Chapter 3
An Institution Wide Approach to Learning Analytics

Jennifer Heath
University of Wollongong, Australia

Eeva Leinonen
University of Wollongong, Australia

ABSTRACT

The desire to provide personalized learning support for students has been a strong driver of the development of learning analytics capabilities at the University of Wollongong (UOW), Australia. A case study approach is taken to explore the diverse challenges faced when adopting an institution wide approach to learning analytics. Aspects explored include: establishing a clear strategy and governance, implementing foundation technology, developing and applying analytics and visualizations, managing organizational culture change, understanding student expectations, and addressing ethical challenges associated with learning analytics. This chapter draws upon the results of a UOW student survey conducted in late 2013 that explored first year student expectations regarding privacy in relation to learning analytics, and their preferred approach to interventions. Throughout it is noted that the academic endeavor, rather than technology and data management, drives the UOW adoption of learning analytics.

INTRODUCTION

A case study approach has been taken in compiling this chapter, in order to share the experience of one Australian university in regard to the introduction of learning analytics. The specific objectives of the chapter are to share recent experience related to the many aspects of activity required for a successful learning analytics strategy, including “hard” technology aspects, governance and the “soft” aspects of culture change, all of which need to work in concert for the successful uptake of learning analytics across institutions to optimize student learning experiences. Throughout it is demonstrated that it is the academic endeavor, rather than technology and data management, that drives UOW’s adoption of learning analytics, notwithstanding that both are of course the building blocks of a robust learning analytics system.

DOI: 10.4018/978-1-4666-9983-0.ch003
BACKGROUND

There is substantial peer reviewed literature available to inform the institution wide adoption of learning analytics, and the case study presented here has benefited from the willingness of colleagues world-wide to share such experiences. For the purposes of this chapter, preference is given to those background materials that wrestle with institution level initiatives, whereas works that focus on learning analytics activities focused on particular technical challenges are excluded from this discussion. However, concepts associated with the technology-enhanced learning (TEL) complex (Scanlon et al., 2013) are applied in this case study, to guide and structure the discussion. Each element of the TEL complex is important, and no hierarchy of priority has been assumed in compiling the case study material.

SETTING THE SCENE

An enduring challenge for higher education institutions is how to choose carefully where to invest limited resources in order to gain maximum benefit for students and staff. Technology in learning has brought with itself some big promises, and it has been suggested that institutional decision making has at times been based on “hype” and “faddism” (Beer, Tickner, & Jones, 2014), without the backing of strong evidence based practice. This is a reflection both of the fast moving field of technology and of the capacity of universities to adjust and change direction in a myriad of considerations such as infrastructure, staff, students and academic cultures. The decision at UOW to set up a unit to drive the university’s learning analytics development and implementation was motivated by one overarching factor: our desire to maximize success for our diverse student population through supporting transition, personalized learning and an early identification of students at risk. To support these goals our learning analytics strategy was developed in consultation with the university community. We did not have evidence for the effectiveness of all of our decisions, but we were careful to build resilience and agility into our processes and to adopt a phased approach to implementation that could be adjusted as we learnt what worked well and what didn’t.

Australian higher education has seen increased diversification in its student demographics, with more young people from non-traditional backgrounds entering universities, and with a greater range of academic capability at entry. This is partly a reflection of uncapped student numbers and, for a university such as UOW, the success of its regional campuses, which enable education in more remote communities. With this comes the challenge of how to support students who may not have the necessary academic and personal skills at entry, despite having the inherent capacity to succeed. This is a challenge that many countries share. The challenge is not simply student “performance”, but knowing how our students engage with learning in its broadest sense throughout their studies, thus enabling us to adjust our teaching and support accordingly, whether students are struggling or not. If institutions can get that right, it serves to address issues relating to retention, progression and completion. The knack is not to lose sight of what is underneath the metrics, “the numbers”, and to concentrate on the fundamentals that underpin good pedagogy and academic support. That is one of the key principles underpinning UOW learning analytics work: It is motivated by the academic endeavor rather than by technology and data management, notwithstanding that both are of course core building blocks of a robust learning analytics system.

Academic communities have long-established patterns of being—patterns that are comfortable and well rehearsed—and ways of doing, which have served, and may continue to serve, the community