LEARNING ANALYTICS:

an early warning system?

If learning analytics are to be used in a way that supports students' mental wellbeing and learning gains, what kind of data do learners want to see and what actions do they want them to trigger?

Student mental wellbeing is rising rapidly up the list of significant concerns in both HE and FE. In 2017, the Institute for Public Policy Research (IPPR) reported that the number of students disclosing a mental health condition to their institution had increased five-fold over a decade, while a 2015 National Union of Students (NUS) survey found that eight out of 10 students (78%) said they experienced mental health issues in the last year, with a third of them reporting suicidal thoughts.

Poor mental health impacts every aspect of a learner's life, from feelings of social isolation to academic failure. The Unite Students Insight Report 2016 found that approaching a third of students (29%) had sometimes considered leaving university, with 10% reporting that they had strongly considered doing so.

Mental health and learning gain

The interdependence between mental wellbeing and learning gain is pervasive. The HEPI/HEA Student Academic Experience Survey for 2017 showed a strong correlation between levels of wellbeing and the amount that students feel they are learning. And if things reach a point where a student 'drops out' altogether, it is unlikely they will do so without warning. The final decision to leave is apt to be preceded by a period of dwindling attendance, late submission of work and falls in grades. If these signs were picked up sooner through learning analytics, is there a chance that at-risk students could be better supported? Or could an issue be exacerbated through inappropriate intervention?

Samantha Ahern, learning technology project officer at UCL ,believes learning analytics have a useful role. "Learning analytics can be used to help ... by providing timely and meaningful data to personal tutors about their tutees" she says. [1]

"However," she warns, "there is much debate around the ethical implications of learning analytics and the data protection and privacy rights of students. Due to the sensitive nature of mental health and the potential fatal consequences of mental ill-health this is further complicated." [2]

Code of practice

Julie Taylor, Jisc subject specialist in accessibility and inclusion, highlights that Jisc has a learning analytics code of practice, providing an ethical approach to gathering student data, and suggests some of the questions that might enable the right metrics to give early warning of mental health concerns, allowing timely responses. For example, has a student stopped attending? Or stopped using the VLE? Is there a declared disability or a known risk? Are there factors in course design or content that created stress and contributed to the change in behaviour? How best should it be responded to? How do known patterns of engagement correlate with wellbeing? [3]

However, care must be taken with the use of data and nature of interventions.

Emotional responses

The use of performance comparisons in learning analytics dashboards, showing each student how they performed in relation to the rest of their cohort, has been of interest to Liz Bennett, University of Huddersfield's director of teaching and learning in the School of Education and Professional Development. In a small-scale, qualitative study with students from her school, she focused on the design of dashboards and how students understood and interpreted the data that they presented. (4)

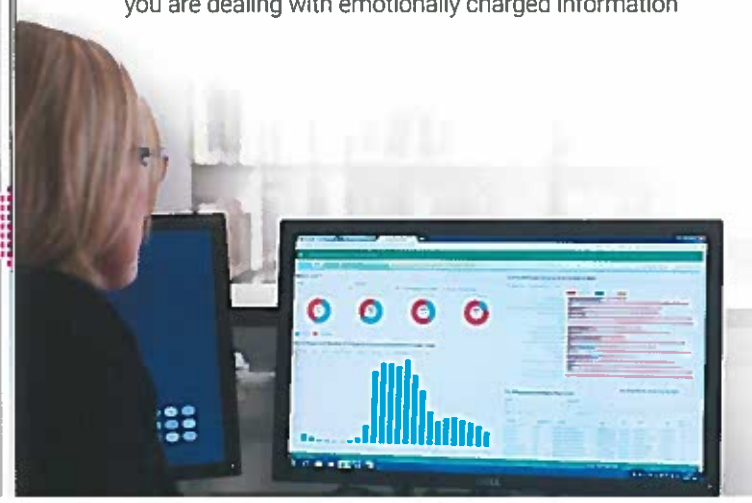
"We know there can be a huge amount of emotional response to getting feedback on assessments and I was interested to see how they responded when it was in a dashboard format," she explains.

> Surprisingly, perhaps, although the impact of seeing grade feedback was emotionally charged for some students, the overwhelming impact was motivational, even for the lower performing students.

Motivational metrics

"There were some students who didn't want to see the comparison but there was also evidence that it was motivating," says Dr Bennett. As one student, Marcia, who came 53rd out of 178, says: "I think as soon as I saw it I decided I'm taking a month off [paid] work to just get on with my dissertation".

However, following the study, Dr Bennett strongly believes that dashboards need to be customisable by the student. "We need to give students choice about what they see to make sure those who are vulnerable have got some control over whether they see themselves compared to other people or not. There is potential for it to go wrong because you are dealing with emotionally charged information so it does need to be scaffolded and supported in the way it's rolled out," advises Dr Bennett.



She also notes that, in her study, the students' reactions were gathered through face to face interviews and further research is needed on what might happen if students were to get such dashboards unmediated, without the opportunity to talk through their emotions about them immediately.

Proactive mentoring

How and when students might want to talk through issues relating to their studies has interested Sarah Parkes, tutor for transition and retention/foundation year tutor at Newman University, Birmingham. She's been surprised to discover that, overwhelmingly, what students want is tutor – and peer-led proactive mentoring systems that respond when data is suggesting that someone is falling behind or in need of support.

Students also had strong feelings about who they wanted to contact them if the data flagged up that there might be an issue. Any communication triggered by the data had to come from someone they had heard of – a member of staff or student from within their own department with whom they might have had previous interaction – rather than at the broader institutional level, such as student support or registry.

The point at which an intervention is triggered could also have an impact on a student's mental wellbeing, as Newman University youth and community work BA student Penny Keeling highlights. If the threshold for deciding a student needs help is set too low, she warns, "students who had previously felt that they were handling their learning experience in an acceptable way could suffer a loss of confidence if they are then approached by someone offering to help them because they have been flagged as a student in difficulty."

A holistic approach

While students were, perhaps surprisingly, mostly relaxed about the use of their data – if the right people were getting it and using it appropriately then they were, in principle, happy – Sarah Parkes is keen to stress the sheer complexity of this kind of work in terms of achieving a holistic sense, through the data, of who the student is and what they are doing and where collaborations are needed. However, the benefits – for students, for tutors and for the wider mental wellbeing agenda – are undeniable.

"Talk to your students! That's been a real test of what we've done and helped us to understand how our students feel about this work," urges Sarah Parkes. "Don't try to deal with it in isolation."

(1) ji.sc/ucl-blog-wellbeing-learning-analytics.
(2) ji.sc/ucl-blog-analytics-for-support. (3) ji.sc/mental-health-tech.
(4) Read Liz Bennett's report, Students' learning responses to receiving