protection by default: Only relevant data, used in compliance with the principles of the GDPR, will be processed. Key aspects of data use for learning analytics will be disclosed. Where consent is required, this will be clearly explained.

2.1.3   Data protection by design: All new learning analytics initiatives will comply with the GDPR concept of Data Protection by Design, ensuring data collection and processing comply with general data protection regulations and data minimisation.

2.1.4   Where a learning analytics initiative gives a user access to additional personal data, that access must be covered by an approved Data Protection Impact Assessment and Data Sharing Agreement.

Recognition of limitations of learning analytics models

2.1.5   Personalities and behaviours are considered dynamic. The picture of a student's behaviour that learning analytics may present will only be a snapshot of a specific time, hence, should not be treated as permanent definition of who they are and what they do.

2.1.6   Human learning and behaviour are far too variable and complicated to be fully understood through analysis of learning related data alone. While learning analytics can undoubtedly give detailed insight into the dynamics of learning processes and outcomes, it will never be able to give a full picture of the complexities of learning.

Service to students

2.1.7　It is essential that learning analytics is underpinned by a rigorous, scientific approach to modelling and intervention. The University will seek to ensure that the limitations and potential biases in the data are understood, and the impacts of inaccuracies and bias in the data are minimised. University staff members may require the data to support students in their line of duty, in a professional capacity, and in compliance with GDPR.

2.1.8　Learning analytics initiatives will aim to support a positive experience for all students. While some outcomes may be more targeted at particular programmes and categories of students, it will be ensured that information derived from student data will be used for the benefit of all students.

2.1.9　Where results of a learning analytics model identify students that may benefit from intervention measures, the action arising from that model will be sensitive to the student needs and acted on in a responsible manner. Analysis of data will never result in a significant action without human intervention.

2.1.10 Learning analytics is separate from assessment; learning analytics initiatives will be used for formative purposes only.

Exclusion

2.1.11 Learning analytics will not be used to monitor or evaluate staff performance.

2.2　Responsibilities

2.2.1　Analytics presented to students are intended to help them understand how their learning is progressing. This may include suggestions as to how they can improve their practices. Students are responsible for assessing how they can best apply any such suggestions to their learning.

2.2.2   The University recognises that learning analytics cannot present a complete picture of a student's learning, and that the associated predictions may not always be accurate. Students will retain autonomy in decision-making relating to their learning; the analytics are provided to help inform their own decisions about how and what to learn.

2.2.3   Where a learning analytics model indicates that a student may benefit from an intervention, the University will endeavour to follow up on an intervention while recognising that this may not be possible in all cases.

2.2.4   Interventions, whether automated or human-mediated, will be subject to periodic reviews as to their appropriateness and effectiveness.

2.3   Confidentiality

Personally identifiable data and analytics on an individual student will be provided only to:

- The relevant student, except in exceptional circumstances where it is deemed harmful to the student.

- University staff members who require the data to meet regulations or statutory obligation.

- Third parties processing learning analytics data on behalf of the University. This access to data shall be in compliance with all relevant University requirements in relation to outsourcing and third-party access, and in accordance with their data sharing agreement with TU Dublin.

- Other individuals or organisations to whom the student gives specific consent.

- University IT staff will have access to systems and data to maintain proper functioning of systems, rather than to access any individual's data.

- All learning analytics initiatives must be covered by an approved Data Protection Impact Assessment.

3. Implementing Learning Analytics

Learning analytics will be implemented in conjunction with other student support initiatives, and will adhere to the following implementation guidelines:

3.1 Structures for supporting learning analytics

3.1.1 All learning analytics initiatives will be evidence-based and will be developed in response to requirements of stakeholders. Initiatives, and the interventions arising from those, will be managed within existing staff functional roles and/or committees. The function and/or committee to oversees learning analytics projects will be specified at later date, once the relevant committees have been convened.

3.1.2 Responsibilities will be clearly specified as part of each proposed analytics initiative. All learning analytics initiatives will: adhere to existing University policies and procedures; clearly state who is responsible for on-going monitoring and evaluation and how this will be done; and clearly state who is responsible for follow-up interventions and how this will be done.

3.1.3 To support the development of learning analytics capacity at the University, learning analytics initiatives should identify how ongoing monitoring and evaluation will be done, along with how success will be determined. They should:

- Support periodic reviews of the effectiveness of learning analytics initiatives, and the evaluation of learning analytics models, for both

student-facing and staff-facing dashboards or other reports from learning analytics.

- Validate metrics and algorithms used, avoid spurious correlations and inferences, and ensure that known sources of inaccuracies and/or biases, in the data or resulting models, are understood by end users.

- Support periodic reviews of what data is shared via learning analytics initiatives, with whom, and by when. The purpose is to ensure appropriate and timely flow of information, limited to those who need it, and provide clarity on who should know what by when.

3.2 Transparency and lawful basis for processing data

3.2.1 The University's data protection policies, notices and related guidance documents detail TU Dublin's lawful basis for processing of student personal data. Each learning analytics initiative must ensure that it complies with these documents, and ensure that at the point of data collection, the data controller states the purpose and lawful basis for processing. In recognition that some students are under 18 years of age, all work must also comply with the University's Protection of Children and Vulnerable Adults policy.

3.2.2 All learning analytics initiatives will comply with General Data Protection Regulation's (GDPR) stipulation for Data Protection by Design, i.e. they are designed and built with data protection and privacy in mind. Only personal data which are necessary for each specific purpose of the processing are processed. That obligation applies to the amount of personal data collected, the extent of their processing, the period of their storage and their accessibility.

