

## Institutional Guide to Developing Enabling LA Policies

The purpose of this resource is to enable institutions to develop policies that are cognisant of the range of issues that should be addressed in developing an analytics strategy. The headings below are drawn from the recurrent themes in recognised international analytics policies and principles documents. Clicking on the theme will provide further detail on each aspect including steps institutions are advised to take to ensure that they are consistent with international good practice models of analytics.

### 1. Openness/Transparency

*How are we ensuring that all stakeholders are kept informed of our goals, plans, actions and outputs?*

Transparency is a requirement of Data Protection legislation; all data subjects (in this case students) must be fully informed of what data will be used, how it will be used and to what end. Transparency is also a fundamental aspect of the trustworthiness that is key to an institution's relationships with its students and staff. It is essential that institutions do not give the impression that they have something to hide.

#### Suggested Actions

- Develop analytics through a consultative process which involves all stakeholders, especially students
- Work with representative groups such as SU to ensure that stakeholders are kept abreast of developments
- Ensure that analytics strategy is well-publicised and detailed on institutional website
- Include explicit, detailed description at the point of student consent
- Actively communicate with students at the start of the year (eg through email), giving a full description of the purposes of analytics, what data is used, how it is used and how analytics may affect them

### 2. Determination (purpose of analytics)

Have we established and communicated exactly what we aim to achieve through the implementation of analytics?

In addition to supporting the area of Openness/Transparency (above), establishing the exact aims of their analytics helps institutions to ensure that they design, implement and develop a coherent, successful strategy. Without explicit aims, how can the institution know if its analytics development has worked? Additionally, publicly-stipulated, student-focused aims may increase staff engagement with analytics by easing suspicion that staff performance is being assessed

#### Suggested Actions

- Begin exploration of analytics by clearly identifying institutional goal(s) (eg supporting unengaged students, increasing student retention, enabling self-



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driven learning etc)

- Ensure that aims of analytics strategy are detailed in policy
- Ensure that aims are well-publicised and detailed on institutional website
- Include explicit, detailed description at the point of student consent

### 3. Legitimacy/Compliance with Data Protection

Have we reviewed our practices to ensure that they are fully compliant with both Irish and EU (GDPR) Data Protection Legislation?

Institutions must ensure that they meet both national and EU laws around Data Protection. The ORLA Guide to Data Protection can help. It is noteworthy that the EU's GDPR (General Data Protection Regulation) comes into effect from May 2018. Institutions must familiarise themselves with the features of this legislation to ensure that they meet all existing and new requirements.

#### Suggested Actions

- Review the ORLA Guide to Data Protection

### 4. Respect for Rights & Dignity of Learners

What steps have we taken to ensure that Learning Analytics recognises our students as unique learners, rather than processing them like a commodity?

Although Learning Analytics is based on data and algorithms, it is essential that institutions are mindful of students as learners with individual goals, talents and circumstances. All interventions and student-facing communications must be cognisant of this fact. Institutions that avoid a 'one size fits all' approach will be most likely to yield better outcomes for their students and, by extension, themselves.

#### Suggested Actions

- Provide staff training with regard to understanding analytics interface and effective interventions that are sensitive to a wide array of possible student circumstances.
- Develop institutional guidance/policy on interventions enabled by analytics
- Ensure that the language used in all student-facing platforms, communications, messages and interventions is designed to encourage learning, not to threaten the likelihood of failure.
- Ensure that all language used in relation to analytics emphasises the possibility of changing academic trajectories; no student is destined to fail.

### 5. Beneficence

What steps have we taken to ensure that students and staff will not be disadvantaged through their involvement with Learning Analytics?

The aim of Learning Analytics is to benefit students by enabling them to engage more effectively and enhance their learning. Institutions must take proactive steps to ensure



that analytics does not become a punitive tool for either students or staff or a means of further demotivating under-performing students.

### Suggested Actions

- Develop institutional guidance/policy on the correct use of analytics information
- Provide staff training which conveys the importance of using analytics in an ethical way
- Develop a means of ensuring institutional oversight into analytics interventions
- Ensure that the language used in all student-facing platforms, communications, messages and interventions is designed to encourage learning, not to threaten the likelihood of failure.

## 6. Continuous consideration

What steps have we taken to ensure that our strategy can evolve to remain in-line with new research and international good practice?

As a rapidly-growing field, Learning Analytics is in a state of constant growth and development. To yield the greatest benefits for the institution and its students, it is important that the strategy and practice can grow and evolve to take ongoing improvements and refinements into account. The institutions that achieve the greatest success will be those that do not consider the analytics project completed once the first iteration has been moved into production.

