



TENZ is the professional body that:

- fosters the development of Technology in the New Zealand Curriculum.
- develops and maintains national and international links between Technology education professionals and with the wider technological community.
- supports professional, curriculum, and resource development in Technology Education.
- encourages research in Technology Education.
- organises a biennial national Technology Education conference.
- operates as a special interest group that operates within IPENZ Engineers New Zealand

For details of TENZ membership see www.tenz.org.nz

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T-news

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Celebrating our young designers

We take a look at why Jo Young of Tauranga Intermediate School is such a great advocate of the Young Designer Awards.

NOW IN ITS 16TH YEAR, THE YOUNG DESIGNER AWARDS promote design excellence and awareness of design as a possible career among school students by setting exciting design challenges in a range of categories.

The Awards are a marvellous opportunity for Technology teachers to engage and challenge their students and expose them to excellence, while holding out the promise of some desirable rewards – the Young Designer of the Year (the best submission across all categories) receives \$1,000 and an educational scholarship, other prizes include study allowances and further scholarships.

Tauranga Intermediate School Technology teacher Jo Young is a great advocate of the awards and her students have had a remarkable run of success at them over the past three years. At last year's awards, 13 of her students made it through to the finals and four of them gained firsts. The previous year, seven students were finalists and two gained firsts. This year, Jo had 17 finalists over five categories, with two firsts, four seconds, including Lucila profiled on the right, and three thirds. The judge also highly commended Jo as the teacher.

This year's competition had six categories: Built Environment, Communication, Fashion, Landscape, Products, and Visual Arts; each had a number of sub-categories, and briefs were provided for all of them. The judges look for creative, innovative, well-balanced, and functional designs that clearly show that entrants have followed the design process, by having analysed and fulfilled the design brief and met the end-user's requirements.



Tauranga Intermediate Year 8 student Lucila Gatti's entry in the Fashion category of the awards involved designing and sewing an original tennis outfit for herself. Her project is profiled in a Techlink Student Showcase, at www.techlink.org.nz/student-showcase/materials-soft/lucila.htm.

The whole format dovetails very neatly with the Technology process, Jo says, and is a great exercise for her students. "That's why I like the Young Designer Awards so much. It really promotes true technological outcomes."

Jo first became involved in the awards when she came to Tauranga Intermediate three years ago, and took over from a teacher who had organised some entries the previous year. A qualified clothing designer, Joanne focused on the fashion category of the awards and made the competition an extension of her Technology classes.

The idea struck a chord and each year interest has grown; this year she had 220 applications to join the extension class. Students from both Year 7 and 8 had to submit a design based on one of the competition categories. A third of the students went on to sit a proficiency test using machinery and, out of these, 22 were selected. The class meets for three hours a week during Terms 1 and 2 and has a four-day holiday programme in the break between Terms 2 and 3 where the students work on their skills.

“At the level that they’re coming in, you need to build up skills and help them translate their ideas and designs into something they can actually work with.” For this age group, Jo favours knit fabrics as they are forgiving and need less finishing than other types of materials.

“The students can actually work it themselves, in contrast to something that’s got heaps of zips and boning and all that sort of stuff, which you do at a more sophisticated level.”

This year, Jo has been joined by another designer/pattern-maker Rhonda Hewlett, who helps with the class on a voluntary basis. “It’s been great to have another professional to share the passion and excitement with and to talk over technical issues.”

In the run-up to this year’s competition, Jo and Rhonda did a lot of internet research, looking at the work of other designers and checking on international trends.

Jo talked to the students about the importance of the Technology process and explained how part of the process involves considering the qualities and uses of particular fabrics. The relevance of Jo’s explanations was reinforced by the competition format. Submissions were judged against criteria that are the building blocks of the Technology process itself: Design Brief, Research, Concepts, Design Development, the Final Outcome and Evaluation. Entries were also judged on presentation and a written report.

Each entrant must submit seven Technology Boards. The boards display the project’s brief, research photos and notes, concept designs and accompanying notes, along with design development details, final designs (accompanied with costings and fabric samples), a photo board of the finished garment and an evaluation of the process used.

DVDs are available from the award site (www.yda.org.nz) showing selected pages from the entries of the top three students in each section at previous competitions. These provide some indication of the standard of entry required.

Jo notes that the Year 8 students who participated in the programme the year before showed improved ability to simplify their ideas and ‘cut their coat to suit their cloth’. “Because they know how to work their materials and they know what they have to get done, they’re more realistic in their aims. So I’m teaching them to judge for themselves the practicalities of their own designs and ideas – pretty sophisticated for 11 and 12-year-olds.”

