

# **Learner Engagement Analytics (LEA)**

## **Governance Documents**

### **Version: 2.0**

**Documents to be circulated to the committees listed below for agreement before being submitted to Education Quality Standards Board (EQSB) for final approval.**

LEA Development Group

Queen Mary Information Provision Group (QUIP)

Education Strategic Advisory Team (ESAT)

EQSB

The documents will also be circulated to the Directors of Education Forum

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## Document 1

### Overview of Learner Engagement Analytics (LEA)

Learner Engagement Analytics (LEA) 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 Learner Analytics Research, 2012).

Fundamentally, LEA is concerned with combining different types of data regarding learner engagement and learning (e.g. data generated by learning management systems, learner systems, library systems and other sources related to learning and teaching) in order to better understand, and improve, the learning experiences of our learners.

LEA can be particularly valuable when teaching at scale, or where face-to-face teaching, augmented by online support, makes it more challenging for staff to know how their learners are learning.

## Document 1

### Statement of Principles for Learner Engagement Analytics (LEA)

- We will use Learner Engagement Analytics (LEA) to help all learners reach their full academic potential.
- We will be transparent about data collection, sharing, consent and responsibilities.
- We will abide by ethical principles and align with our university strategy, policies and values.
- Learner Engagement Analytics (LEA) will be supported by focused staff and learner development activities.
- Learner Engagement Analytics (LEA) will not be used to inform significant action at an individual level without human intervention.
- We will actively work to recognise and address any potential negative impacts from Learner Engagement Analytics (LEA).

## **Purpose of Learner Engagement Analytics (LEA)**

We will use Learner Engagement Analytics (LEA) for the purposes listed below. We will not use LEA for any other purpose without formal review of the Learner Engagement Analytics (LEA) Governance Documents.

### **Quality of Education**

- As a form of feedback on the efficacy of pedagogical design.
- Analytics about learner activity (individual or cohort) can form part of course review and re-design processes and of in-course monitoring and feedback.
- Individual staff can use LEA to reflect on the impact of their educational activities.

### **Inclusion**

- To provide more nuanced views of our highly diverse learner population, challenge assumptions that we may be making, and allow supportive resource to be directed where it is most needed.

### **Personalised feedback**

- To tailor the messages and support we offer to our learners, providing more personalised feedback to support learner reflection and academic planning.

### **Coping with scale**

- As part of an enhanced staff engagement programme, LEA can help 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.

### **Learner Experience**

- To improve progression and retention, ensure that our academic offerings align with the needs and goals of learners, support satisfaction and wellbeing, and engender a more personalised learning experience.
- To promote critical reflection skills and enable our learners to take responsibility for their own learning.

### **Skills**

- Interactions with LEA as part of the university learning experience can help our learners build 'digital savviness' and prompt more critical reflection on how data about them is being used more generally, what consent might mean and how

algorithms work across datasets to define and profile individuals.

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

### Efficiency

- LEA 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 resources are being deployed in support of the best outcomes of all learners.

## Learner Engagement Analytics (LEA) Policy

**Approving Authority:** Education Quality and Standards Board (ESAT) with delegate authority from Senate

**Consultation Undertaken:** Learner Engagement Analytics (LEA) Development Group; Faculty Education Managers, Director of Queen Mary Academy, Deputy VP Education, ESAT, QUIP

**Review cycle:** 1 year

**Next review:** June 2023

**Directorate responsible for policy maintenance and review:** LEA Development Group with Academic Registry and Council Secretariat (ARCS) maintaining updated version Policy Zone website

### Introduction

1. The collection and usage of data about learners' and their learning is providing new opportunities for higher education institutions to support learners and to enhance their educational processes. Learner Engagement Analytics (LEA) systems have the capability to generate visualisations of learning activity and provide predictive indicators for attainment. These will be used at Queen Mary to assist current learners in achieving their study goals, and to help Queen Mary to improve our overall provision of education.
2. The institution will use LEA to help meet a learner-focused vision where, *“all Queen Mary learners are able to excel in their chosen field and to be confident resilient professionals”*. We are setting objectives to, *“create a seamless supportive environment for our learners through integrated academic and pastoral support, LEA, and opportunities for peer support”*, and ensure, *“our teaching and learning environment will be fit for the 21st century”*. LEA is a key enabler for the Student Engagement initiative, which is part of the Education Enabling Plan, under the 2030 Queen Mary Strategy.
3. The university will ensure that LEA is deployed for the benefit of learners, with complete transparency about how the data is being captured, processed and used. The Statement of Principles for Learner Engagement Analytics (LEA) (**document 2 in this pack**) will be implemented fully and along with the document identifying the Purpose for Learner Engagement Analytics (LEA) (**document 3 in this pack**) will be publicised widely. All activities in this area will comply with the institution's [Data Protection Policy](#) and data protection legislation.