### Suggested Actions

- Ensure that a given area of the institution is given explicit responsibility for monitoring international developments which may be of benefit to the institutions' analytics use and development
- Ensure that the area has the resources required to be able to undertake this commitment
- Ensure that analytics is retained as an institutional priority and that developmental resources such as IT developers and data analysts are made available to enable future growth

## 7. Access to data

How have we ensured that our analytics can access all of the relevant data held in or by our institution?

Institutional systems (such as the Student Information System, Virtual Learning Environment, Library Management System etc) generate immense volumes of data on a daily basis. The more of this data that can be included in analytics, the more comprehensive a picture of a student's engagement that can be established. Many institutions experience 'data-siloing' as an issue, whereby it can be challenging to obtain relevant data from certain systems and areas. This can be a significant impediment to any analytics strategy

### Suggested Actions



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- Establish analytics as an institutional priority which requires custodians of data from each system to ensure that the data they hold is available for inclusion
- Ensure that all future licensing agreements with third-party vendors guarantee the institution has iterative and suitable access to all of its own data

## 8. Data security

What steps have we taken to ensure that our analytics strategy takes full account of data security?

Data security is a key aspect of Data Protection legislation and is already embedded in the policies and practices of our institutions. Learning Analytics may raise new challenges and considerations which must be taken into account during the design of analytics systems, reports and practices.

### Suggested Actions

- Ensure that only staff with an explicit responsibility for the actions stemming from any LA reports have access to them
- Ensure that authorised staff can only view the records of students for whom they have an explicit responsibility
- Ensure that institutional data security policy and practices extend to all aspects of, and platforms and reports that enable, analytics

## 9. Responsibilities

Have we explicitly identified who in the institution is responsible for each aspect of our analytics strategy?

Analytics has many facets and touches off many institutional areas. In developing any new business, it is essential that everyone knows who is responsible for its various aspects.

### Suggested Actions

- Establish which area has responsibility for:
  - Developing analytics policy
  - Oversight and policing
  - The iterative accuracy of the data
  - The content of student-facing messages and communications
  - Ensuring good practice in student interventions
  - The technical functionality and accuracy of the platform
  - Designing a sound data modelling approach
  - Measuring the success of the analytics model in achieving its strategic aims



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- Ensuring the practice, analysis and functionality are in-line with evolving good practice and latest research
- Regularly requesting and incorporating user feedback
- Making student interventions
- Designing and delivering training to staff and guidance to students

## 10. Training

What training have we provided to ensure that staff and students are best-positioned to benefit from the availability of analytics?

Even with the most intuitive of platforms, users are far more likely to engage effectively with tools if they are armed with the confidence of knowing how to interpret and use them. This confidence can most effectively be nourished among staff through bespoke training which covers the platform itself, the staff member's responsibilities and guidance on sensitive and effective interventions. Institutions should also provide guidance to students on how to accommodate analytics feedback into their studies

### Suggested Actions

- Provide regular training for staff which covers the interpretation of the information made available and how they should act based upon it
- This training could be incorporated into the induction training given to all new staff
- Provide guidance to students (possibly in the form of an online video) on what actions they could take based upon their own use of an analytics platform, including drawing their attention to the learning resources available to them

## 11. External partners

How have we ensured that any external partners (eg third party vendors) are treating our institutional data in a way that is compatible with our own policy and compliant with Data Protection regulations?

It is a significant undertaking to allow third parties to access and work with students' personal data. Institutions have a legal responsibility to ensure that any such parties operate in a way that is consistent with Irish & EU Data Protection legislation

### Suggested Actions

- Ensure that MOU with third party vendors stipulates that they will treat the data in a way that is compatible with good practice, your institutional data security policies and Data Protection legislation
- Ensure that students are informed of how, why and by whom their personal data will be conveyed, extracted, analysed and re-presented

## 12. Validity



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What steps have we taken to ensure that all of the data used by analytics are complete and accurate and that our data modelling approach is sound and scientific?

The outputs of any analytics system can only be as good as the data upon which they draw. As a first step, any institution with an interest in analytics is advised to begin by assessing the quality of the data for inclusion. Institutions are also strongly advised to entrust any data modelling which is used by their analytics to data analysts with the requisite experience and qualifications.

#### Suggested Actions

- Review the ORLA Guide to Data Quality

### 13. Justice

Have we designed analytics in a way which can benefit students that, under other circumstances, may be traditionally disadvantaged in higher education?

The Asilomar Convention for Learning Research in Higher Education lists Justice as one of its six principles: 'Practices and policies should enable the use of learning data in the service of providing benefit for all learners. More specifically, research practices and policies should enable the use of learning data in the service of reducing inequalities in learning opportunity and educational attainment.'

