Learning Analytics and Higher Education: Ethical Perspectives

Sharon Slade
Open University
Foxcombe Hall, Boars Hills
Oxford, UK
+44(0)1865 486250

s.slade@open.ac.uk

Fenella Galpin
Open University
Foxcombe Hall, Boars Hills
Oxford, UK
+44(0) 1865 486284

f.a.v.galpin@open.ac.uk

Take two students who were enrolled on the same higher education course, both of whom were identified as likely to benefit from additional support and tailoring of their learning experience. Three years later, one student has gone on to gain a good degree and is now making great progress in her career. The other student, whose background and learning needs appeared similar, scraped through the experience, has recently been eased out of her organization and is unemployed. To what extent were decisions taken by their tutors and institution about the design of their learning experiences, responsible for these two very different outcomes?

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The vast potential of Learning Analytics in student support and engagement cannot be denied – a different and appropriate learning experience tailored for each student taking a module sounds just what learning designers would wish for – but the ethical issues and their impact on stakeholders needs to be carefully thought through.

With increasing competition from the private sector and reduced funding in the public sector, many higher education (HE) institutions are giving much more attention to retention and progression of students throughout their studies. At the same time HE institutions are making increasing use of online course delivery as part of their standard offering. Add to this the explosion in electronic data which it is now possible to collect, and the potential for Learning Analytics is clear.

Categories and Subject Descriptors

K3.1 [Computers and Education]: Computer Uses in Education – distance learning.

General Terms

Management, Measurement, Performance, Design, Human Factors

Keywords

Learning Analytics, Open University (OU), student walk,

Analytics have been used in the corporate sector for years, where

clear benefits can be seen. A recent McKinsey report [1] proposes that the potential for a retailer embracing " big data" (the enormous trails of data each of us generates during our daily lives) can lead to a 60% increase in its operating margin. Amazon, for example, has been using customer data for some time to tailor their offerings accordingly, and this is generally welcomed, or at least accepted, by customers.

HE Institutions are similarly confident that Learning Analytics is capable of facilitating clearer and simpler means of understanding and driving student engagement and performance, and thus enhancing retention and progression. But in contrast to the use of analytics in the corporate sector, Learning Analytics is potentially a much more emotive topic, as it raises issues of success and failure, personal prospects and labels that can stick for life. In his report on the first International Conference on Learning Analytics and Knowledge (LAK11), held in Banff, Canada, in 2011, Brown [2] reports that speakers and delegates were in agreement that Learning Analytics "raises deep and complex privacy issues" akin to eavesdropping: the ethical concerns are clear to see.

HE institutions have, of course, been analyzing data to some extent for many years. Public examinations at school level, for example, are completely accepted as indicators of student selection for courses and institutions. 'Academic analytics', however, in which progress is measured and the approach to supporting the student is adapted as a programme progresses, is a new phenomenon.

The assumption that it's acceptable to collect and make use of data on individuals or groups by monitoring patterns of behaviour is increasingly coming under the spotlight. Facebook, for example, has recently been in the news for using photographs of members without their permission to endorse the commercial products of third parties to Friends .

Earlier on, we pointed out that it would be wonderful if learning could be tailored for each individual student. This is usually impractical with large groups and limited teaching resource and so grouping of data to create a limited range of semi-standardized learning offerings has been the obvious simplification. Van Wel and Royakker [3] ask what rights the student has to remain an individual. They express concerns about de-individualisation, where students are judged and treated according to group characteristcs rather than their own specific capabilities and traits. They show, too, that the use of group characteristics can lead to non-distributed group profiles, where not every member of the group necessarily shares every one of the characteristics of that group. Personalisation of service is seen as positive, but if it's achieved by creating non-distributed group profiles, then it can lead to de-individualised discrimination.

Another big question mark hangs over whether users should even know that information is being collected about them and if so, how it is being used. But if they do know, and are being given a less than positive label – albeit in the interest of student support and concern – what long term effect might that have? If students are given the opportunity to withhold information about themselves, the data set becomes weaker and therefore has less validity and use.

The potential upsides of data collection and analysis are manifold. Harvard, for example, are experimenting with Classroom click streams [4] to group students, based on Learning Analytics. Rather than asking students to discuss an issue with whoever may be sitting next to them in the classroom, a computer chooses who they should talk to, based on their study profile to date. At the Open University, and as reported elsewhere in these Proceedings, we have found that targeted support to students has led to tangible improvements in retention and progression.

Will Learning Analytics fulfil its promise to make courses and institutions more accessible and appropriate, or will students be steered away from concepts and methods that might lower their scores? When tutors have access to substantial but selective data will it still be possible for them to deal with their students fairly and objectively? Perhaps a disservice is being done to students if they are constantly directed down the 'right' course, and have the 'right' materials put in front of them. Is the institution by so doing hampering the student's ability to learn *how* to learn in the long run? How will they be prepared for the real world, if everything has been pre selected for them? How will students learn to make their own choices? And what chance is there for serendipity – for 'happy accidents' or 'pleasant surprises'??

Learning Analytics will never be a panacea. If students are not progressing satisfactorily there are many factors to be taken into account. But if it can be harnessed to best effect and taking due account of ethical considerations, surely Learning Analytics can be a powerful tool in enhancing the student's experience and increasing his or her chances of long term success?

WORKSHOP OUTLINE

A wide range of issues and consequences relating to the use of Learning Analytics will be explored from different stakeholder perspectives in this practical half day workshop. The workshop will engage participants in an exploration of some of the ethical complexities that are introduced by using Learning Analytics to categorise and predict student cohorts and behaviours. Scenarios and data sets will be used to bring out the issues for different stakeholder groups. Work in small groups will surface ethical issues around Learning Analytics and identify possible ways forward to address the issues raised. A plenary session will share and record group outputs, which will then form the basis for further online discussion and potential future research.

Issues covered may include:

Might the use of Learning Analytics present insurmountable ethical challenges?

How and why do ethical decisions get made?

How to bring together potentially conflicting views from those involved in the Learning Analytics process – tutors, students, administrators/management.

Is Learning Analytics about standardization or personalized tailoring?

Does Learning Analytics drive the behaviour of a HE institution and what role does the culture of the institution play in Learning Analytics? How far should the responsibilities of an institution go to support identified cohorts?

Why might tutors be in favour or not of support driven by a Learning Analytics approach?

How might Learning Analytics facilitate or suppress access to additional student support?

What are the effects on student behaviour of labeling student groups?

Who are the real beneficiaries of this approach – the student or the institution?

ABOUT THE FACILITATORS

Fenella Galpin and Sharon Slade are senior lecturers in the Faculty of Business and Law at the Open University in the UK. They work to support both tutors and students on Open University distance learning modules and programmes. The Open University's move toward curriculum-based support means they are at the forefront of the practical and operational use of Learning Analytics in the University. They have significant experience and involvement in running staff development workshops and other sessions for OU tutors, staff and students.

Their research interests encompass online delivery learning and tutoring, online learning communities and Learning Analytics.

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