### Responsibility

4. Overall responsibility for LEA at Queen Mary is held by **Deputy Vice Principal (DVP) (Education)**. Responsibility for relevant areas of activity is allocated as follows:

- The collection of data to be used for LEA - **Chair of QUIP**, specifying the types of data to be used and the **Assistant Director of Solutions Development & E-Learning** arranging automated upload of datasets into the data repository and for data security.
  - The anonymisation or de-identification of data where appropriate - **Chair of QUIP**.
  - The analytics processes to be performed on the data, and their purposes - **Chair of QUIP**.
  - The interventions to be carried out on the basis of the analytics -**DVP (Education)** working with the **Director of the Queen Mary Academy** and the **Faculty Education Managers/Deans for Education**.
  - The retention and stewardship of data used for and generated by LEA - **Chair of QUIP** and **Assistant Director of Solutions Development & E Learning** working together with guidance as required from the **Record Information Compliance Manager**.
  - Implementation of LEA transparency including feedback of personalised analytics information to learners -**DVP (Education)**.
5. The purpose of presenting LEA to learners is to help them understand how their learning is progressing and empower them to make choices that will enhance their personal development during their educational journey at Queen Mary. Suggestions may be made as to how they can improve their practices. Learners are responsible for assessing how they can best apply any such suggestions to their learning.
6. Learners are informed about how their data will be processed by Queen Mary when they agree to the relevant [General Terms and Conditions of Application](#) and associated [Student Privacy Notice](#). Data will be collected for LEA in compliance with these documents. The LEA Governance pack will be made available to staff and learners. It will identify the purpose of analytics, the types of data that will be used and the legal basis used for LEA. The LEA Policy will reference any involvement of third parties acting as sub-contractors for processing analytics and the rationale for this.
7. The data for LEA comes from a variety of sources, including the student record system and the virtual learning environment. Data includes:
- Background information: name, registration identifiers used by Queen Mary, date of birth, ethnicity, gender, declared disabilities, contact details, entry qualifications, whether parents were in higher education, socio-economic background, fee status, contact details, and a link to a photo. Two of these data types are known as special category personal data: Ethnicity and Disability. We are including these within our models with the aim of improving our monitoring of equality of opportunity and to improve the accuracy of the models. They will be used for Statistical Purposes only.

- Details about the course, the modules being studied, and Advisors.
  - Details of assessments, marks and grades obtained.
  - Details of activity using virtual learning environments (i.e. QMPlus) include logins, resources viewed, session timeouts, formative and summative assessments submitted and graded, the on-line collaboration tool Teams, and the conferencing software Zoom.
  - Details about engagement (i.e., attendance) with education activities including whether the activity took place on-premises or online.
8. As part of the ongoing development of the LEA platform we may pilot the inclusion of data about library usage and lecture capture.
  9. A short jargon-free guide to LEA, produced in collaboration with the Students' Union will clearly specify:
    - What is meant by LEA at Queen Mary.
    - The specific purposes for which LEA is being used.
    - Who has access to the analytics, and why.
    - The data sources being used for LEA.
    - The metrics used, and how the analytics are produced.
    - The interventions that may be taken on the basis of the analytics.
  10. It is not Queen Mary's policy to use automated prompts. Hence learners will be asked for their consent for any **automated** prompts or suggestions to be sent to them, based on the analytics. These may include emails, SMS messages or application notifications.
  11. We will not use our LEA suite of tools, or any metrics derived as part of LEA for assessment purposes. However, the primary data sources themselves may provide information that feeds into an agreed assessment rubric for a programme. This would be part of a separate activity.

## Confidentiality

12. Personally identifiable data and analytics on an individual learner will be provided only to:
  - The learner.
  - University staff members who require the data to support learners in their professional capacity.
  - University staff in IT Services who are working in partnership with the data processors to develop and improve the modelling and to evidence the impact of interventions.
  - Third parties who are processing LEA data on behalf of the institution. In such circumstances the University will put in place contractual arrangements to ensure that the data is held securely and in compliance with the Data Protection Act and the General Data Protection Regulation.

- Other individuals or organisations to whom the learner gives specific consent. This consent will be assumed to relate to current data unless specific consent has been given to allow historic data to be shared.
  - Aggregate data from LEA may be used for research. This data should be supplied by IT Services staff familiar with the individual data streams.
  - Where data at the individual level is requested for research purposes, and ethics approval has been granted, then the data should be pseudonomised by the staff (e.g., educator) responsible for LEA. These datasets should not contain any protected characteristics of individuals without their explicit consent.
13. IT Services staff will have access to systems and data in order to maintain proper functioning of systems. They will not access the system for that purpose of reviewing any individual's data.
  14. The data that feeds into the LEA platform can be used for other purposes. An example would be if the learner has a Student visa (formerly Tier 4), the Registry's Immigration Compliance Team can use the data as evidence that a learner is engaging with their studies. The Home Office may require us to show this evidence if we are audited.
  15. The university would be required to share data if legally compelled to do so (e.g., if there is a warrant).