#### Suggested Actions

- Ensure that stakeholders from Access/Outreach/Lifelong Learning/Disability Support Offices are included in the consultation and design phases of your analytics project
- Ensure that all student-facing tools are built according to the principles of universal design (<http://universaldesign.ie/what-is-universal-design/the-7-principles/the-7-principles.html>)
- Ensure that all learning resources to which students may be directed are equally available to all students (eg services that do not have a financial charge, buildings that are wheelchair accessible etc)

### 14. Face to face learning

Have we emphasised the value and priority of the teacher/student relationship and made it clear that analytics is not an attempt to subvert or replace it?

Learning analytics is intended to complement the traditional relationship between student and teacher. It is not an attempt to replace or subvert that relationship.

#### Suggested Actions

- Institutions are advised to ensure that their intentions with regard to analytics are made clear to staff and students. The success of any analytics strategy is dependent, in large part, upon the trust and good will of these key cohorts. It is imperative that they both understand the capabilities and limitations of an analytical approach and it is made clear that analytics is a complementary



methodology, rather than an alternative to interactive teaching and learning

## 15. Stakeholder consultation

Are we planning on developing analytics in conjunction with the various stakeholders that have a vested interest?

A collaborative approach to design and development is a key factor in implementing a fit-to-purpose system; How can an institution know what information their staff and students need and will engage with without asking them? How can you know what data is available from the various systems, how accurate it is and what meaning can be derived from it without involving the custodians of that data? Furthermore, one of the main challenges which has been identified by institutions that have already implemented analytics systems is embedding it into the day-to-day business of the institution. Getting users to actually use the platforms is a constant challenge. One of the best ways to get users to engage with any new system is to involve them in the design and development of the system and its supporting business, reducing the feeling that it has been thrust upon them.

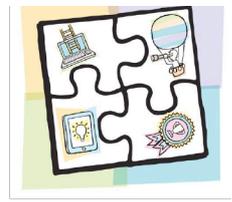
### Suggested Actions

- Initiate the development of your strategy by consulting all stakeholders to establish what questions they want analytics to answer, what medium they will engage with and how they will act upon the information. Groups that should be involved include:
  - Students
  - Senior managers
  - End users (eg lecturers, departmental administrators etc)
  - Student support staff (including those highlighted in the 'Justice' section above)
  - Teaching & Learning Unit
  - Data custodians (eg IT Services, Library, Records etc)
  - Directors of Quality/ Institutional Research etc
  - IT developers
  - Data analysts
  - Lecturers/Researchers with an expertise in the areas of data analytics, business intelligence etc
- See the ORLA Guide to Collaborative Design for further details

## 16. Impact on staff resources

What steps have we taken to ensure that we have resources available to make effective interventions?

The benefits of analytics can only be felt by students and institutions when they generate



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action, not just information. An analytics strategy with successful impacts relies upon follow-ups from staff who have the resources to intervene effectively. As highlighted above, one of the major challenges experienced by institutions in implementing analytics is embedding them into the day-to-day operations of staff. This challenge can only be overcome if analytics-led interventions are appropriately prioritised by the institution.

In dedicating resources to interventions, remember that your analytics will unearth many student issues that are non-academic in nature (eg personal, financial and medical issues). Whoever makes the interventions **MUST** know how to effectively address these issues or your interventions could cause considerably more harm than good.

### Suggested Actions

- Explicitly outline who will be responsible for acting upon the information generated by analytics
- Consider the benefits of creating new posts that can give undivided attention to analytics support and interventions. Although this approach will create new costs, it is likely to give the greatest return on investment as effective interventions that lead to enhanced student success, progression and retention will take time.
- If you are planning to incorporate analytics interventions into the roles of existing staff, they must be provided with training to understand the analytics interface and provide effective interventions
- Ensure that training covers all of the aspects interveners will require in order to assist students with non-academic issues
- Ensure that the time required to interact with, and act upon analytics information is recognised, resourced and appropriately prioritised by the institution

## 17. Awareness and avoidance of bias

What steps have we taken to ensure that our approach to data analysis and student interventions is objectively-founded and free from bias?

Predictive analytics uses a finite range of sources, limited by the availability of relevant data, to infer students' (as opposed to a student's) outcomes based upon modelled data. In so doing, it will inevitably rely on a number of assumptions. It is essential, from the perspectives of both ethical practice and effective data modelling, to ensure that these assumptions are checked by both the analyst and the institution to ensure that they do not perpetuate any biases, particularly with regard to a student's background and chances of success. It is also critical that the institution takes effective steps to ensure that analytics information does not generate any 'self-fulfilling prophecies' whereby students who are identified as being at-risk or less engaged can become de-prioritised by lecturers who wish to focus, either consciously or unconsciously, on students that they perceive to be more committed.

