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Fullsome praise for Futureintech

A new report from the New Zealand Council for Education Research shows that Futureintech is an effective and well-regarded initiative with room for continued growth and development.

“Students, teachers, Ambassadors and Facilitators were very positive about the Futureintech visits.”

– NZCER REPORT

SINCE WE BEGAN IN 2003, Futureintech has worked with independent researchers to give us an outside perspective at the work we do in schools. This year’s report from the New Zealand Council of Educational Research (NZCER) was commissioned by IPENZ to determine Futureintech’s effectiveness in careers promotion, as well as keep our partners and stakeholders informed of our progress.

Methods and results

The NZCER’s method for the study included interviews with Futureintech Facilitators, eight in-depth case studies of Ambassador classroom visits, and an online survey for Ambassadors, teachers, and the Ambassadors’ managers and employers. Based on the information they gathered, the researchers conclude that Futureintech has a reputation as a useful and important resource when it comes to supporting the curriculum and raising awareness about career opportunities.

“One of the strengths of the Futureintech programme is that it caters for a range of schools’ needs,” the report states. It points out the variety of different activities that Futureintech offers for students at many year levels, from careers presentations to group projects and classroom experiments.

In addition, the role of the Facilitators “is effective in promoting and supporting visits. They appear to be successful in encouraging schools and new Ambassadors to become involved in the programme”. The report describes how Facilitators act as an important link of



Mechanical engineer **Matt Wilson** from **Meridian Energy** discusses bridge science with students at Avonhead School.

communication between teachers and Ambassadors and help plan the logistics of bringing Ambassadors to schools.

“Students and teachers recognise many benefits in the classroom as a result of the Futureintech programme, such as getting students excited about technology, engineering and science,” the report says. “Overall, students, teachers, Ambassadors and Facilitators were very positive about the Futureintech visits.”

It also points out that workplaces benefit when their employees volunteer as Ambassadors. The advantages include improved public speaking and communication skills for the Ambassadors and greater visibility for industries and careers in technology, engineering and science.

Recommendations

Based on their research and experience in the educational field, the NZCER provided Futureintech with a number of recommendations to increase effectiveness.

One suggestion is that Futureintech expand its reach to cover more rural areas and low-decile schools if sufficient resources are available. Greater communication between teachers and Ambassadors would be helpful, as it would ensure that Ambassadors are aware of students' level of learning. The report also recommends that Ambassadors incorporate more interactive hands-on activities to classroom visits.

Finally, the report states that managers and employers have asked for more communication from Futureintech about the programme and suggested that we investigate what information is of most interest to them. Some Ambassadors who participated in the survey also expressed an interest in more networking opportunities so they could share their experiences with each other.

Building on achievements

With the findings of the NZCER report in mind, Futureintech is examining our achievements to date and identifying opportunities for growth and development.

Our latest Milestone Report released in April shows how the initiative has developed over the past year. As of April, there were 542 Ambassadors throughout New Zealand, and they had made a total of 385 visits since November 2009. Our team of Ambassadors continues to grow, thanks in large part to recommendations from existing



Ambassadors, managers and other employees.

The feedback we have received from teachers, industry leaders and Ambassadors is overwhelmingly positive. In one case, Ambassador Martin Peat from Beca remarked that he felt his presentations to students have been very beneficial – “both exposing students to careers in engineering, and also on a personal level, developing my presentation skills and public speaking confidence”.

As more Ambassadors join the team, we are exploring ways that they can better support schools outside the main Futureintech regions. For example, two of our Ambassadors are visiting Gisborne Boys' High School, consulting with Facilitators via phone and email. We're also looking into the possibility of expanding our services throughout New Zealand.

We're also refining our approach to Ambassador visits. In schools around the country, we have noticed an increasing involvement in our curriculum-related activities such as the Transpower Neighbourhood Engineers Awards



TRANSPOWER NEIGHBOURHOOD ENGINEERS AWARDS PROJECTS:
Left: Ambassador **Rory Lemon** helps a Kaka Street Special School student. Above: A team of students and their teacher test the strength of their models for a to design a watering system for their garden. Ambassador **Daniel Leong** is supporting the team.

and the NZIFST Student Product Development Challenge. We're now keeping track of the number of visits that focus on hands-on activities.

With the input we receive from everyone involved, we are able to improve the resources and services we offer. Recently we changed the homepage of our website to make it easier for teachers and students to explore careers based on favourite subjects. We've developed an Ambassador Handbook to enhance the professional development opportunity for employees.

Futureintech is always on the lookout for new ideas and perspectives. If you have any suggestions on how we can improve, contact us at enquiries@futureintech.org.nz.

