Ms Lai Zhen Yue - Department of Science and Foundation, MIRI Sarawak Campus

For the development and implementation of active and innovative learning strategies that enhance student learning in Foundation Engineering Physics.

Synopsis:

Ms Lai’s teaching career in higher education started in March 2009 at Curtin University, Sarawak Malaysia. Prior to joining Curtin, she taught in Singapore as a secondary school teacher for 3 years. Ms Lai was promoted from an Associate Lecturer to Lecturer in June 2013 upon completing her Master in Philosophy (Mechanical Engineering) which she undertook on a part-time study mode at Curtin Sarawak from 2010 to 2013. Ms Lai has been teaching Physics to Foundation Engineering (equivalent to Pre-University) students ever since joining Curtin. The Foundation Engineering course is a programme offered by the Department of Science and Foundation (School of Engineering and Science) in Curtin Sarawak to equip students with the foundation knowledge and skills necessary for their pursuit of Engineering or Science degree. Physics is a core and compulsory unit studied by Foundation students. The subject is a pre-requisite for students who wish to pursue Engineering or Science courses at the degree level.

Ms Lai found teaching at the tertiary level very different from her previous experience of teaching at the secondary level. At the Foundation level, she teaches large classes (with about 230 students in Semester 1 and 170 students in Semester 2) of diverse nationalities including Malaysia, Brunei, Nigeria, Fiji, Singapore, Myanmar, Philippines, and Vietnam. In addition, students entering the Foundation programme are transiting from a secondary level to a pre-tertiary level. Hence the majority of them are adjusting to a changed teaching and learning environment at the university. If she was to engage the students, the ‘teacher-centred’ approach from her previous teaching experience is was certainly not going to work! Ms Lai found the need to introduce new teaching strategies that could engage students in learning, equip them with the skills to be successful and active learners, and enrich their ‘first year learning experience’.

In Semester 1, 2009, Ms Lai was assigned as tutor and lab instructor for Physics 061. The learning activities in Physics 061 included mostly teacher-centred lectures and tutorials. After teaching for one semester, she reflected on the approaches used and started to wonder if her students were indeed engaged in learning. She could not merely teach; but must ensure that students have learned. Thereafter, her focus shifted to students’ learning and she began to think of ways in which she could enhance their learning experience.

After researching effective teaching and learning strategies, she subscribed to the belief that students learn best when they are actively involved in the process. Hence when Ms Lai was assigned to take over the role of unit coordinator for Physics 061 from Semester 2, 2009 onwards, she transformed the learning activities from a teacher-centred to a student-centred approach. She achieved this by creating active learning environments in and outside the classroom for the students which include collaborative and cooperative learning, web-based learning, flipped learning and site visits.