### Suggested Actions



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- Ensure that appropriate steps are applied to data modelling approach (eg anonymisation, coding of identifiable variables such as Programme etc) are utilised to minimise the threat of bias
- Ensure that only staff with an explicit responsibility for acting upon LA data have access to it and that such staff are fully trained in its appropriate use.

### 18. Student responsibilities

What are the student's responsibilities with regard to Learning Analytics?

Autonomous learning is at the heart of higher education. An analytics strategy must not compromise that by attempting to force students to act or learn according to a set template. Analytics and analytics-led interventions should provide students with the information they require to form their own decisions about their engagement and study habits, not force actions upon them.

#### Suggested Actions

- Investigate the value of including a reference to students' responsibilities in the policy, based upon the institutional values.

### 19. Sensitive data (additional safeguards)

Have we taken steps to ensure there are additional safeguards to protect the integrity of sensitive information about students?

In keeping with Data Protection requirements, all student data must be stored and processed securely and must only be made available to staff who require that information to support their explicit roles and responsibilities. Analytics, however, can take sensitive information such as academic background, socio-economic group, family history in higher education etc into account. Institutions may wish to provide further safeguards to ensure that such information is appropriately protected

#### Suggested Actions

- If using sensitive data, institutions should take appropriate steps to ensure that this information is only available to staff who need to see it. Sensitive data can be included in data models without showing it to end users
- Ensure that all sensitive data has been fully and appropriately anonymised before making it available for modelling
- Ensure that the conveyance of such information to third parties is done securely and in compliance with Data Protection

### 20. Specific guidelines on interventions

Have we set out explicit guidelines which inform analytics-led interventions by staff and identified who in the institution is responsible for making or entitled to make such interventions?

As highlighted above, analytics which do not lead to action may be a waste of the institution's resources. Moreover, analytics-led interventions which are not informed by



good practice may, in fact, prove harmful to students. Institutions will achieve the best outcomes for their students if interventions are well-informed, ethically sound and designed to maximise their chances of success. Staff are more likely to make effective interventions if they know exactly what is expected of them and what falls outside the realm of their responsibility.

### Suggested Actions

- Institutions are strongly advised to develop staff guidelines which detail:
  - Who should make analytics-led interventions
  - What form those interventions should take
  - When, and under what circumstances, an intervention should take place
  - The appropriate escalation of concerns about a student's wellbeing and what the responsibilities are of the first staff member to identify such concerns (if, for example, a lecturer, prompted by the institution's Learning Analytics platform, makes contact with a student who says they are considering suicide, what are the extent and the limits of the lecturer's responsibility?)
  - Who is responsible for ensuring that interventions are consistent with the guidelines
  - Review the ORLA resources on effective interventions for further information.

## 21. Policy review

How frequently, given the rapid developments in the field of analytics, will our policies and practices be reviewed?

Learning analytics is a dynamic field in which new research is constantly occurring. To achieve the maximum benefit from their analytics strategy, institutions are recommended to establish the frequency with which they will review their policies and practices, both to ensure that they are effective and also that they are in-line with the latest international findings.

### Suggested Actions

- Embed within analytics policy the frequency with which the policy itself should be reviewed

## 22. Alignment to institutional values

Have we explained how our analytics strategy is aligned to our broader strategic vision and to the values we espouse?

The value in this aspect is in focusing the drivers of the analytics strategy to ensure that they target actions and approaches that are appropriate to the institution. It will also help



to direct the questions that the institution wishes to address through their analytics strategy.

### Suggested Actions

- The steps that are taken with regard to this consideration should be decided locally

## 23. Student complaints

Do we need to set up a new complaints process specifically to deal with our analytics?

Facilitating student complaints reinforces the message that institutions' analytics strategies are transparent and student-centred. This gives students an important element of control over their own records and how they are used and scaffolds the trustworthiness referenced above that is at the heart of the relationship between students and institutions

### Suggested Actions

- Review current complaint procedures to ensure that they are compatible with institutional analytics strategy and update them if required
- Ensure that students have ready access to information about how they can complain. This should be linked to relevant webpages or communications relating to analytics

## 24. Ability to use analytics data for research purposes

Do our current research ethics allow for research into our analytics outputs to enable interventions or analytics-driven actions based on evidence?

As an evidence-based methodology, it is appropriate that actions and interventions prompted by Learning Analytics should, themselves, be based upon evidence. Institutions are strongly advised to enable reflective research that assesses the success of such actions within the institution and that this research is used to evolve and develop the analytics strategy.

