Incremental Self-Assessment Rubrics for Capstone Design Courses

FASE LUNCHTIME SEMINAR: 21 APRIL 2015

Abstract

Design educators today face at least three major challenges: large classes, students with little practical knowledge, and teaching staff with little design experience or understanding of engineering practice.

This seminar provides suggestions on how these challenges can be overcome and, in particular, how self-assessment rubrics can help eliminate much of the traditional design course assessment workload for teachers.

This paper provides suggestions for preparing incremental self-assessment rubrics for a capstone design course. While both self- and peer-assessment can provide significant assessment time-saving for tutors, self-assessment also promotes student learning, according to recent education research. Appropriately designed rubrics can also provide students with guidance on levels of attainment required for design tasks and students also learn to assess design quality.

Speaker

Professor James Trevelyan

Professor James Trevelyan teaches in the Mechanical and Chemical Engineering School at The University of Western Australia, is a Fellow of Engineers Australia, and practices as a mechanical and mechatronics engineer developing new air conditioning technology.

His main area of research is on engineering practice and he has recently published a major book: “The Making of an Expert Engineer.” He teaches mechanical design, sustainability, engineering practice and project management.

He is well known internationally for pioneering research that resulted in sheep shearing robots (1975-1993). He and his students produced the first industrial robot that could be remotely operated via the internet in 1994. He was presented with the 1993 Engelberger Science and Technology Award in Tokyo in recognition of his work, and has twice been presented with the Japan Industrial Robot Association award for best papers at ISIR conferences. These are the leading international awards for robotics research. He has also received university, national and international awards for his teaching and papers on engineering education.

From 1996 till 2002 he researched landmine clearance methods and his web site is an internationally respected reference point for information on landmines. He was awarded with honorary membership of the Society of Counter Ordnance Technology in 2002 for his efforts, and was also elected a Fellow of the Institution of Engineers Australia.

For further information on Professor Trevelyan’s research visit: www.mech.uwa.edu.au/jpt/

Notes for participants

RSVP:
Please register your attendance to fase-ecm@uwa.edu.au by Wednesday 15 April.

There will be a light lunch, refreshments and an opportunity to network informally from 12.30pm followed by the presentation.