Gated Pipeline - Successful Proposals
Round 1 2014

**Signature Projects**

**Student Learning Pathway: Providing students with individually tailored maps for planning and tracking learning trajectories.**

This proposal refined, further developed and disseminated a Student Learning Pathway tool that can be used across UQ to provide students with individually tailored digital maps for planning and tracking learning trajectories. These maps, embedded with Blackboard course websites, will make engagement visible to academics and learning visible to students, including factual knowledge and conceptual understandings, metacognitive and problem solving abilities, as well as professional and behavioural skills. Students will be able to understand what they should know and do to enhance the likelihood of success in a course or program, track their own progress within that course program, benchmark their own progress against their peers, and monitor their progress relative to outcome goals set by academic staff. Learning data from multiple existing sources will integrate in the Learning Pathway, and individual feedback generated via academic staff member input as well as analytics will inform students so they can develop strategies to enhance their own learning and readiness for the workforce and community. In the proposed project, we seek to:

a) Further improve the current Learning Pathway system based on feedback from course coordinators in ENGG1100, ENGG1200, MECH2300 and MECH2305.

b) Develop instructional design guidelines to assist other course coordinators in adopting and using the system.

c) Leverage the existing Learning Pathway and expand it in an innovative manner to pursue the goal of individualization of learning, especially for large class sizes. To achieve this goal, we will add two new components to the Learning Pathway: What you Did and How you Did. A Faculty Teaching and Learning grant in 2012 has already laid the foundations for this and resulted in a suite of tools and processes that will effectively support the project.

This is a 24-month project lead by Associate Professor Carl Reidsema in the Faculty of Engineering, Architecture and Information Technology. Funding is $300,000.

**Innovation Projects**

**Skills-Enabled ePortfolio**

UQ educates students in a wide variety of professional disciplines and aims to ensure the student can integrate theoretical learning with real-world practices. Professional disciplines have long incorporated “work integrated learning” (WIL) as fundamental components of the curriculum. More recently WIL has been recognised as an educational practice worthy of incorporation into other disciplines because of the enormous benefits to students and their future employability. An ALTC funded project (2010) concluded that “ePortfolios had the potential to assist students become reflective learners, conscious of their personal and professional strengths and weaknesses, as well as to make their existing and developing
skills more explicit, with an associated value apparent in the graduate recruitment process.

Our project’s main purpose is to facilitate WIL through the development of a ‘skills-enabled e-portfolio’ (Williams A, Facilitating WIL through skills-enabled e-portfolios in the disciplines of construction and nursing, ALTC, 2009 p.8). Skills-enabled e-portfolios have three main purposes (Joint Information Systems Committee – JISC UK, Crossing the Threshold Moving e-portfolios into the mainstream, 2008):

1. A repository – space to store resources and archive evidence of learning
2. Tools to support process – capturing and storing evidence, reflecting, giving and receiving feedback, collaborating and presenting to an audience
3. Presentation – e.g. employment, professional registration, entry to further study

The proposal centres on the first two purposes as a priority as these are the features currently supported by the bespoke systems used at UQ, which must be decommissioned by 2015 due to the age of the software. The third feature while not an immediate priority is an important addition to a multi-discipline e-portfolio. During this project we will:

   a) Complete an analysis of the functionality requirements (workflows).
   b) Set up pilot systems for small scale testing on 3 to 4 commercially available solutions that meet the requirements determined above. Initial work by ITS has identified that off the shelf solutions that can be tailored are available. This work will provide experience with and a detailed analysis of the capabilities, restrictions and sustainability of the identified test systems.
   c) Prepare a final report with recommendations on the most suitable solution for a skills-enabled e-portfolio system including identifying any additional custom functionality required to support the decommissioning of the existing bespoke systems.

   This is a 7-month project lead by Professor Sarah Roberts-Thomson in the Faculty of Health and Behavioural Sciences. Funding is $141,500.

**Platypus++: a Smart, Open, Cross-Campus Randomised Assignment Peer Review System**

Platypus is an electronic peer-review assignment system. Its hallmark feature is that each assessment item/answer is randomly allocated to multiple peer reviewers. As with peer review, it encourages critical critique and deep learning, all the while helping to preserve anonymity and reduce bias and collusion.

In addition to potentially better reflection, the random shuffling helps Platypus scale across class sizes and operate with less intervention compared to other systems that distribute the entire the complete assignment (e.g., the Peer Assignment extension in Blackboard). This also requires less data than other large scale/MOOC peer assessment systems (e.g., Coursera) and does not need “calibrated peer review” (i.e., the process of sending correct answer to students, which comes at the cost of requiring multiple “master” solutions).

This proposal seeks to expand a proof-of-concept that has been initially trialed for open-ended problem-based assessment in ELEC3004 (154 students) and METR4202 (84 students
and student peer feedback. We propose to expand usability, provide interactive responses to students, add Blackboard/edX support, provide extensions for group/team submissions, include better support for rich entry (of diagrams, equations, and figures), add interactive peer-review for “online tutorials”, develop tools to help with rubric development, add interfaces for sample grading by other professors/experts (so as to help reduce bias and grade inflation) and to provide a foundation for semi-automated assessment algorithms.

This is a 12-month project lead by Dr Surya Singh in the Faculty of Engineering, Architecture and Information Technology. Funding is $97,640 supplemented with seed funding provided from the Faculty.

**Strengthening the First-Year Gateways: Aligned, Literate and Flipped!**

This project aims to embed high-quality blended learning approaches within a series of eight large pioneering first-year gateway pilot courses across the Faculty of Humanities and Social Sciences (HaSS). It aims to address key first year transition issues through the use an ‘aligned curriculum’ approach (aligning learning outcomes, activities and assessment, (Biggs 1999, [http://www.johnbiggs.com.au/academic/constructive-alignment/](http://www.johnbiggs.com.au/academic/constructive-alignment/)), that includes flipped classrooms, active learning and engagement with academic literacy skills to increase engagement with learning and assist to achieve higher-order learning outcomes. The project will provide vital assistance to the pilot Course Coordinators to re-design their courses around these proposed learning approaches, and to develop the necessary learning resources, incorporating both online and face-to-face components. An integral part of the project is the development of a ‘Sustainable Teaching Guide’ and an evaluation plan within each pilot course, to assist future iterations of the course. Evaluation of each pilot course will be compiled into a summary evaluation that will assist the development of discipline-specific models for potential extension of the program to further courses and disciplines across the Faculty and University as desired.

This is a 12-month project lead by Associate Professor Julie Duck in the Faculty of Humanities and Social Sciences. Funding is $92,127.