### **Sensitive data**

16. Data protection legislation defines special categories of personal data such as ethnicity or disability. Any use of such data for LEA will be fully justified and documented in the Introduction to Learner Analytics for Students\* and any project initiation document or similar (\*please note, all documentation from Version 2.0 should use Learner Engagement Analytics (LEA) and learner terminology).
17. The quality, robustness and validity of the data and analytics processes will be monitored by the University which will use its best endeavours to use LEA in line with best practice in the sector, for example ensuring that:
  - Inaccuracies and gaps in the data are understood and minimised
  - A wide range of data sources are used with the aim of maximising prediction accuracy
  - Interpretation of analytics findings are informed by people with relevant qualifications and experience. This should help avoid over reliance on single findings, for example.
  - Written rational justification is used for the choice of algorithms and metrics used for any predictive analytics. These will be included in the help and resources section of the software.
  - LEA is seen in its wider context, and is combined with other data and approaches as

appropriate

## Legal bases used for data in LEA

Universities are designated as '**public authorities**' for the purposes of data protection legislation. Guidance on the GDPR from the Information Commissioner Office (see <https://ico.org.uk/for-organisations/guide-to-the-general-data-protection-regulation-gdpr/>) indicates that the **public task** basis is likely to apply to much of the data processing done by Universities to support teaching and research. The University has decided to use '**public task**' as the basis for processing LEA data, as LEA relates to the University's core learning and teaching functions and how we support learner retention, progression and attainment.

## Learner access to personal data

18. We will be reviewing mechanisms to enable learners to access their personal data, and the LEA performed on it, in a meaningful, accessible format. In the first instance learners should discuss this with their Advisor.
19. Learners have the right to correct any inaccurate personal data held about themselves. In the first instance learners will be directed to their Advisor.
20. Learners will also be able to view any metrics derived from their data, and any labels attached to them, though sometimes they may need to request to do so.
21. On occasion it may be considered that access to the analytics may have a negative impact on the learner's academic progress or wellbeing. This may especially be the case when a learner's engagement is less than others in a cohort and they are identified as being "at risk" or when a learner feels they have to over-engage due to analytics. Protocols will be developed to ensure that access this type of data is managed sensitively and that human-mediated guidance is available to the learner. However, if the learner requests it, all their personal data and analytics will be made available to them. Subject access requests should be made to [data-protection@qmul.ac.uk](mailto:data-protection@qmul.ac.uk)

## Actions

22. A range of interventions may take place with learners. Actions and what they are intended to achieve may include:
  - Prompts or suggestions sent automatically to the learner via email, SMS message or mobile application notification (subject to the learner's consent)
  - Staff contacting an individual based on the analytics if it is considered that the learner may benefit from additional support
23. Interventions, whether automated or human-mediated, will normally be captured. The records will be subject to periodic reviews as to their appropriateness and effectiveness.

24. The university will ensure that LEA Actions are deployed for the benefit of learners, in line with the Principles of LEA Actions outlined in the LEA Action Policy.

### Minimising adverse impacts

25. The University recognises that LEA cannot present a complete picture of a learner's learning, and that predictive indicators may not always be fully accurate.

26. Learners 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.

27. Focused staff and learner development activities, including training, will be provided to users of the LEA platform. This will include support sessions for educators delivered via the LEA Fellow and technical guidance via the Technology Enhanced Learning Team (TELT) and IT Services Team. There will also be research into patterns of engagement and a repository of LA resources created which can be used by those working with LA data. This will ensure that users are able to interpret data appropriately and are aware of the support mechanisms available. A LEA Community of Practice (CoP) will also be curated by the LEA Fellow to share practice across the university.

*Derived from*

***"Jisc Model Institutional Learner Analytics Policy***

*Niall Sclater, Nov 2016, Draft v0.1 available from the JISC website"*

## Appendix 1: Supporting Material

The following additional support materials for LEA have been made available:

- **A short Introduction to LEA for Learners** prepared by the LA Strategy Group Group in collaboration with the Students' Union in June 2021. This is available on the LEA website. The LEA Development Group will review and update this resource using its learner representation during the 2022-2023 academic year.
- **Guide(s) to using QEngage** incorporating information on the metrics used and the analytics being produced and guidance on how staff and learners can interpret any analytics provided to them. Technical information about using QEngage is already embedded within the system and also provided on the Queen Mary Academy website. General guidance on interpreting **engagement** patterns and then using these to intervene is also provided on the Queen Mary Academy website and LEA support sessions will be delivered ahead of Semester A by the LEA Fellow, also covering interpretation of engagement and actions.

- **Guide to any learner application/dashboard** incorporating information on the metrics used and the analytics being produced and guidance on how learners can interpret any analytics provided to them.
- **Guidelines for using LEA Actions in practice** provided in the LEA Action Policy, including Instructional actions, Supportive actions, Referral actions and Review actions.

**Mechanism to allow learners to access to their data** Package to be developed as part of the implementation plan following the piloting of the learner persona.

