Principle 6
Enhance student engagement and learning through effective curriculum design, pedagogy, use of technology and assessment strategies.

Case Study
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One of the most challenging aspects of teaching pathophysiology and pharmacology for nursing proved to be the tripling of student enrolments to 350 with a cohort that included 30% TAFE and international students as well as enrolled nurses. These students enrol directly into the 2nd Year and are typically insufficiently prepared in prerequisite anatomy and physiology. Simultaneously, my teaching methods had to address the logistics of accommodating larger groups of students into laboratories with resources sufficient for a third of its size without compromising the learning objectives. A number of the changes I have developed to address this challenge have proven to be highly successful. Specifically, these approaches focussed on effectively engaging, teaching and sustaining the momentum of the course in a large group setting while balancing the needs of the academically diverse undergraduate, mature-aged and international students and using innovative technology options to provide effective learning experiences. Some of the solutions I employed include:

Practice-based approach to content and assessments – I have adopted a clinical approach for administering the entire course. Examples include clinical scenarios as discussion starters to begin lectures or tutorials, which “breaks the ice” on a highly practice-based note; examples of my clinical experiences to emphasize take-home messages and assessment items which incorporate structured case studies based on complex clinical scenarios designed to promote active student involvement, critical thinking, application of theoretical knowledge and hone problem-solving skills.

Technology-driven teaching – I have exploited my passion and skill in PowerPoint animations to enhance the interactivity of didactic lectures. Briefly, I utilise a menu-driven lecture which fits into an expository model where content is presented in a carefully constructed sequence that provides a “big picture” of the lecture and then organises the content into hierarchical and integrated patterns, from general to specifics, and ends by reinforcement of the cognitive schema. I also adapt branched-navigation for on demand teaching a creative addition that I developed to enable me to tailor the lecture based on questions posed by the students, an exceptionally useful method in teaching an academically diverse group. I also utilise web-delivered PowerPoint self-learning modules to provide a focussed revision of anatomy and physiology required for learning the new course content to students lacking this background.

Computer-aided learning (CAL) in laboratories – Stemming from a Griffith Health Workshop on Technology-Aided Learning (October 2009) which I conducted with Prof. Ian Hughes (University of Leeds), a pioneer in computer simulations of laboratory experiments, I identified CAL as a solution to address the constraints of inadequate bench space, insufficient lab resources and lab-biosafety issues due to large student numbers in my courses. CAL simulations are as effective as ‘wet’ laboratory practicals for developing knowledge that does not involve learning experimental methods. Currently, with funding from a Blended Learning Grant, I am supplementing and/or substituting CAL simulations as laboratory content which provides the pathophysiological and pharmacological foundation for clinical procedures. I am not overly concerned about practical skills lost in the process as these are adequately overed in clinical placements.