UNISA – Going the journey with learning analytics

Over the past three years the University of South Australia has invested $11m in the development of a personal learning environment for its students. The University is now leveraging this highly integrated and data rich learning environment to provide targeted information, in the form of dashboards and online reports, for both students and staff. The online reports will help academics identify how well students are engaging with learning materials and activities. A comprehensive learning dashboard for students is also under development.

Improving student retention is a key challenge for the Higher Education Sector. Identifying students that are at risk of withdrawing from their studies is a complex problem, but one method of determining whether a student is at risk is through their level of online engagement. UniSA had developed an “at risk” warning system that combines many different data items (such as social network interaction, online system engagement and assessment results), as well as other key facts about the student such as their financial standing, grade point average and their academic load. The system produces a dashboard and a series of reports that helps academics to clearly identify students that are “at risk”. The benefits of this system to both the institution and the student are significant.

From an academic perspective, the dashboard provides valuable information to ascertain the level of engagement that a student has made within their online learning resources. Understanding at a glance whether an individual student has actively contributed to a forum (rather than simply viewing others contributions) or which activities are receiving the most engagement is becoming more and more important in an increasingly online learning environment. The provision of visual dashboards and comprehensive tabular reports when combined with engagement and course satisfaction data allows academics to determine what did or didn’t work from a pedagogical sense.

The ability to dynamically view student interactions between peers and teachers based on online relationships is an important tool. Visually identifying students that are not engaging or communicating with their teacher or peers allows the opportunity for rapid intervention, preventing a student from feeling isolated. The implementation of social networking analysis includes mapping the relationships established within the Mahara ePortfolio product, and visually illustrating the level of interaction and engagement with learning activities such as discussion forums.

Empowering students with feedback in a dashboard format provides them with the opportunity to understand their position in relation to their fellow students, and to track their academic progression. Displaying information such as their individual level of engagement in online systems compared to their peers, their assignment submission history (including prompt submission, grades, feedback and failure to submit), forum interaction and their individual social network matrix allows each student to see how they compare with others in their cohort.

Aggregating vast quantities of data into a learning data warehouse, and structuring the data in such a way as to allow rapid retrieval of the data was an intrinsic part of the success of the deployment of a University of South Australia learning analytics solution. The movement and transformation of the large volumes of data involved also presented technical difficulties, and relied on investigation and implementation of data warehouse best practice.

This presentation will demonstrate what is being developed and will reflect on the technical and functional challenges that were encountered along the way, and how they were overcome.