## Appendix 2

# Jisc Code of practice for Learner Analytics

Niall Sclater, Paul Bailey Published and Updated: 4 June 2015

<https://www.jisc.ac.uk/guides/code-of-practice-for-learning-analytics>

### Introduction

Learner Analytics uses data about students and their activities to help institutions understand and improve educational processes, and provide better support to learners. It should be for the benefit of students, whether assisting them individually or using aggregated and anonymised data to help other students or to improve the educational experience more generally. It is distinct from assessment, and should be used for formative rather than summative purposes.

The effective use of Learner Analytics will initially involve the deployment of new systems, and changes to institutional policies and processes. New data may be collected on individuals and their learning activities. Analytics will be performed on this data, and interventions may take place as a result. This presents opportunities for positive engagements and impacts on learning, as well as misunderstandings, misuse of data and adverse impacts on students. Complete transparency and clear institutional policies are therefore essential regarding the purposes of Learner Analytics, the data collected, the processes involved, and how they will be used to enhance the educational experience.

This Code of Practice aims to set out the responsibilities of educational institutions to ensure that Learner Analytics is carried out responsibly, appropriately and effectively, addressing the key legal, ethical and logistical issues which are likely to arise.

Educational institutions in the UK already have information management practices and procedures in place and have extensive experience of handling sensitive and personal data in accordance with the Data Protection Act 1998 (DPA). By transferring and adapting this expertise to regulate the processing of data for Learner Analytics, institutions should establish the practices and procedures necessary to process the data of individuals lawfully and fairly.

### Responsibility

Institutions must decide who has overall responsibility for the legal, ethical and effective use of Learner Analytics. They should allocate specific responsibility within the institution for:

The collection of data to be used for Learner Analytics

The anonymisation of the data where appropriate

The analytics processes to be performed on the data, and their purposes

The interventions to be carried out

The retention and stewardship of data used for and generated by Learner Analytics

Student representatives and key staff groups at institutions should be consulted around the objectives, design, development, roll-out and monitoring of Learner Analytics.

### Transparency and consent

Institutions will define the objectives for the use of Learner Analytics, what data is necessary to achieve these objectives, and what is out of scope. The data sources, the purposes of the analytics, the metrics used, who has access to the analytics, the boundaries around usage, and how to interpret the data will be explained clearly to staff and students. Institutions should also clearly describe the processes involved in producing the analytics to students and staff or make the algorithms transparent to them.

Students will normally be asked for their consent for personal interventions to be taken based on the Learner Analytics. This may take place during the enrolment process or subsequently. There may however be legal, safeguarding or other circumstances where students are not permitted to opt out of such interventions. If so these

must be clearly stated and justified.

New Learner Analytics projects may not be covered by the institution's existing arrangements. Collection and use of data for these may require further measures, such as privacy impact assessments and obtaining additional consent.

Options for granting consent must be clear and meaningful, and any potential adverse consequences of opting out must be explained. Students should be able easily to amend their decisions subsequently.

### Privacy

Access to student data and analytics should be restricted to those identified by the institution as having a legitimate need to view them.

Where data is to be used anonymously particular care will be taken by institutions to avoid:

Identification of individuals from metadata

Re-identification of individuals by aggregating multiple data sources

The use of "sensitive data" (as defined by the DPA) such as religious affiliation and ethnicity for the purposes of Learner Analytics requires additional safeguards. Circumstances where data and analytics could be shared externally e.g. requests from educational authorities, security agencies or employers will be made explicit to staff and students, and may require additional consent.

Institutions should ensure that student data is protected when contracting third parties to store data or carry out Learner Analytics on it.

Institutions may have a legal obligation to intervene, and hence override some privacy restrictions, where data or analytics reveal that a student is at risk. Such circumstances should be clearly specified.

### Validity

It is vital that institutions monitor the quality, robustness and validity of their data and analytics processes in order to develop and maintain confidence in Learner Analytics and ensure it is used to the benefit of students.

Institutions should ensure that:

Inaccuracies in the data are understood and minimised

The implications of incomplete datasets are understood

The optimum range of data sources is selected

Spurious correlations are avoided

All algorithms and metrics used for predictive analytics or interventions should be understood, validated, reviewed and improved by appropriately qualified staff.

Data and analytics may be valid but should also be useful and appropriate; Learner Analytics should be seen in its wider context and combined with other data and approaches as appropriate.

### Access

Students should be able to access all Learner Analytics performed on their data in meaningful, accessible formats, and to obtain copies of this data in a portable digital format. Students have a legal right under the DPA to be able to correct inaccurate personal data held about themselves.

They should normally also be able to view the metrics and labels attached to them. If an institution considers that the analytics may have a harmful impact on the student's academic progress or wellbeing it may withhold the analytics from the student, subject to clearly defined and explained policies. However, the student must be shown the data about them if they ask to see it.

### Enabling positive interventions

Institutions should specify under which circumstances they believe they should intervene when analytics suggests that a student could benefit from additional support. This may include advising students that they should not continue on a particular pathway. Students may also have obligations to act on the analytics presented to them - if so these should be clearly set out and communicated to the students.

