



Resources to Support Development of Data-Enabled Student Success Strategies

This **Forum Insight** provides those shaping policy in higher education institutions with useful guidance on the use of learner data as they develop strategies for student success. The Insight includes an overview of key considerations and stages in the strategic use of data for supporting student success. It also presents a list of helpful supporting resources.

Introduction

The Higher Education System Performance Framework 2018-20 recommends that all Irish higher education institutions have in place by 2020 strategies for student success. Student success is also a key priority arising from the National Access Plan. The National Forum's Data-Enabled Student Success Initiative (DESSI) was established in 2017 to support Irish higher education institutions in taking a strategic approach to maximising the value of their data for student success. As higher education institutions across the country develop strategies for student success, this Insight draws on learning from DESSI to provide guidance on how the use of institutional data can be incorporated into the development of student success strategies.

This Insight will serve three purposes:

- to inform decisions institutions make in relation to how they use their data
- to outline the stages involved in ensuring the strategic use of data to support student success, and share helpful National Forum resources to support institutions at each stage (centre section)
- to provide links to further resources, both Irish and international, that institutions may find valuable throughout the strategy development process

Sources and Value of Data in Higher Education

Institutions can gain valuable information from any interaction between students and the institution that leaves a digital footprint. Sources can include activity on the virtual learning environment, attendance data, library usage data, WiFi access, data on the student information system, responses to institutional and national surveys such as the Irish Survey of Student Engagement, as well as marks and grades from online quizzes and continuous and end-of-semester assessments.

Data is valuable to institutions for a variety of reasons:

- Data provides an evidence base for informed decision-making, helping institutional decision-makers to take actions that are most likely to address real issues and challenges for students. This promotes a more efficient use of resources than in cases where actions are taken on the basis of assumption or anecdote.

- Data can provide answers to large-scale questions in real time, enabling institutions to proactively tackle challenges before their impact becomes irreversible. In this way, data can become a powerful tool for dynamically reviewing, assuring and enhancing quality throughout the institution on an ongoing basis.
- Effective exploration of data can help to identify patterns and relationships between interactions across the campus that may not be practical, or even possible, to identify in other ways.

Strategic Use of Data to Enable Student Success

Learning analytics refers to the use of student data to understand and enhance teaching and learning with a view to optimising student success. It is most widely associated with early-alert systems that identify students at risk of withdrawing early. However, its potential applications are far greater. Learner data can be used to identify aspects of an institution's practices or policies that have the potential to be enhanced to enable student success. By taking effective action to address any impeding factors, institutions can reasonably expect to see not only improved retention and progression rates, but also improvements in students' engagement, performance, welfare, graduate employability and overall satisfaction.

Learning analytics is often seen in terms of three capabilities that are sequential in terms of scale and complexity:

Descriptive analytics is designed to give insights into current and historic events. Through the amalgamation, comparison and visualisation of data, it can provide an understanding of what is happening now and how it relates to what has happened in the past.

Predictive analytics gives insights into what is likely to happen in the future, given what has happened up to now. These insights can be highly accurate and are usually the basis of early-alert systems.

Prescriptive analytics outlines courses of action that are most likely to lead to a desired result. The most widely known application of prescriptive analytics is recommender systems, such as those used by online retailers ('Customers who bought product x also bought products y and z'). This approach has been adopted successfully to inform student decisions such as module choices.



This table outlines key stages in ensuring effective and strategic use of data to enable student success. Questions and tasks relevant to each stage are also listed, as are hyperlinks to associated National Forum resources.