First-hand experiences can inspire a career

One important benefit of Ambassador visits is the insight students get into careers they may not have encountered before.

STUDENTS FROM CASHMERE AVENUE SCHOOL in Wellington got a great view of the surveying profession during a field trip with **Paula Gentle**, a surveyor for **Land Information NZ**.

Paula took the students and their teacher Phil Rodley to the trig point at the top of Mount Victoria. A trig point is a fixed surveying station with a known coordinate and elevation. Surveyors use trig points to determine the exact location of certain places in the area, using a method of trigonometry called triangulation.

From the Mount Victoria Lookout, Paula pointed out the locations of other trig points and described how they use them to accurately measure land boundaries around the city.

To demonstrate the importance of trigonometry, Phil and Paula led the students in an outdoor activity.

The students were challenged to mark a 3mx3m square on the pavement with chalk, first using only a measuring tape (with less-than-precise results) and then using a paper compass to measure the angles.

Finally, Paula allowed them to try out her surveying equipment to see how it simplifies the process.

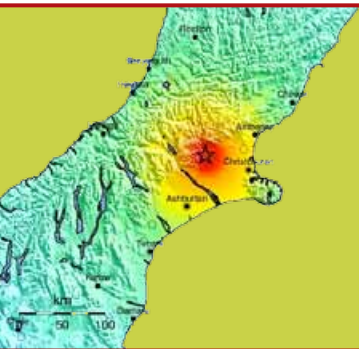
Of course, in a place like New Zealand, measuring land can have some unexpected challenges.

Paula told the students how the 2009 Fiordland earthquake moved the land by up to 0.8 metres, changing the locations of trig points in the area. Surveyors needed to recalculate the elevation and coordinates of these points to keep their measurements accurate.



Surveyor **Paula Gentle** from **Land Information NZ** explains her work to students at Cashmere Avenue School.

Phil later told Facilitator Susan Weekes that they really enjoyed the visit. “Thanks again to you and Paula for all your efforts,” he said. “The kids really enjoyed it and got heaps out of it. Lots to talk about on the way home!”



Christchurch earthquake

The Futureintech team would like to offer our thoughts and sympathies for the residents of Christchurch as they recover from the recent earthquake. We particularly send our support and best wishes to the students and staff of all schools in the region and to all Futureinech Ambassadors that work with them.



Techlink update Promoting career pathways

Techlink – www.techlink.org.nz – is a website dedicated to Technology teachers, students and all those with an interest in technology education in New Zealand. Techlink showcases examples of contemporary teaching and learning in Technology and provides curriculum support and encouragement for teachers in their ongoing planning and implementation of classroom programmes.

One of Techlink's key goals is to promote the career opportunities that technology education can lead to. An effective way to do this is to get real-life stories from young professionals who are former Technology students and to showcase their career pathways.

Futureintech Ambassadors are often profiled by Techlink to further this goal. The profiles are used in a variety of Techlink's promotional publications, including regular advertorial material in widely read magazines such as *North & South* and *The Listener*.

A recent example is Ambassador **Sanya Cope**, who will be featured in the November issue of *North & South*. Sanya, who is an Ambassador in the Auckland region, works for **Cerebos Gregg's** as a Product Development Technologist. In her profile she talks about her job, why she loves working in the food industry, and why she believes technology education has offered her an invaluable learning experience.

So far, Techlink has profiled a number of Futureintech Ambassadors in a range of sectors including design, engineering, and IT. Ambassadors are usually keen to be

A FUTURE IN FOOD

22 year old Sanya Cope is a great example of how Technology education can pave the way to an exciting career.

As a Product Development Technologist at Cerebos Gregg's, Sanya has found her dream job.

"I develop new food products or improve existing products. There is no typical day. It is all over the place. Sometimes I will spend quite a bit of time in the lab testing formulations, another day I might be researching off-limits topics. Recently, I developed a new beverage where we needed to match a competitor's product."

Looking back, she recalls how taking Food Technology in secondary school has provided her with skills and knowledge vital to her everyday work.

"Working in the product development field, I found Technology helped me gain an understanding of the development process as we went through the whole process from start to finish. This involved coming up with ideas and concepts for a food product, choosing a material to make, mixing and testing the product, as well as designing and making the product packaging," says Sanya.

For Sanya, who enjoys "finding innovative ways to solve a problem", Technology provided an opportunity to explore her field of interest, something her other subjects were not able to offer. "My school didn't offer any Product Design papers and I wanted to do something along these lines so I took a Year 13 Food Technology paper through the Correspondence School which I really enjoyed."