The type and nature of interventions, and who is responsible for carrying them out, should be clearly specified.

Some may require human rather than digital intermediation. Predictions and interventions will normally be recorded, and auditable, and their appropriateness and effectiveness reviewed.

The impact of interventions on staff roles, training requirements and workload will be considered and requires support from senior management. Institutions will also be clear about the priority given to Learner Analytics in relation to other requirements.

Institutions will decide how to allocate resources for Learner Analytics appropriately for learners with different requirements and ensure that diverse groups and individuals are treated equitably.

### Minimising adverse impacts

Institutions recognise that analytics can never give a complete picture of an individual's learning and may sometimes ignore personal circumstances. Institutions will take steps to ensure that trends, norms, categorisation or any labelling of students do not bias staff, student or institutional perceptions and behaviours towards them, reinforce discriminatory attitudes or increase social power differentials.

Analytics systems and interventions will be carefully designed and regularly reviewed to ensure that:

Students maintain appropriate levels of autonomy in decision making relating to their learning, using Learner Analytics where appropriate to help inform their decisions

Opportunities for "gaming the system" or any benefit to the student from doing so are minimised

Knowledge that their activity is being monitored does not lead to non-participation by students or other negative impacts on their academic progress or wellbeing

Adverse impacts as a result of giving students and staff information about the students' performance or likelihood of success are minimised

Staff have a working understanding of legal, ethical and unethical practice

### Stewardship of data

Data for Learner Analytics will comply with existing institutional data policies and the DPA, and will in particular be:  
Kept to the minimum necessary to deliver the purposes of the analytics reliably

Processed in the European Economic Area or, if elsewhere, only in accordance with the DPA

Retained only for appropriate and clearly defined periods

On request by students any personal data used for or generated by Learner Analytics should be destroyed or anonymised, with the exception of certain, clearly specified data fields required for educational or statutory purposes such as grades.

# Jisc Model Institutional Learner Analytics Policy

Niall Sclater, Nov 2016, Draft v0.1

<https://analytics.jiscinvolve.org/wp/files/2016/11/Jisc-Model-Institutional-Learning-Analytics-Policy-v0.1.pdf>

## Included in pack for information

### Introduction

1. The collection and use of data about students and their learning is providing new opportunities for institutions to support learners and to enhance educational processes. Learner Analytics systems present visualisations of student learning activity and provide predictions of attainment. These will be used at [ *institution* ] to assist current students in achieving their study goals, and to help us improve our overall provision of education.
2. The institution will use Learner Analytics to help meet the following strategic objectives: [e.g. *increasing retention and progression, improving attainment*]. These are key elements of the [ *Learning and Teaching Strategy / other relevant strategies*].
3. The [ *University/College* ] will ensure that Learner Analytics is deployed for the benefit of students, with complete transparency about the data that is being captured, processed and used. All activities in this area will comply with the institution's Data Protection Policy [ *link* - and this should ensure compliance with the *Data Protection Act 1998*].

### Responsibility

4. Overall responsibility for Learner Analytics at [ *University/College* ] is held by [ *senior leader responsible for Learner Analytics* ]. Responsibility for relevant areas of activity is allocated as follows:
  - The collection of data to be used for Learner Analytics - [ e.g. *IT Director* ]
  - The anonymisation or de-identification of data where appropriate - [ e.g. *IT Director* ]
  - The analytics processes to be performed on the data, and their purposes - [e.g. *PVC Learning & Teaching*]
  - The interventions to be carried out on the basis of the analytics - [e.g. *PVC Learning & Teaching*]
  - The retention and stewardship of data used for and generated by Learner Analytics - [e.g. *Registrar*]
5. Analytics presented to students are intended to help them understand how their learning is progressing, and suggestions may be made as to how they can improve their practices. Students are responsible for assessing how they can best apply any such suggestions to their learning.

### Transparency and consent

6. Students are informed about how their data will be processed when they agree to the [e.g. *data processing consent notice/computing regulations*] upon registration. Data will be collected for Learner Analytics in compliance with [ *these documents* ].
7. The data for Learner Analytics comes from a variety of sources, including the student record system and the virtual learning environment. The Student Guide to Learner Analytics [ *link to document in student section of institutional website* ] will clearly specify:
  - The data sources being used for Learner Analytics
  - The specific purposes for which Learner Analytics is being used
  - The metrics used, and how the analytics are produced
  - Who has access to the analytics, and why
- Guidance on how students can interpret any analytics provided to them

- The interventions that may be taken on the basis of the analytics
8. Students will be asked for their consent for any automated prompts or suggestions to be sent to them, based on the analytics. These may include emails, SMS messages or app notifications.
  9. Learner Analytics is separate from assessment. Metrics derived from data sources used for Learner Analytics will not be used for the purposes of assessment.