Jo is very proud of the students and their talent and the work they put into this year’s Young Designer Awards, and says other Technology teachers could well consider entering next year’s competition.

A parent’s view

A parent of one of the Tauranga Intermediate students in this year’s awards travelled to Christchurch for the show and says it was a great experience for the girls.

“Not only to win a placing but to see their work on stage and the work of others. They all were very inspired.”

She says she was particularly struck by the way the girls were a real team, sitting together, supporting each other. “It was really brilliant to see – we were probably the nosiest school for cheering the girls on. People really took notice of how well Tauranga Intermediate did and there were a few saying ‘look at that school cleaning up’.

“All round, I think it was an excellent achievement and experience. Such cultural events are as important as sport, but often aren’t recognised.”



Left: Technology Boards for the competition.
Right: Jo Young with some student work

One of the presenters at the evening said that he felt the future of New Zealand was in good hands if the creativity on show was any indication. It’s a sentiment she agrees with: “The skills – of taking a brief, research, concept development, implementation and documentation – the girls have learnt from the Awards are transferable to all sorts of careers and will hold them in good stead in the future.”

“So, well done Tauranga Intermediate for supporting the Young Designer Awards and thank you Jo for your passion and drive to get the girls to achieve such good results.”

Jo’s work is featured in the Techlink teacher snapshot: www.techlink.org.nz/teaching-snapshot/Y07-10-Middle/tauranga-int-young-designer.htm.

Food Challenge SUCCESS

Four of Carolyn Norquay's Year 12 Food Technology students from Saint Kentigern College win the Food Challenge Secondary Schools Product Development Award at the 2008 Massey University Food Awards.



THE MASSEY UNIVERSITY FOOD AWARDS CELEBRATE new initiatives and recognise the creative work of product innovators in New Zealand food and beverage production and manufacturing. They are highly regarded by our food manufacturing industry.

At the Award's gala dinner held in Auckland, the Saint Kentigern team of Neala Ye, Ceri McVinnie, Esther Kim and Megan Coetzer were presented with the Food Challenge Secondary Schools Product Development Award in recognition of their achievements.

The Food Challenge, supported by the New Zealand Institute of Food Science and Technology, offered teams of secondary students the opportunity to develop a food product for a real customer. The Saint Kentigern team surveyed target consumers to better understand their market, prepared a project proposal, developed prototypes and addressed issues including packaging and labelling in coming up with a marketable product which met both customer specifications and legal requirements.

Working with Kato Pacific Marketing, the girls came up with a range of potential sandwich fillers, with their tandoori chicken and tomato salsa products selected by the client company for further development and testing.

The project was part of their Level 2 NCEA Food Technology programme and, in addition to the Food Challenge Award, the girls also received a Team CREST Silver Award.

Team member Neala Ye found the project an insightful way to see what the 'real world' food industry was like. "Working with a smaller company like Kato was good for this project because we got to work closely with our client and get constant supportive feedback," she said. "It was great to see



From left: Esther Kim, Ceri McVinnie, Neala Ye, Megan Coetzer, Carolyn Norquay, Professor Ray Winger

the final outcome of our project displayed on an academic poster (pictured, left) and it was even better to be able to receive a plaque from Massey University at the Food Awards for the effort we put in."

Carolyn acknowledges that attending such a high profile industry event was a tremendous experience for the girls – and a big enough reward in itself for all the effort put in. "Being presented with the Product Development Award was the icing on the cake".

"Watching all sorts of companies and products receive various awards gives me the inspiration to become a successful food technologist in the future and to one day go to the Food Awards and receive an award for a product of my own," said Neala.

Greetings

Welcome to t-news and to a new school term. I have had a very busy time working with others on a number of TENZ initiatives which we hope will continue to promote technology education in New Zealand.



Technology Teachers Associations Working Party (TTAWP)

Representatives from each of the three associations NZGTTA, HETTANZ and TENZ met for the second time on 20 September in Dunedin – your TENZ representatives were Wendy Fox-Turnbull and Sue Parkes.

The group enjoyed a very productive morning and suggests that we recommend to our National Executives/Councils that our focus in 2009 be the education of the parent and wider community about technology education.

Many parent and community perceptions of technology education still seem to be that Technology is the same as what they did when they went to 'cooking', 'sewing', 'metal work' and 'woodwork'. There is anecdotal evidence that some parents are steering their children away from technology education for this reason and the rationale that bright kids don't take these subjects.