"Technology created a sound base for my future study. I learnt a wide range of useful skills like problem solving, devising solutions and project management. I learnt how to plan for each project and account for all the raw materials I would need and the time it would take for each stage. Most importantly, I developed trial-and-error persistence which is vital in Food Technology knowing when you are wanting to come up with something new and out-of-the-box."

Having landed her ideal job straight from university, Sanya's focus is to "develop myself in the job so I get better at it". "Eventually I would like to get into innovation management which involves looking at what's happening in other industries, relating it to the food industry and coming up with new things that people don't know that they need yet!"

Sanya is also a Futureintech Ambassador. She volunteers her time to work in schools as a mentor to help students in their studies and provide career advice for those interested in a career in Food Technology.

Sanya is one of the many students who have studied Technology at secondary level and are now reaping the benefits of that learning. Technology is a compulsory subject from Years 1-10 and covers a variety of technological areas: Digital Technologies, Soft and Hard Materials Technology, Electronics, and Food and Biotechnology.

To find out more on how your child can benefit from Technology education please visit: www.techlink.org.nz/parents

techlink
TECHNOLOGY EDUCATION
www.techlink.org.nz

Techlink is an initiative of the Institution of Professional Engineers New Zealand in partnership with the Ministry of Education.

profiled as they tend to find that profiles can promote their industry, provide others with an insight to their job and their day-to-day work, showcase their skills and career choices, and help students and parents make important career decisions.

Ambassadors have also recently featured in Techlink's latest careers brochure "Technology Education: A Great Start". For a copy of this brochure please contact the Facilitator in your region.

VIP Scheme deadline

Tertiary institutions still have one month to submit applications for Futureintech's Visiting Industry Professionals (VIP) Scheme.

The VIP Scheme provides funding for senior professionals from technology, engineering and science-based industries – preferably New Zealand-based professionals – to spend up to three weeks in a tertiary institution. Their role can be teaching, advising on research and curriculum, or a mixture of both.

By bringing in top professionals to share their industry expertise, tertiary institutions can provide important benefits to students and staff. They gain insight into developments in the private sector, which will help them shape their teaching and research programmes to best prepare students for the workforce.

Students will also learn what skills employers are looking for and become more aware of career opportunities in technology, engineering and science.

Futureintech currently has four projects underway from the March 2010 round, so we have funding for more projects this year. Applications close on Friday, 29 October.

To read more about the VIP Scheme, visit our website at www.futureintech.org.nz/vip-scheme.cfm.

About Futureintech

Funded by NZ Trade and Enterprise, Futureintech is an initiative of the Institution of Professional Engineers New Zealand (IPENZ). Established in 2003, Futureintech is a practical attempt to increase the number of young New Zealanders choosing careers in technology, engineering and science – crucial sectors for the infrastructure and social and economic growth of the country.

Futureintech Ambassadors

Futureintech Facilitators around New Zealand work to develop links between schools and local industries. Central to this work is the recruitment of Ambassadors – young people working in technology, engineering and science who are trained by Facilitators to volunteer in schools. Their contribution includes giving presentations, explaining their work, supporting projects, providing a real-world perspective and demonstrating the practical applications of the curriculum. There are currently over 540 trained Ambassadors working with Futureintech, representing a wide variety of industries. Their support and that of their employers is greatly appreciated.

Futureintech partnerships

Futureintech maintains partnerships with around 300 companies, representing a diverse cross-section of New Zealand industry. Partners work with Futureintech in a variety of ways, from encouraging staff members to become Ambassadors to providing expert information for publications or promoting Futureintech to a wider audience. Futureintech's work would not be possible without their generosity and commitment.

Futureintech publications

Futureintech produces an ever-increasing range of print resources for teachers, students, careers advisors, caregivers and industry, all of which are available free of charge by request from head office.

www.futureintech.org.nz, a regularly updated website offering profiles of Ambassadors and their employers, a database of relevant tertiary courses and monthly regional news, is another key component of the initiative.

Futureintech's monthly newsletter **enews** is distributed in alternate months to schools and industries, and aims to ensure that all stakeholders are kept fully informed of Futureintech's activities and of the resources we provide.

Futureintech Facilitators

Futureintech's regional Facilitators promote and maintain relationships with schools and industry employers. This involves recruiting and training Ambassadors, advising teachers on how Futureintech can best support their programmes, arranging, planning and supervising Ambassador visits and distributing resource materials.

Facilitators are supported by Host Partners, who provide the office space which enables them to work remotely from the Wellington head office. Host partnerships ensure that Facilitators not only benefit from a collegial atmosphere but also have daily exposure to an industry-related workplace.

If your staff might be interested in volunteering as Ambassadors, or your business benefit from being involved in any way with Futureintech, please contact your local Facilitator to discuss how we can work together.



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