### Confidentiality

10. Personally identifiable data and analytics on an individual student will be provided only to:
  - The student
  - [ *University/College* ] staff members who require the data to support students in their professional capacity
  - Third parties which are processing Learner Analytics data on behalf of the institution. In such circumstances the [ *University/College* ] will put in place contractual arrangements to ensure that the data is held securely and in compliance with the Data Protection Act.
  - Other individuals or organisations to whom the student gives specific consent
11. [ *University/College* ] IT staff will have access to systems and data in order to maintain proper functioning of systems rather than to access any individual's data.

### Sensitive data

12. The Data Protection Act 1998 defines categories of “sensitive data” such as ethnicity or disability. Any use of such data for Learner Analytics will be fully justified, and documented in the Student Guide to Learner Analytics.

### Validity

13. The quality, robustness and validity of the data and analytics processes will be monitored by the [ *University/College* ], which will use its best endeavours to ensure that:
  - Inaccuracies and gaps in the data are understood and minimised
  - The optimum range of data sources to achieve accurate predictions is selected
  - Spurious correlations and conclusions are avoided
  - The algorithms and metrics used for predictive analytics and interventions are valid
  - Learner Analytics is seen in its wider context, and is combined with other data and approaches as appropriate

### Student access to personal data

14. Mechanisms will be developed to enable students to access their personal data, and the Learner Analytics performed on it, at any time in a meaningful, accessible format. Students have the right to correct any inaccurate personal data held about themselves.
15. Students will also be able to view any metrics derived from their data, and any labels attached to them.
16. On occasion it may be considered that access to the analytics may have a negative impact on the student's academic progress or wellbeing. In these cases they may be withheld from the student. However, if the student requests it, all their personal data and analytics will be made available to them.

### Interventions

17. A range of interventions may take place with students. The types of intervention and what they are intended to achieve are documented in the Student Guide to Learner Analytics [ *link* ]. These may include:
  - Prompts or suggestions sent automatically to the student via email, SMS message or mobile app notification (subject to the student's consent)

- Staff contacting an individual on the basis of the analytics if it is considered that the student may benefit from additional support

18. Interventions, whether automated or human-mediated, will normally be recorded. The records will be subject to periodic reviews as to their appropriateness and effectiveness.

#### Minimising adverse impacts

19. The [*University/College*] recognises that Learner Analytics cannot present a complete picture of a student's learning, and that predictions may not always be accurate.
20. Students will retain autonomy in decision making relating to their learning; the analytics are provided to decisions about how and what to learn.

## Membership of the Queen Mary LEA Development Group and Community of Practice (CoP)

From 2022, a LEA Development Group will oversee the operational and strategic development LEA (both the application and the system) at Queen Mary. The LEA Development Group will consist of:

- Head of Innovation and Learning, (Queen Mary Academy) responsible for user training and support, and communications related to how staff act on LEA, including maintaining policies, producing training and support materials, developing the LEA webpages and cascading information e.g., at DEAG, DoE and PD forums, QMA-faculty liaison meetings.
- Learner representative
- Assistant Director of IT Services for Solution Development and Technology Enhanced Learning, (Richard Young) responsible for QEngage.
- LEA Fellow, QM Academy, responsible for convening the LEA Community of Practice and developing in-house expertise on possible ways of using LEA to enhance the learner experience.

Task	Responsible owner
Maintain QEngage	Richard Young
Decide (in liaison with the QMUL Senior Executive Team) whether to replace QEngage	Stefan Krummaker
Develop institutional knowledge about LEA	LEA Fellow
Maintain institutional resources about the use of LEA	Shoshi Ish-Horowicz
Devise and deliver training resources for the use of LEA	Shoshi Ish-Horowicz
Convene LEA Community of Practice	LEA Fellow
Maintain institutional policies relating to LEA	Shoshi Ish-Horowicz
Identify and resolve data availability or quality issues	QUIP
Gathering and analysing user feedback	LEA Fellow
Maintaining and developing LEA web pages on the QM website	Shoshi Ish-Horowicz
Maintain oversight of LEA tactical projects, such as the creation and evaluation of new dashboards	Richard Young

The LEA Development Group will meet quarterly to review developments, co-ordinate efforts, identify and resolve issues, and advise the Senior Responsible Owner on possible future

strategic projects. It will ensure that policies and developments are aligned with university strategy and will own the policies.

From 2022, a LEA Community of Practice (CoP) will bring together colleagues from across the university who are interested in using LEA to support learners, enhance teaching and learning, and conduct pedagogic research. The LEA Fellow will be responsible for recruiting new members to the CoP, raising awareness of its existence and work, convening monthly meetings, organising events and sharing resources. To ensure continuity, the Queen Mary Academy will be responsible for maintaining the membership list for the CoP, including the MS Teams area and website area related to CoP.

## Data Protection Impact Assessment for QEngage V0.4



This template is an example of how you can record your DPIA process and outcome. It follows the process set out in our DPIA guidance, and should be read alongside that guidance and the [Criteria for an acceptable DPIA](#) set out in European guidelines on DPIAs.

