

# The Potential of Learning Analytics to Systematically Address Diverse Learning Needs and Improve Retention in Australian Higher Education

*Henk Huijser*, Batchelor Institute of Indigenous Tertiary Education, Australia

*Deborah West*, Charles Darwin University, Australia

*David Heath*, Charles Darwin University, Australia

<http://www.letstalklearninganalytics.edu.au/>



# LEARNING ANALYTICS & STUDENT RETENTION

# Background

- ***Learning Analytics: Assisting Universities with Student Retention*** (Office for Learning and Teaching-funded Project)
- **Two key aims** of the study:
  1. Identifying potential uses of learning analytics in addressing diverse learning needs and improving retention
  2. Exploring current use of learning analytics by academics, and how they view the opportunities that learning analytics provide

# Student Retention - context

- Changes in the sector – student mass, student diversity, modes of delivery, etc.
- Sector/government drivers & social inclusion agendas (widening participation): e.g.
  - Bradley et al. (2008)
  - Behrendt et al. (2012)
- “Stress on institutions to maintain or increase student engagement, success and retention in the midst of increasing cohort mass and diversity” (Clarke, Nelson & Stoodley, 2013)

# Student Retention

- In 2014, the **average attrition rate** for universities in Australia was **12.82%**, ranging from **27.26% at the high end**, to **5.16% at the low end**.
- Retention is about keeping students in the sector, institution, degree and course, so that they can have the best chance of succeeding

## HORIZON REPORT

“Learning Analytics is an educational application of web analytics... with the aim of learner profiling, a process of gathering and analysing large amounts of detail about individual student interactions in online learning activities.”

## U.S Department of Education's Office of Education Technology

Distinguishes between Educational  
Data Mining (EDM) & Learning  
Analytics (LA)

## EduTech Wiki

“...the use of intelligent data, learner-produced data, and analysis models to discover information and social connections for predicting and advising people's learning.”

## EDUCAUSE

“At its core, Learning Analytics is the collection and analysis of usage data associated with student learning.”

## SoLAR

“...measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimizing learning and the environments in which it occurs.”

There are no well established definitions of learning analytics



# Mixed-method design

1. Institutional level survey
  2. Academic level survey
  3. Interviews
  4. Case studies
- For this paper: focus on academic level survey, and academic level interviews only

# Academic level survey

- Asked people about their involvement in learning analytics, what they think the key issues are, what their aspirations are and how their institution is tracking/supporting them, and what they could do better.
- Purposive snowball sample
- Anonymous and online, using *Qualtrics*
- September to November 2014
- 353 respondents



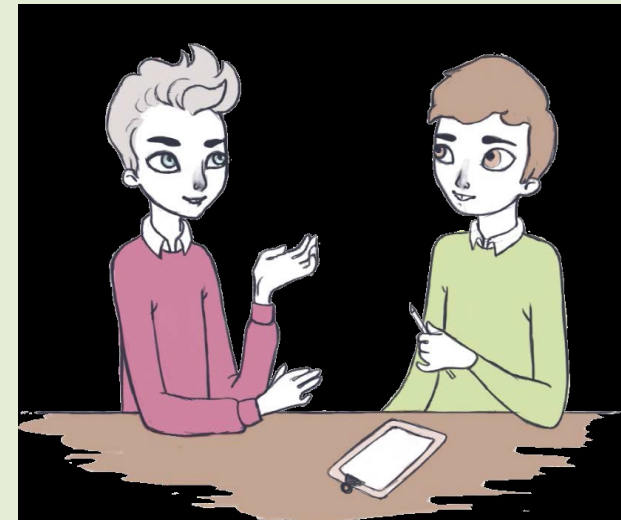
# Interviews

- 23 people from 15 different universities
- Held a variety of roles (including teacher, educational developer, student support, library, learning analytics project leader, tutor and L&T leader) and were at different levels.
- Self-selecting
- Between 15 and 30 minutes in length
- December 2014 to February 2015
- Semi-structured



# Interview questions

- What are learning analytics to you?
- What do you think learning analytics can be used for?
- What is your institution currently doing around learning analytics?
- What do you currently do in your teaching or work role that you see as directly related to student retention and/or success?
- Do you have any other comments?



# Findings and discussion

1. The sector in Australia is at an early stage of development, implementation, and understanding around learning analytics
2. Context is critical and underpins the development, implementation and use of learning analytics for retention
3. Tensions exist around the extent to which learning analytics can drive actions and behaviours or take the functions of people

# Findings and discussion continued...

4. Tensions exist between 'business' needs, wants and limitations (e.g. costs) and 'educational' needs and wants (e.g. academic freedom, and innovation in learning and teaching)
5. People across institutions have a key role to play in leveraging the opportunities of learning analytics which must take account of the relationship between strategy, planning, policy and action
6. Establishing relevant business and educational questions is critical

# Specific interests of academics

- Being able to **better understand who is in their class** (demographics, prior academic history etc.)
- Being able to have **consolidated information about their individual students at the touch of a button** (e.g. seeing how their students are doing in other units, what their demographic data is, whether they are using resources etc. all in one place)
- Learning analytics being used by people centrally to **better justify or evidence directives relating to their teaching** (e.g. when academics are told to respond in 24 hours to students is there evidence for this being useful?)
- Improving **BOTH student** (e.g. resource access patterns, socialisation) **and teacher** (e.g. teaching style, unit design) behaviour with respect to learning



# Conclusions

1. Learning analytics is currently still a potential source of confusion or frustration for many academics
2. Institutional context is a crucial factor
3. Until learning analytics is widely established, there is a need for institutional leaders to proactively communicate what they are doing, what they are planning, and what is expected of teaching staff around learning analytics.

# So...

Much potential to systematically address diverse learning needs and improve retention...

**BUT**

A 'whole-of-institution' approach, and transparent strategic leadership and communication are required for that potential to be fulfilled.

**THANK YOU!**