3.2.3 Information will be available to all students regarding how their data is being used for learning analytics via the University website. It should include what

data is used, what metrics are derived, and for what purpose, who has access, how it should be interpreted, and resulting actions that could be taken. This information will also be captured in a data inventory. A sample student information sheet is included in **Appendix C**. Information sheet content should be approved by a TU Dublin Information Governance Officer, and reviewed as part of any changes in use, or new uses, of data for learning analytics.

3.3   Learning analytics data sources

All the University's information systems should be considered as potential analytics source systems, with the exception of the special categories of personal data as outlined in GDPR legislation. Examples of potential sources include:

- Admissions and student records: Registration data, CAO data, University grades, financial data, addresses, schools attended.

- Virtual Learning Environments: Student activity records, contributions to forums, individual assessment grades.

- Timetabling and exam management: Timetables, student class groups, student tutorial groups, exam scheduling.

- Communications and collaborative workspaces: Activity involving the Microsoft Office 365 software platform.

- Identity access: Logins and Wi-Fi access.

- Library: Borrowing activity, access to online resources.

- Attendance data collected manually or via attendance tracking software.

- Responses to student surveys.

Acknowledgements

This learning analytics policy and strategy document has been informed by:

National Forum for the Enhancement of Teaching and Learning's Institutional Guide to Developing Enabling LA Policies.

Sclater (2016), Jisc Model Institutional Learning Analytics Policy.

Learning Analytics Principles and Practice from: University of Edinburgh; Open University UK*;* Charles Stewart University.

Appendices

Appendix A

TU Dublin Suite of Compliance Policies and Related Guidance Documents

Data Protection Policy

Common Terms and Definitions

Data Protection Notice for Students

Data Protection Notice for Staff

Data Protection Notice for Recruitment Candidates

Privacy Statement for Student Health Centres

TU Dublin Data Breach Management Guidelines

Risk Management Policy

Privileged User Policy (in development)

Data Handling & Clean Desk Policy (in development)

Record of Processing Activity (ROPA)

Direct Marketing Policy

Data Retention Policy and Schedule (in development)

HEA Data Collection Notice

CCTV Policy (in development)

Code of Conduct for Ensuring Excellence in Research Integrity

Research Ethics Policy

Protection of Children and Vulnerable Adults

ICT Policies

Information Security Policy

Acceptable Usage Policy

Password Policy

Cookies Notice & Website Privacy Policy

Systems Development Life Cycle Policy (in development)

Data Encryption

Guidance Documents

Data Encryption Anonymisation / Pseudonymisation

External Data Hosting

DPIA Criteria and Guidelines

Terms of Use for Microsoft Teams

Appendix B

Data Processed for the Purpose of Supporting Learning Analytics

Below are examples of the data available to the University as a result of student registration and study, which would potentially be available to support a learning analytics project.

Personal registrations-related information: For example: Gender; Date of birth; Previous educational qualifications; Disability information; and Financial data relating to fees and grants.

Study record: Much of this data is entered by the University staff and are not under the control of the student. For example: Programme and modules a student is registered on; Timetables; Grades for modules completed, Breakdowns of grades for each assessment completed; Attendance data.

System-generated data: For example: Student ID; Activity data collected by University approved educational technology such as our Virtual Learning Environments (Brightspace and Moodle), Library borrowings, Wi-Fi access, and system logins. Data drawn from learning apps or other external systems not on TU Dublin's approved list (e.g., social media posts) will not be used for learning analytics purposes unless that site is an agreed formal part of the study programme.

Appendix C

Sample Learning Analytics Student Information Sheet

The purpose of this information sheet is to explain how data collected about you by the University is analysed and what we do with the information. It accompanies TU Dublin's Learning Analytics Policy.

Definition of terms

Virtual Learning Environment

An online tool that contains lecture notes, assessments, quizzes, news forums, and to which students can upload assessment work.

What is learning analytics?

Learning analytics is the analysis of data relating to learning activities only. The purpose of learning analytics is to continually evaluate and improve teaching and learning initiatives at the University. Sometimes the data is summarised first, and so individual students are not identified. For example, evaluating if a new teaching approach improved the average grade in a module. Sometimes, analysis may focus on recognising students that could benefit from additional supports, and so individuals are identified.

What is a learning analytics policy?

The University has a policy on the ethical use of student data for learning analytics. It recognises that combining and analysing student data requires additional protection for the student, because of potentially new information that data analysis may derive.

The policy specifies that the primary purpose of Learning Analytics is to benefit the student learning experience and ensures that the University is transparent about ways in which is analyses student data, and for what purpose. The policy recognises that:

I.   Learning analytics presents a snapshot, reflective of student behaviour at a given time only, and cannot be treated as an ongoing definition of who you are and what you do.

II.   Learning and behaviour are far too varying and complicated to ever be fully understandable through analysis of data. While learning analytics can give detailed insight into what is happening, it will never be able to give a full picture of the complexities of learning.

III.   Students retain autonomy in decision-making relating to their learning; the analytics are provided to help inform students own decisions about how and what to learn.

Can I choose not to have my data included in learning analytics?

It is not possible to exclude your data from analytics that summarises data, individuals cannot be identified from these analytics. You will choose whether to avail of any individual interventions arising from learning analytics. Clear procedures for consent will be provided to all students, in compliance with data protection legislation.

Who can see this data about me?

Personally identifiable data and analytics on an individual student will be provided only to:

- University staff members who require the data to support students in their professional capacity.

- University staff members who require the data to meet a legal or regularity obligation.

- Third parties which are processing learning analytics data on behalf of the university in compliance with their Data Sharing Agreement.

- Other individuals or organisations to whom the student gives specific consent.

- University IT staff will have access to systems and data to maintain proper functioning of systems rather than to access any individual's data.