STAGE	DEFINING	FOSTERING	INVESTIGATING	SHARING	ACTING	REVIEWING
DESCRIPTION	This stage ensures that appropriate aims and objectives are set. Establish aims that relate to the impact you want to see for students rather than focusing on developing an analytics capability. Institutional capability should be informed by the student-focused goals, rather than being an end in itself.	This stage focuses on establishing the sustainability and legality of your approach. Engagement with all cohorts across the institution is critical here, as is ensuring GDPR compliance. Developing and communicating explicit underlying principles is also an important step for embedding your approach.	Institutions have access to vast expanses of data. Determine which sources are most compatible with your approach. Effective analysis will show you which data provides the best insights. Data quality and availability are also key considerations.	This stage details the steps to transform raw data into actionable information and the process for getting it to the right people at the right time.	Data can provide many interesting insights. The key to achieving change is to plan the steps you will take to act on those insights in a timely and beneficial way.	How will you check whether your approach has achieved your aims, or what needs to be improved for future cycles? Deciding how you will do this during the planning phase rather than waiting until the end of the cycle to consider it can save time later on.
QUESTIONS	What do we mean by student success? What are we trying to change? What is our question?	What are the tenets that underlie and shape our approach? What steps can we take to ensure everyone is included?	What data should we focus on?	What is the best way of sharing insights with those that need to act on them?	How will we ensure that our insights inform real change?	How will we know how well our approach has worked?
KEY TASKS	Consultation across campus Defining student success Establishing aims	Ensuring GDPR compliance Developing principles Fostering data culture Getting staff and students on board	Identifying suitable data sources Assessing data quality	Mapping transformation process (what will be provided to whom, when and in what format) Identifying tools (in house versus commercial)	Identifying student cohorts for action Planning communications Planning specific actions	Developing review processes Developing review timeframes Developing means for incorporating findings into future cycles
RESOURCES THAT MAY HELP	Institutional Guide to Developing Enabling Policies Identifying Learning Analytics Questions Institutional Case Studies	GDPR Insight Proposed Learning Analytics Principles Importance of adopting a consultative approach to implementation	Data Conceptual Model Guide to Data Quality Identifying Learning Analytics Questions	Irish Data Management & Reporting Case Studies Topics for Consideration when Selecting an LA Vendor LA Platform Guide	Designing Automated Interventions/ Communications Student Intervention Guide	Assessing the Success of Analytics-led Interventions



Key Considerations

The following list outlines key considerations for effective and strategic engagement with data within higher education institutions:

- **Collaboration and consultation** across the institution, particularly through student partnership, are essential in ensuring that the many factors that contribute to student success are reflected. Cross-campus engagement is critical to the sustainability and longevity of any strategy/initiative. Such engagement is also important as it provides the opportunity to identify effective local initiatives that are already underway that may inform whole-of-institution approaches.
- It is important to **clarify the specific objectives** of any strategy/initiative. These should recognise that learning analytics is a tool for supporting student success, not an objective in itself.
- The value of analytics lies in its ability to answer questions. It is crucial that institutions take the time to ensure that they are asking their analytics **the right questions**.
- All institutional processes and policies must be fully compliant with the **General Data Protection Regulation (GDPR)**. It should be noted that some potential uses of learner data will require the completion of a Data Protection Impact Assessment (DPIA) in advance of any data processing. The DPIA is a process that identifies any data protection risks that may arise and the steps that the institution is taking to address them. Links to useful GDPR/DPIA resources are provided at the end of this Insight.
- **Developing a set of agreed and publicised data principles** that guide and underpin any strategy/initiative is key as these will both address some of the potential concerns of staff and students and inform all subsequent actions and decisions that arise, ensuring a consistent and ethical approach.
- While analytics can identify issues, it cannot address them. Institutions must develop a **carefully-planned and well-structured approach** that details what actions will be taken, when, and by whom, in response to the insights generated through analytics.
- It is self-evident that having **access to 'good' data** is a necessary aspect of ensuring the optimal strategic use of data. Effective analytics depends on having access to data that is accurate, up-to-date, complete, readily available and capable of providing the insights required to answer identified questions.

Useful Resources

Reports

- Using Learning Analytics to Support the Enhancement of Teaching and Learning in Higher Education (National Forum, 2017)
- Learning Analytics Platform Guide (National Forum, 2018)
- Research Evidence on the Use of Learning Analytics: Implications for Education Policy (European Commission, 2016)
- Global guidelines: Ethics in Learning Analytics (International Council for Open and Distance Education, 2019)

General Data Protection Regulation (GDPR)

- Data Protection Commissioner's GDPR resources page
- JISC GDPR Resources

Data Protection Impact Assessment (DPIA)

- Data Protection Commissioner's DPIA Resources
- JISC Guide to DPIAs for Learning Analytics

Policy Resources

- Guide to Developing Enabling Policies for Digital Teaching and Learning (National Forum, 2018)
- Framework of SHEILA, an EU-funded, international project that provides research-based guidance on the development of institutional learning analytics policies

Exemplar policies

The links below provide access to sample learning analytics policies from across the globe.

- University of Edinburgh
- Open University
- Charles Sturt University
- JISC Code of Practice
- University of Wollongong

National Forum Professional Development Short Courses on Using Data to Support Student Success

Two open-access professional development short courses have been developed, each leading to a National Forum digital badge. The first course, Using Data to Support Student Learning, is open to all staff who teach in Irish higher education. The second, Developing Data-Enabled Student Success Strategies, was developed to assist those who shape policy in Irish higher education institutions. More information on both courses, as well as other open-access professional development courses supported by the National Forum, can be found here.