You should start to fill out the template at the start of any major project involving the use of personal data, or if you are making a significant change to an existing process. The final outcomes should be integrated back into your project plan.

### Submitting controller details

Name of controller	Sharon Pay (updated 09/08/2022)
Subject/title of DPO	Student Engagement
Name of controller contact /DPO (delete as appropriate)	Paul Smallcombe

## Step 1: Identify the need for a DPIA

*Explain broadly what project aims to achieve and what type of processing it involves. You may find it helpful to refer or link to other documents, such as a project proposal. Summarise why you identified the need for a DPIA.*

### **Aim**

To provide a Student Engagement monitoring system (QEngage) to assist schools in identifying students who are at risk of disengaging and may benefit from academic or pastoral support.

### **Types of Processing**

- Data matching
- Tracking

### **Matching and combining datasets**

QEngage combines datasets from the following systems:

- Student Records
- Timetabling
- QMplus (VLE)
- QReview (video recording)
- QMplus Media
- Online registers
- Wall scanners
- Microsoft Teams
- Zoom
- Talis Aspire Online Reading Lists

### **Data Processed on a large scale**

A high proportion of the learner population for the current academic year are likely to be subjected to some level of data processing.

### **Need for DPIA**

DPIA is required because the processing involves the use of personal data.

## Step 2: Describe the processing

***Describe the nature of the processing: how will you collect, use, store and delete data?***

*What is the source of the data? Will you be sharing data with anyone? You might find it useful to refer to a flow diagram or other way of describing data flows. What types of processing identified as likely high risk are involved?*

## **Data Collection**

Data from the Student Records and Timetabling systems, online registers and wall scanners, is collected via a secured dedicated link between the source servers and the BI central repository in the data centre.

QMplus and Talis Aspire data is collected via SSL encrypted link that ensures that data passed between the external host server and central repository remain private.

Data from the QReview, QMplus Media, Microsoft Teams and Zoom, is collected via secured REST APIs.

## **Data Sharing**

Once the data is in the central repository only ITS Database Administrators and Reporting Services teams have direct access to the datasets.

Other staff requiring access to the data for reporting purposes, are given 'read only' access to subsets of data, via database views.

Data for monitoring student engagement is shared with School Admin and Academics via dashboards. Row-level security is implemented so that at a granular level, users can only access rows of data relevant to their role, e.g., School Admins can only see the data for students taking modules owned or taught by their School/Institute, or students on joint Programmes with their School/Institute, and Academic Advisors can only see data for their advisees.

The ITS Reporting Services team has control of the deletion and sharing of the data.

***Describe the scope of the processing:*** *what is the nature of the data, and does it include special category or criminal offence data? How much data will you be collecting and using? How often? How long will you keep it? How many individuals are affected? What geographical area does it cover?*

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## **How much data and how many are affected**

Data is collected for all learners with an active status in the current academic year.

## **Special Category Data Collected**

- Student - Name, Date of Birth, Gender, Disability, Ethnicity, Email Address and Photo
- Advisors - Name and Email Address
- Module Convenors - Name and Email Address

## **How Often**

Data is collected and processed daily, on weekdays.

### **Data Retention Period**

Data will be deleted 3 years after the learner's enrolment record has been closed.

***Describe the context of the processing:*** what is the nature of your relationship with the individuals? How much control will they have? Would they expect you to use their data in this way? Do they include children or other vulnerable groups? Are there prior concerns over this type of processing or security flaws? Is it novel in any way? What is the current state of technology in this area? Are there any current issues of public concern that you should factor in? Are you signed up to any approved code of conduct or certification scheme (once any have been approved)?

### **Nature of relation and their expectation for the use of their data**

The individuals are learners of QMUL. The Students Union previously raised concerns about the monitoring of learner's activities. However, it was explained that the monitoring of engagement is intended to be supportive and any resulting procedures and communications are intended to help early identification of learners who may benefit from academic and pastoral support.

### **Concerns over processing or security flaws**

There were no concerns. Security measures have been implemented for the on-premises database services, per the ITS security policy, and multi-factor authentication has been implemented for GDPR compliance. This ensures that all users of the QMUL Power BI online service including externals, must provide two forms of credentials to access the service and view the dashboards.

### **State of Technology**

QEngage employs the following technologies:

- Power BI – the dashboards are developed in Power BI which is one of the market leaders for BI data visualization tools.
- SQL Server Integration Services - also a market leader in data integration, is used to extract, transform and load the data collected from the various source systems.
- Pentaho – another BI data integration tool, is used for extracting data from the REST APIs.
- SQL Server Analysis Services - another market leader that supports the data modelling and analysis that underpins Power BI.

### **No children or other vulnerable groups are included.**

***Describe the purposes of the processing:*** what do you want to achieve? What is the intended effect on individuals? What are the benefits of the processing - for you, and more broadly?