### Suggested Actions

- Compile procedures for lecturers and other staff to apply for ethical approval to use students' analytics information for research into designing and evaluating interventions?
- Ensure that institutional ethics committee has an understanding of the issues and practices involved with analytics to make informed judgments
- Compile guidelines for staff and students on how student data can be/should not be used for research purposes, and on how and when to obtain consent for its use
- Develop institutional guidelines around publication and dissemination of the outcomes of analytics-based or informed interventions taken in the legitimate interests of the institution and of student welfare and learning



## 25. Informing staff of Data Protection requirements

What steps have we taken to ensure that staff are aware of their responsibilities for personal data management when using LA software?

The current legislation in place to protect personal data is principle based rather than being prescriptive. It provides for strong rights to individuals where a Data Controller, such as 3rd level institution, proposes to use personal data for any purpose, including LA.

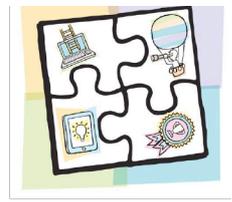
The new EU General Data Protection Regulation (GDPR), which will take effect from May 2018, will significantly enhance the regulatory environment for personal data. Non-compliance with the regulation will result in a substantial financial and reputational exposure for the institution.

### Suggested Actions

- In the context of Learning Analytics institutions must ensure that their process to obtain and process personal data is fully compliant with the 2018 GDPR requirements. This will be particularly important in terms of obtaining consent, allowing for 'data portability', and embedding 'privacy by design' in all IT projects using personal data in anyway.
- Senior institutional management should be made aware of the implications of the new GDPR in general across their institution and, in particular, where there is an intention to implement institutional LA.
- Institutions should consider the appointment of a dedicated Data Protection Officer (DPO) with the required expertise, resources and authority to mandate changes in personal data handling practices by any unit of the Institution.
- The DPO should prepare a Privacy Impact Assessment (PIA) on the institution's proposed LA solution prior to it going live and any recommendations from the PIA should be followed through on.
- The provision of general or tailored personal data training for staff involved in any aspect of the LA project implementation should be considered.

### Full list of Questions

- How are we ensuring that all stakeholders are kept informed of our goals, plans, actions and outputs?
- Have we established and communicated exactly what we aim to achieve through the implementation of analytics?
- Have we reviewed our practices to ensure that they are fully compliant with both Irish and EU (GDPR) Data Protection Legislation?
- What steps have we taken to ensure that Learning Analytics recognises our students as unique learners, rather than processing them like a commodity?
- What steps have we taken to ensure that students and staff will not be disadvantaged through their involvement with Learning Analytics?



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- What steps have we taken to ensure that our strategy can evolve to remain in-line with new research and international good practice?
- How have we ensured that our analytics can access all of the relevant data held in or by our institution?
- What steps have we taken to ensure that our analytics strategy takes full account of data security?
- Have we explicitly identified who in the institution is responsible for each aspect of our analytics strategy?
- What training have we provided to ensure that staff and students are best-positioned to benefit from the availability of analytics?
- How have we ensured that any external partners (eg third party vendors) are treating our institutional data in a way that is compatible with our own policy and compliant with Data Protection regulations?
- What steps have we taken to ensure that all of the data used by analytics are complete and accurate and that our data modelling approach is sound and scientific?
- Have we designed analytics in a way which can benefit students that, under other circumstances, may be traditionally disadvantaged in higher education?
- Have we emphasised the value and priority of the teacher/student relationship and made it clear that analytics is not an attempt to subvert or replace it?
- Are we planning on developing analytics in conjunction with the various stakeholders that have a vested interest?
- What steps have we taken to ensure that we have resources available to make effective interventions?
- What steps have we taken to ensure that our approach to data analysis and student interventions is objectively-founded and free from bias?
- What are the student's responsibilities with regard to Learning Analytics?
- Have we taken steps to ensure there are additional safeguards to protect the integrity of sensitive information about students?
- Have we set out explicit guidelines which inform analytics-led interventions by staff and identified who in the institution is responsible for making or entitled to make such interventions?
- How frequently, given the rapid developments in the field of analytics, will our policies and practices be reviewed?
- Have we explained how our analytics strategy is aligned to our broader strategic vision and to the values we espouse?
- Do we need to set up a new complaints process specifically to deal with our analytics?
- Do our current research ethics allow for research into our analytics outputs to enable



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interventions or analytics-driven actions based on evidence?

- What steps have we taken to ensure that staff are aware of their responsibilities for personal data management when using LA software?