Effective Learning Analytics

Paul Bailey, Michael Webb and Niall Sclater
Purpose of the network

Learning Analytics
Effective Learning Analytics Challenge

Rationale

Universities and colleges don't have enough useful data about students and how they are learning. What they have they don’t analyse and interpret. They are missing opportunities to use technology to provide feedback to students. They need to support staff who could be using analytics and a standard set of tools and technologies to monitor and intervene.

Who it affects and how

Students are missing out on the possibility of an improved experience, better retention, and better achievement.

Staff are missing the opportunity to develop skills to use analytics to improve support, teaching and curriculum design.

Timescale

Pilot tools and metrics 1-2 years

Impact on retention, achievement and progression 3-4 years.
Effective Learning Analytics

Priority Areas for projects

**Priority 1:** Basic learning analytics solution, an interventions tool and a student

**Priority 2:** Code of practice for learning analytics

**Priority 3:** Learning analytics support and networks
Priority 3. Learning analytics (cookbook) support and networks

Purpose of the Network

A support and synthesis service around the use of learning analytics that will include

» Technical methods (Nuts and bolts) – Data, what you did with it; types; validity/validation methods (e.g. stats, presentation)

» Recipes of “best” data and learner analytics metrics. These recipes will document what data has been found to be useful from different information systems and how they have been used to produce meaningful learner analytics solutions.

» Examples of interventions around learning analytics

» Synthesis and Analysis (sense making) – High level overview, what people are using, what’s trending, provides evaluation – not just providing a catalogue of studies/recipes

» Club/Network – Collaborative behind the recipes; building networks for people feel comfortable; public/open resource underpinned by network of sharing

» Collaborative networks around advanced analytics solutions
Advanced Learning Analytics

Short term activity

» Lab projects – exploring use of wider data sets in learning analytics to develop main stream services (two projects @ £30k)

» Micro projects – exploring new approaches to learning analytics (three projects @ £5k) – community owned and selected, stage 1 reporting Dec 2015.
Effective Learning Analytics

Further information

Web page: http://www.jisc.ac.uk/rd/projects/effective-learning-analytics

Blog: http://analytics.jiscinvolve.org

Network: analytics@jiscmail.ac.uk
Jisc Digifest 2015

Sessions

Monday am - Good Practice in Learning Analytics. A panel session exploring key areas of the code of practice for learning analytics.

Tues am – Business Intelligence Service. HESA and Jisc are developing a national service to support evidenced-based decision making.

Tues am – Getting involved with Jisc: Learning Analytics and Digital Capabilities. A pod session to share how institutions can get involved with these projects and sharing progress.
Contacts

Contacts:
Paul Bailey paul.bailey@jisc.ac.uk

Michael Webb Michael.webb@jisc.ac.uk

Niall Sclater niall.sclater@jisc.ac.uk
Code of Practice

Literature review
Material from 86 publications
16 codes of practice reviewed
Included 93 questions directly posed

Available from http://analytics.jiscinvolve.org
## Code of Practice

### Taxonomy of ethical and legal issues

List of issues distilled to 86 separate issues in nine areas e.g.

<table>
<thead>
<tr>
<th>AREA</th>
<th>ISSUE</th>
<th>QUESTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Validity</td>
<td>Validation of algorithms and metrics</td>
<td>How does an institution validate its algorithms and metrics?</td>
</tr>
<tr>
<td>Ownership and control</td>
<td>Control of analytics processes</td>
<td>Who in the institution decides how analytics are to be created and used?</td>
</tr>
<tr>
<td>Awareness</td>
<td>Student awareness of data collection</td>
<td>What should students be told about the data that is being collected about them?</td>
</tr>
<tr>
<td>Consent and opting out</td>
<td>Right to opt out</td>
<td>Does a student have the right to opt out of data collection and analysis of their learning activities?</td>
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</tbody>
</table>
Code of Practice

Next steps

Advisory Group includes representatives from National Union of Students, Edinburgh, Huddersfield, Lancaster and Loughborough Universities, Bucks New University, The Open University, Croydon College and Jisc.

<table>
<thead>
<tr>
<th>Feb</th>
<th>Drafting of code</th>
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<tbody>
<tr>
<td>Mar</td>
<td>Advisory Group to suggest revisions</td>
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<tr>
<td>Apr</td>
<td>Online consultation launched across sector to get wider feedback</td>
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<tr>
<td>Early May</td>
<td>Advisory Group to review suggestions from sector</td>
</tr>
<tr>
<td>Late May</td>
<td>Final draft agreed by Advisory Group</td>
</tr>
<tr>
<td>June</td>
<td>Code launched by Jisc</td>
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</table>
Basic learning analytics solution

- Student App
- Alert and Intervention System
- Learning Analytics Processor
- Learning Records Warehouse
- Student Consent Service
- Staff Dashboards
- Self declared data
- Wearable technology
- VLE
- Student Information System
- Library systems
## Basic learning analytics solution

### Current timetable

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Sept 2015 - Aug 2016</th>
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<tbody>
<tr>
<td></td>
<td>Discovery Stage (10-20 institutions)</td>
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<tr>
<td></td>
<td>Pilots (5-10 institutions)</td>
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</table>

<table>
<thead>
<tr>
<th>Year 2</th>
<th>Sept 2016 - Aug 2017</th>
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<tbody>
<tr>
<td></td>
<td>Discovery Stage (another 10-20 institutions)</td>
</tr>
<tr>
<td></td>
<td>Institutions move from Discovery to Pilot</td>
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<tr>
<td></td>
<td>Institutions continue Pilots, potentially adding other services</td>
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</tbody>
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April 2015 | Selection of preferred suppliers |

April – Sept 2015 | Institutions invited to participate in **Discovery Stage** or **Pilots** |
Student App

Use cases

• Measuring engagement
• Measuring assessment performance
• Module choice
• Consent management
Small projects (3 x £5,000)

1. Invite ideas via ideascale
2. Vote
3. Top 6 pitch in April/May
4. Projects run June-Sept
5. Report back Dec/Jan

Research: Code of Practice for Analytics

Develop a code of practice for institutions on use of learner analytics and student data. The code should explore ethical issues, good and bad practice, legal requirements and how to do learner analytics in a positive way.

Submitted by Paul Bailey 6 months ago | 9 comments
Discussion Groups

1. Code of Practice – legal and ethical issues
2. Student facing app – what might it do
3. Issues and implications for adoption – institutional readiness
4. Process for dealing with intervention – what works
5. Improving teaching or the programme (its not the student
6. Learning gain and analytics – what direct
7. Institutional strategies and policies for learning analytics
# Dates for next meetings

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tr>
<td>9-10 March</td>
<td>Digifest, Birmingham</td>
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<tr>
<td>April/May</td>
<td>Discovery Stage &amp; Selection of Small Projects</td>
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<tr>
<td>??</td>
<td>Other ideas?</td>
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