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FROM THE CHAIR . . .

IN THIS NEWSLETTER, we highlight some exciting course redesign in Tennessee and feature an example of innovative practice by WelTec which sets students without the prerequisite maths on a pathway to a career in engineering.

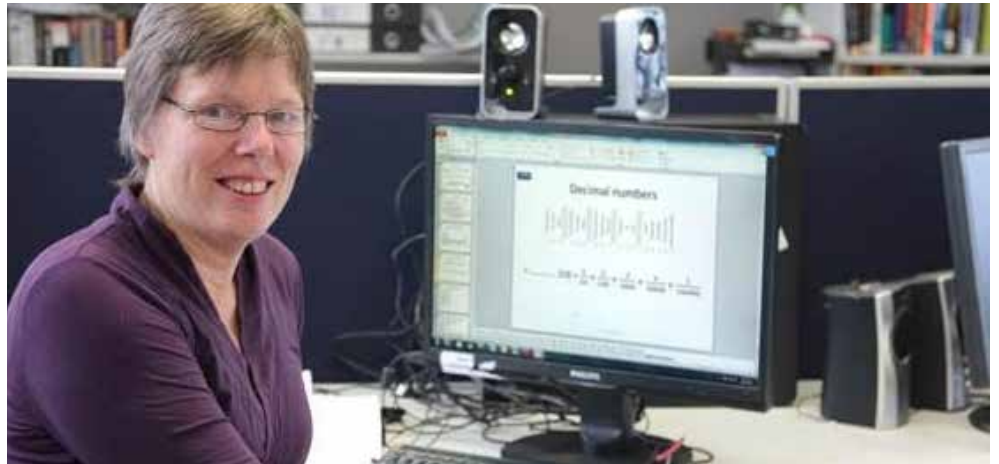
Over the past four years, we have seen and case-studied many examples of innovative practice by ITPs. Whether it's working for students or with employers, we know that there is a great deal of innovative and excellent practice going on in engineering departments around the country.

Dr Michael Edmonds, Head of Engineering and Architectural Studies at Ara, is currently working on an Engineering e2e project to gather examples of innovative teaching and examples of working with industry to provide contextualised learning or work experience.

I appreciate that engineering educators are flat out doing their day jobs but I hope that some of you will be able to find some time to share examples of your work with Michael.

Michael can be contacted at Michael.Edmonds@ara.ac.nz

Sir Neville Jordan
Chair, Engineering e2e Steering Group



Innovative practice in Maths teaching brings great results

Fear of Maths has long been a barrier to engineering study for many students and an ongoing challenge for tertiary institutions. Recognising this, WelTec Faculty of Engineering Tutor Penelope de Boer has developed a new structure for teaching Maths and it's proving highly successful.

Penelope de Boer (pictured above) spent five-and-a-half years trialling ideas and creating resources to develop an engineering Maths pathway. Students can now progress from the Level 2 Foundation Maths programme to the Level 6 Bachelor of Engineering Technology Maths – and some have done exactly that.

Proficiency before progression is key to the pathway's success. Students actively participate in their own learning, using an online interactive learning tool in computer labs and at home, and can work at their own pace. They must successfully complete all the exercises and assessment in a module before moving on to learn new skills (the next assessment won't open until they have achieved this).

At home, students watch video clips written and presented by Penelope. For those who bring their fear of Maths to the classroom, "It's a very low-threat exercise," she says. Tutors can monitor student progress and provide feedback online, and their class time role has changed. With students working on computers, tutors are free to move around and provide one-on-one support.

When Engineering e2e heard about the Maths Emporium model, developed by a team of educators in the USA and promoted internationally, we recognised the similarity in WelTec's system. It's great to see that New Zealand is up there in terms of educational innovation!

See engineeringe2e.org.nz/casestudy/education/show/94

ITP Roadmap surveys seek vital feedback from the ITP sector

The Tertiary Education Commission (TEC) has launched five online surveys to get feedback from the Institutes of Technology and Polytechnics (ITP) sector on what it's like to work, study and interact with an ITP.

The short, five-minute surveys are part of the ITP Roadmap 2020 project. They support the regional engagement that is currently under way, providing a platform for people to tell TEC what they think.

Responses will be used by the ITP Roadmap 2020 team to build a richer picture of the needs of the sector and will feed into the advice TEC provides to the Minister of Education later this year.

The surveys are targeted to the various stakeholders: ITP staff members; ITP students; secondary school students; employers; and interested community members.

To complete a survey now, please select the appropriate link from the list below:

- I am a **staff member** at an ITP
- I am a **student** at an ITP
- I am a **secondary school student**
- I am an **employer**
- I am a **member of the community** with an interest in the future of ITPs.

You can find links to all five surveys at www.tec.govt.nz/focus/our-focus/itp-roadmap-2020/#AccordionItem4676. Please disseminate this link among any networks you have access to – the more the better!

But don't delay – these surveys will only be live until 24 August 2018.

Have your say on engineering qualifications definitions

In 2017, we published plain English definitions of NZDE, NZDEP, BEngTech and BE (Hons) qualifications. The definitions were developed as part of work to raise engineering employers' awareness of engineering qualifications.

There was a great deal of debate about how best to describe the qualifications in language a layperson would easily understand. We received a lot of feedback and as a result the Steering Group agreed a set of definitions that they felt

was good enough to 'road test' by going live on the website. We haven't received much feedback since the definitions were published last year and we thought it was time for a formal review.

You are invited to provide feedback on the definitions, which are published at engineeringe2e.org.nz/assets/e2e/infosheetpdfs/e2e-quick-guide-to-engineering-qualifications-aug-2018.pdf

Send your comments to engineeringe2e@tec.govt.nz before 28 September. The Steering Group will review the feedback and make any agreed changes to the online definitions before the end of the year.

The Architecture of Innovation

The Architecture of Innovation: System-Level Course Redesign In Tennessee, published by the American Council on Education in 2015, is a case study exploring two examples of 'curriculum redesign' in Tennessee which aimed to achieve better learning outcomes for students. The authors note the key learnings are: recognising that context and governance matter; using data analytics to guide innovation; creating space for innovation; setting expectations; and promoting collective action.

