



Assessing the Success of Analytics-led Interventions

1. Introduction

Analytics is an evidence-based methodology that prizes empirical information. As such it is appropriate that institutions should be able to provide an evidential foundation for the success of analytics itself. HEIs should seek to iteratively assess the effectiveness of their analytics strategy to ensure that it is having a positive impact on students' experience. This document briefly discusses some of the considerations and challenges that should be born in mind when institutions are attempting analytical self-reflection.

2. 'Success' is not objective

The first point that institutions should bear in mind is that there is no universal concept of 'success' that can be applied to analytics. Institutions are strongly encouraged to begin their formal relationship with analytics by identifying the specific questions that they want this approach to answer. These would commonly include questions such as 'Which of our students are most likely to withdraw early?', 'Which students are least engaged with their coursework?', 'How well do students currently understand the course material?' and so on. From this perspective, if an institution's analytics approach gives predictive, accurate answers to these questions, then it has been effective.

Questions such as these are not asked out of curiosity, however. Answers are sought in order to enable proactive, informed actions and decisions that have a positive *impact*. Therefore a successful analytics strategy is one that delivers quantifiable impact with regard to the targets of the institution to which it has been explicitly applied (eg enhancing student learning, improving students' performance, reducing attrition etc.)

3. The challenge of causality

Institutions are advised to beware of unfounded conclusions that positive changes in student behaviour or success are occurring *because* of analytics and not as a result of any one of a myriad of other causes. These may include other ongoing (or historic) institutional initiatives to enhance student success, changed entry criteria etc. Each institution will have to deal with this challenge in its own way and, unless means of quantifying the impact of analytics are embedded into the process during the design and implementation phases, may have to be content with a reasonable *inference* that changes in student behaviour that follow analytics-enabled interventions are attributable to these actions.

4. Possible indicators of success

The explicit aims of an institution's analytics strategy will often revolve around increasing a student's chances of success, usually by encouraging them to develop more effective learning behaviours or patterns of engagement. Clearly students' grades are one potential source of data, but over-reliance on this indicator can be limiting as it may overlook the breadth of the spectrum of student success given the range of talents and personal circumstances that are at play; for one student, obtaining a pass award may be a greater personal achievement than another student's 2H1. Generally speaking, changes in student behaviour may be a more meaningful measure of the impact of analytics.

Below is a brief, and by no means exhaustive, list of possible indicators:



Increased engagement

Learning analytics will often look to various sources to establish the extent of a student's engagement with the learning resources available. These may include frequency of VLE usage, types of VLE usage, Library usage, attendance data, submission of coursework etc. Identifying an increase in a student's engagement following an analytics-led intervention or communication may be an indication that the intervention has had a successful effect.

Improving grades

As stipulated above, over-reliance on grades as an indicator is not advised but observing a change in a student's grades can be indicative of deeper learning and the development of more effective study habits. In order to identify such changes, users are advised to identify longitudinal patterns of change in individual students' records rather than looking for increased numbers of students attaining a given grade as the former approach gives greater information about the development of each student and allows for the range of abilities that may be present in the cohort.

Usage of assistive resources

It is good practice, in using analytics to identify students who may in need of further supports, to inform them of the specific resources that are available to them. These may include student advisor consultations, meetings with lecturers, maths support centres, study groups etc. Institutions using a CRM or similar system to record staff interactions with students may wish to use this data to identify whether students have made contact with support services following an intervention or communication. It is noteworthy that a causal link may be difficult to establish unless the collection of such data is considered while designing the intervention strategy and communications. One way institutions could track a causal link would be to embed the means of making appointments with these services within analytics-led student communications in a way that would mean they could be tracked.

Graduate attributes

Institutions with explicit graduate attributes may wish to use analytics to assess how well individual students are developing relevant behaviours. Identifying a positive change in how well a student meets these criteria following an intervention may be a quantifiable mark of success.

Decrease in likelihood of withdrawal

Institutions that are using their analytics to calculate the degree of risk of a student's early retirement from their studies could use reductions in a student's risk status as an indicator of success.