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Making the message count

Recent figures suggest that Futureintech may be helping to improve tertiary enrolments.

While anecdotal evidence of the impact of Futureintech has always been positive, hard data is difficult to come by. So the recently released figures for tertiary enrolments in 2007 were a welcome confirmation that the message is getting through.

Enrolments in engineering courses increased by approximately 149 in 2007 in comparison with the previous year. For ICT, a subject which has experienced dramatic year on year losses in student numbers, the downturn appears to have slowed, with enrolments dropping by 64 since 2006 in contrast to a decrease of 193 from 2005 to 2006.

Futureintech has also been credited with a growing interest in the food industry as a career option. According to Phil Bremer, Head of Food Science at the University of Otago, his department has traditionally attracted students who have already begun studying for a Bachelor of Science before

drifting towards food – either because they were unaware of it as an option beforehand, or because they have become disenchanted with their original choice of degree.

“Last year, for the first time, we had five or six students opting to do Food Science as a first choice,” says Bremer. He attributes this to recent efforts to increase the profile of the food industry as a source of varied and rewarding careers, a promotion of which Futureintech has been a key participant. Recent collaboration with the New Zealand Institute of Food Science and Technology (NZIFST) has included the joint production of a brochure for senior secondary students on the range of careers in food, and food scientists and technologists are well represented among Futureintech Ambassadors and as profiles on the website.

“There seems to be more of an understanding of Food Science as a career,” says Bremer.

Record breaking junior engineers

The Transpower Neighbourhood Engineers Awards had a record number of entries this year with 25 completed projects – over three times the total for 2006.

The awards aim to introduce students to the process of thinking like engineers in their approach to meeting a need or opportunity in their school or community. Working with a local engineer who provides a professional perspective, students identify the project, brainstorm potential solutions and work through the design process.

A prize of \$2,000 was awarded to both Churchill Park School, Glendowie, Auckland and Sunnyhills School, Pakuranga, Auckland.

At Churchill Park School, Shane Ross’s class of Year 4 students chose the ambitious objective of working towards a ‘zero waste’ school. With the assistance of Rob Smith



from Burr Engineering, the students designed a worm farm and implemented a policy of recycling everything possible at school. Waste that cannot be recycled is now sent home with students to encourage parents to consider the impact of excess packaging.

Rob Smith commented: "The children were just amazing. I had no previous knowledge of worms or their habitats. Through collecting information and designs the students were able to communicate to me what it was that they were aiming to achieve, and it made perfect sense."

Since the end of the project the class has begun selling domestic worm farms in the community to encourage others to reduce household waste, and parents have reported grocery savings thanks to buying less packaging. So far the school has reduced its waste output by 65 percent.

At Sunnyhills School, Judy Haden's class of 13 Year 6 students chose to respond to the risk posed to students by the traffic surrounding the school at drop off and collection times. Traffic engineers Anita Lin and Jerry Khoo, both of Beca, helped the students to identify their aims: designing safe drop off zones at the two main gates, reinforcing road safety messages and relieving traffic congestion.

Through surveys, discussion with the council, correspondence with parents, motivational posters and meetings with the school Board of Trustees, the class created two 'walking buses' made up of 10 to 12 students who were previously driven to school. This safe alternative results in 24 fewer car journeys a day. In addition Manukau City Council have approved a proposal for a drop-off zone at the school gates between 8 and 9am.

Top: The Sunnyhills Traffic Tamers with Beca engineers Jerry Khoo and Anita Lin.

Middle: Staff and students of Browns Bay school with Andrew Congalton of Engineering Design Consultants Ltd.

Bottom: Merit prize winners at Green Bay School, with staff, Facilitator Angela Hart and engineer Kenny Liew of Watercare Services Ltd, and Simon Hall from IPENZ Engineers New Zealand.

As far as the engineers were concerned, "It has been an honour to work with the Traffic Tamers. We found the experience fulfilling, fun and challenging. It was also a unique opportunity for them to solve real life problems."

Merit prizes were awarded to Bayswater School, North Shore City, where students designed an adventure playground; Browns Bay School, Auckland, where a group of Gifted and Talented extension students created a fitness trail; Clevedon School,

Auckland, for the development of water polo goals suited to the school swimming pool; and Green Bay School, Auckland, where students came up with improvements to the arrangements for storing bicycles.