### Benefits of the Processing

Student engagement involves not just learner interaction in the classroom but also their interaction with online learning materials. The benefits of the processing is to analyse data from the different teaching and learning systems in order to identify learners who are at risk of disengaging, and may benefit from academic or pastoral support. More broadly, as research has shown that the more learners are engaged, the more they learn, and the more they achieve, the use of student engagement data can give insights into strategies to enhance student engagement and academic success and the student experience as a whole.

## Step 3: Consultation process

**Consider how to consult with relevant stakeholders:** describe when and how you will seek individuals' views - or justify why it's not appropriate to do so. Who else do you need to involve within your organisation? Do you need to ask your processors to assist? Do you plan to consult information security experts, or any other experts?

### Consultation with Security Experts

QEngage has been a Production service for several years and ITS security experts, with input from external consultants, have been consulted throughout the provision of the service.

### Consultation with Stakeholders

QEngage has been reviewed under the Strategic Project 112, which aims to implement improvements to Learner Analytics at QMUL, and as part of this, focus groups were held and interviews conducted with stakeholders, to identify issues and potential improvements to the system. An online World Café event with Directors of Education and Programme Directors was held to identify academic colleagues' key priorities for Learner Analytics, and a Task and Finish Group with representation from all three faculties and the Students' Union, was convened to draft a governance pack to guide QMUL's use of Learner Analytics.

Currently, learners can request to see data held within QEngage but do not have full access to the system. It is intended that this data will be fully accessible to learners and learner feedback on the system will be sought at this point.

## Step 4: Assess necessity and proportionality

**Describe compliance and proportionality measures, in particular:** what is your lawful basis for processing? Does the processing actually achieve your purpose? Is there another way to achieve the same outcome? How will you prevent function creep? How will you ensure data quality and data minimisation? What information will you give individuals? How will you help to support their rights? What measures do you take to ensure processors comply? How do you safeguard any international transfers?

### What is the lawful basis for processing the data

The basis for processing the data is a legitimate interest in identifying students who may benefit from academic or pastoral support.

### **Does the processing achieve the purpose**

Often, students in need of support have reduced attendance, lower participation and engagement with QMPlus, or reduced academic performance relative to their cohort. QEngage takes account of School specific markers of engagement and compare the performance of students against thresholds set by each school, to identify the students in need of support.

Students identified are contacted and asked to meet with their School Admin Officer and/or Advisor.

### **Is there another way to achieve your objectives**

Across the HE sector it is recognised that attendance data is one indicator of students' engagement with their programme. For some programmes, attendance is one of the key indicators, along with assignment submissions, with VLE activity less so. However, for other programmes, VLE activity is a key indicator. For this reason schools can define acceptable levels of engagement based on their programme requirements which is different for other schools. Without the processing of the data, the early identification of students would not be possible.

### **Function Creep**

We hope to prevent function creep by being clear about the purpose and maintaining an ongoing open door policy for staff to be able to report use of the system which is not aligned with the purpose.

### **Data quality and data minimization**

The QEngage process will collect and process data sufficient to fulfill its purpose. We will ensure that analysis of data is as accurate as possible. Users are encouraged to report inaccurate data. Engagement data will not be kept for longer than its useful purpose in line with the engagement monitoring data retention policy.

### **Compliance of Processors**

We have implemented multi-factor authentication to ensure GDPR compliance when accessing the Power BI online service. We have also implemented row-level security to ensure that users will only be able to access data relevant to roles.

## **Step 5: Identify and assess risks**

<b>Describe source of risk and nature of potential impact on individuals.</b> Include associated compliance and corporate risks as necessary.	<b>Likelihood of harm</b>	<b>Severity of harm</b>	<b>Overall risk</b>
	Remote, possible or probable	Minimal, significant or severe	Low, medium or high
Data breach as a result of special category data being exported from the dashboard into Excel by a user.	Possible	Significant	High

Students not expecting their data to be processed in this way	Probable	Minimal	Medium
The system not being used for the intended purpose	Possible	Minimal	Low

## Step 6: Identify measures to reduce risk

Identify additional measures you could take to reduce or eliminate risks identified as medium or high risk in step 5				
Risk	Options to reduce or eliminate risk	Effect on risk	Residual risk	Measure approved
Data breach as a result of special category data being exported from the dashboard into Excel by a user.	Disable the Export feature.	Eliminated reduced accepted	Low medium high	Yes/no
Students not expecting their data to be processed in this way	More consultation with the Student Union	Eliminated		
		Reduced		

## Step 7: Sign off and record outcomes

Item	Name/position/date	Notes
Measures approved by:		Integrate actions back into project plan, with date and responsibility for completion
Residual risks approved by:		If accepting any residual high risk, consult the ICO before going ahead
DPO advice provided:		DPO should advise on compliance, step 6 measures and whether processing can proceed
Summary of DPO advice:		
DPO advice accepted or overruled by:		If overruled, you must explain your reasons
Comments:		
Consultation responses reviewed by:		If your decision departs from individuals' views, you must explain your reasons
Comments:		
This DPIA will kept under review by:		The DPO should also review ongoing compliance with DPIA