Priority Project: Analytics
Student-facing dashboards

Mentor Sites:	Charles Darwin and Murdoch
Scalability:	High
Partner Institutions:	Flinders, La Trobe, James Cook, Griffith

OVERVIEW

Learning Analytics is a rapidly growing field and across the sector significant emphasis is being placed on the development of dashboards to represent portions of the 'Big Data' collected about students and their learning. The overarching aim of this work is to understand and optimise learning and the environments in which it occurs. However, the majority of solutions available, focus on the presentation of information for institutions and academics, with particular emphasis on demographics and the identification of students "at risk", rather than the presentation of student facing information.

Learning Analytics affords the opportunity to encourage student metacognition and reflection, however for this to occur, learners must have access to information about their learning and be equipped with the skills to understand its meaning and the supports required to seek assistance. Concern has been raised regarding the level student data literacy and their understanding of the information that is being collected and its use. It has been advocated that students have a hand in informing the data that is collected and presented in relation to their learning. With the overarching premise that student facing analytics be relevant for student needs and displayed in a manner that ensures they are easily understood and empowers students to utilise the information to refine their learning.

Additionally, important ethical considerations exist in relation to providing analytics to learners, some of which include:

1. The requirement that students be properly informed of how their data are being used, and the potential benefits/risks to them.

2. The potential that provision of information about arbitrary 'risk' or 'rank' may in effect push a student to withdraw rather than to seek the support required to persist and alter their behaviour

3. The potential obligation for the university to act upon information about the predicted failure of a student

It is widely acknowledged across the sector that institutions and academics see great potential value in analytics to support student success, with emerging evidence the impact of student facing dashboards. However, little evidence exists in relation to student perceptions and expectations of analytics dashboards and few examples of students as partners in the development analytic tools.

SCALABILITY

This project has the capacity for wide scale application across the IRU and would form the basis for the development of student facing analytics dashboards to support student success at each IRU member. The outcomes of this work have the potential to fill a critical gap in sector knowledge, without which we risk investing much time and effort into systems that lack relevance to students, the primary stakeholders.

PRACTICE

Across the sector student facing dashboards are becoming more widely utilized to assist students in visualising their progress. The Signals project at Purdue University is an early example in its capacity to visualise whether a student is "on track" utilising a stop light colour system. In the Australian context, the University of Sydney, University of Wollongong and the University of New England have made progress in the development of student-facing dashboards that include the use of emoticons, risk indicators and rank comparisons.

THE PROJECT

The project builds upon the recently completed OLT funded project, led by CDU, Learning Analytics: Assisting Universities with Student Retention[8] which focused on gathering information at both the institutional and academic level regarding implementation and use of learning analytics. This project seeks to complement and build on that knowledge by gathering student perspectives and working in partnership with students to design and evaluate analytics tools.

The aims of the project are to:

- explore student understandings and concerns in relation to learning analytics;
- to gather student input on the types of learning analytics reports, dashboards and tools that will be most useful in supporting student success;
- to develop a series of principles to guide institutions in the creation of student-facing dashboards; and
- to identify the processes and training required to support students and staff to make sense of the data presented in dashboards and improve student success.

The variation across the IRU means that some institutions have sufficient infrastructure to quickly develop analytics reports that they can show students and gather feedback. Others who are at an earlier stage will test reports from other institutions to assist in their developmental process and/or gather specific cohort input.

Phase one project design and implementation is scheduled for March 2017-July 2018 and is designed across the following five stages of activity.

Stage 1: Exploration of student views and needs.
Stage 2: Development of analytics tools and visualisations
Stage 3: Testing of analytics tools and visualisations
Stage 4: Development of frameworks and identification of support requirements
Stage 5: Phase 1 evaluation and reporting

TIMELINE

	2017										2018						
	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July
Stage 1: Development of subject curriculum and assessment																	
Develop a student facing survey		▆															
Conduct focus groups			▆														
Map concerns and desires around learning analytics between students and academics			▆	▆													
Stage 2: Development of analytics tools and visualisations																	
Scope current student-facing dashboards and distil key design principles				▆	▆												
Development of prototype reports/dashboards						▆	▆				▆	▆					
Stage 3: Testing of analytics tools and visualisations																	
Student feedback on dashboard design & usability							▆	▆					▆	▆			
Academic feedback on dashboard design & usability							▆	▆					▆	▆			
Stage 4: Development of good practice frameworks and support requirements																	
Development of good practice framework dashboard design and implementation									▆	▆							
Identify processes and training for students													▆	▆			
Identify the processes and training for staff													▆	▆			
Stage 5: Phase 1 evaluation and reporting																	
Development of evaluation tools						▆	▆										
Evaluation							▆	▆	▆	▆	▆	▆	▆	▆	▆	▆	▆
Reporting									▆								▆

PROJECT TEAM

CDU	Murdoch	Griffith	La Trobe	Flinders	JCU
Deborah West	Danny Toohey	Sakinha Alahdad	Matthew Carter	Ann Luzeckyj	Val Ruffle
Bill Searle	Alistair McDonald			Richard Price	Daniel Zamykal