Transpower have generously confirmed that their sponsorship of the Awards will extend over the next two years, and with registrations for 2008 already flowing in there is every indication that their current strength is set to continue.



Careers promotion European style

How does Futureintech measure up?

Futureintech director Angela Christie travelled to Europe this month to discuss the initiative with science and engineering associations and to compare notes with similar programmes.

Angela's visit incorporated a three-day IEEE conference in Munich where she was able to showcase Futureintech to an international audience. She also spent time in the UK where she met members of the Engineering and Technology Board; the Institute of Civil Engineers; the Royal Academy; IChemE and StemNet, and Dublin where she talked to representatives of Engineers Ireland.

By comparison with initiatives elsewhere, the cohesive nature of Futureintech's approach is unusual and is perhaps made possible by New Zealand's small size. We are able to

combine practical, in-person support with print and online information services in a way which does not seem to be replicated in other countries. Curriculum support, which has been central to Futureintech's methodology since its inception, is now emerging as a vital factor within initiatives in Britain developed by the Royal Academy. It is increasingly seen as a necessary element, and Futureintech was praised for having recognised its importance.

The enhanced profile that technology and engineering industries receive through the work of programmes like

Futureintech was also acknowledged as crucial, and it was recognised that this is in large part achieved through the Futureintech format.

No similar initiative has been formally evaluated, and the fact that Futureintech has been critically assessed by an extensive programme of monitoring and evaluation throughout the four years of its existence was an aspect which received a very positive reaction.

While New Zealand shares recruitment problems with the rest of the OECD it appears that its solution, in Futureintech, goes further than most.

Futureintech has proven itself to be a model which can stand up to global scrutiny, and of which New Zealand can be proud.

“Engineers fix things”

How engineering is perceived by the British public

“Engineering makes a good contribution to society”, according to 94 percent of participants in a survey carried out in the UK by the Royal Academy of Engineering and the Engineering and Technology board. At the same time, 59 percent of those surveyed believe that “hardly anyone knows what engineers do”.

The survey, entitled “Public Attitudes to and Perceptions of Engineering and Engineers 2007” questioned a nationally representative sample of 1,000 British adults, and followed this up with a qualitative workshop involving 48 people.

The survey established that, in the public mind, engineering was most commonly associated with construction and ‘fixing things’, rather than being regarded as creative, innovative, or cerebral, although these associations were reversed in the minds of those

with a higher awareness of the profession.

Younger participants in the survey were found to have the lowest understanding of what engineering involves and a high proportion of respondents saw engineering as vague and difficult to define.

It seems the solution to this lack of public knowledge may lie in new media – the majority of respondents stated that they would be more likely to use the internet to find out more about the profession than any other source of information.

Futureintech News

In this final e-news of 2007

Futureintech would like to thank all our industry partners for their support over the past year, particularly our host partners: Carter Holt Harvey Pulp & Paper; Fraser Thomas Engineering Consultants; Riley Consultants Ltd; Stormwater Solutions; Fulton Hogan; and Meyer Consulting Ltd.

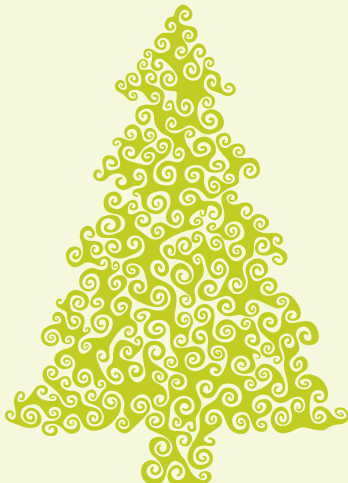
Host companies enable Futureintech Facilitators to benefit from daily exposure to an industry environment, as well as providing a collegial atmosphere and the practicalities of office space.

Particular thanks are also due to all companies who have allowed employees to spend time volunteering as Futureintech Ambassadors.

Ambassador numbers have grown to over 300 this year and their involvement in schools has been diverse, imaginative, practical and informative. Futureintech would not exist without them.

2007 represents the end of Futureintech's initial four year contract, during which time it has sufficiently proven its value to secure funding for a further four-year period. We look forward to working with you all as this new stage begins in 2008.

Wishing you all a Merry Christmas and a Happy New Year.



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