It is in our interest to ensure that our wider community is correctly informed about the true nature of technology education and the importance of educating our children to be technologically literate.

Several ideas were discussed and in the end we decided that we could make a few suggestions but leave the actual planning and action to each of the individual executives from each of the teacher associations.

Some of the suggestions were that:

- we celebrate our successes within the school and wider communities and share with others, possibly through Techlink

- teachers be encouraged to articulate to students that what they are doing is very different to what their parents did and encourage students to discuss technology education at home with the help of the new pamphlet produced through Techlink
- we all clearly articulate and demonstrate the critical part that the teaching of specific skills plays in technology.

We also shared the work that group members had done in the development of two-minute video or PowerPoint clips of teaching strategies suitable for Technology. One is already on Techlink (see www.techlink.org.nz/teaching-snapshot/multiple/CanterburyCoE-CompanyApproach.htm). The others will be sent to Techlink as soon as they are ready.

The committee has led the way here. What we would like teachers to do is to think about the innovative strategies you use in your Technology classes and consider recording them for publication on Techlink. Why not include ICT teachers and ask students to develop these videos to a given brief, say a two-minute video of an innovative teaching strategy suitable for teachers and students in Technology.

The next TTAWP meeting is going to take place in March 2009 using Skype which obviously offers each executive/council considerable cost savings.

Alignment Contract between MOE and the Technology Subject Associations

At the above meeting the committee discussed and drew up a Memorandum of Understanding (MOU) between the

three associations for the collaborative work we are doing with the Ministry of Education (MOE) on the Alignment of Achievement and Unit Standards with the achievement objectives. The MOU has been signed by the chair/president of all three associations. All associations have a copy with the original being housed at IPENZ in Wellington.

A considerable amount of work has gone into the proposal for this contract and, as from last week, I feel confident in saying that we have reached some agreement with the MOE. They are in the process of drawing up a contract, which I hope will be signed within the next few weeks.

In-service and Pre-service Hui

Teacher educators in Technology through out the country met in Wellington last week for professional development based on the 200 New Zealand curriculum. I was excited to hear about the work going on to develop and promote teaching resources and strategies for technology education.

Teachers' Council

New Zealand Teachers' Council CEO Dr Peter Lynd has been in conversation with a number of people from the area of technology education recently. Such an influential person being aware of and wanting to find out about and understand technology education bodes well for our curriculum area.

TRCC course

Last week I was lucky enough to be asked to present a paper at the TRCC course (see [report](#)) which was held in Wellington. I was impressed with the enthusiasm and positive attitudes of the delegates towards technology and graphics education. The council is now looking forward to our conference in October 2009 in Napier and we are excited about the varied and well balance programme Brian and his team are developing.

Some class outcomes

Finally I thought I would share with you some photos of the final technological outcomes from one of the classes I have been working with. These are school production props with an Olympic theme, developed by groups of three Year 6 children. The students were very proud of their work and very, very motivated as the props were actually used on stage during their class item.

As you can imagine, much research and stakeholder feedback was needed before the final props could be constructed. Children identified key criteria or specifications for their props, one of which had to be 'era specific'.

Best wishes for the busy term ahead.

Wendy Fox-Turnbull Chairperson, TENZ National Council



1930s microphone and radio



1936 Silver, Gold & Bronze medals



Olympic torch with light

Conference Update

PRESENTATIONS

The success of the TENZ 2009 Conference relies on the contribution of educators and technologists. You are invited to write and present a workshop relevant to the conference aim and themes.

The Committee's aim is that all delegates will improve their understanding of Technology in the New Zealand Curriculum 2007. Delegates will leave the conference with a kete of ideas and resources to support and improve their students' understandings of Technological Practice, Technological Knowledge and the Nature of Technology.

The daily themes are:

- Tuesday: The theory behind technology education for the 21st century
- Wednesday: The reality of technology education for the 21st century
- Thursday: Technology education for you and your students

Delegates will include people involved in technology, both in an educational sense and in the wider community – educators from primary, secondary and tertiary sectors, and practising technologists.

The Conference Committee would like **you** to present at TENZ 2009. There are three types of presentation:

- **A teaching presentation** – this type of one-hour presentation lends itself to sharing professional practice,

the 'what's worked' and 'what hasn't' of day-to-day teaching and learning.

- **A workshop presentation** – share your skills with others by involving them in a two hour hands-on workshop.
- **A paper presentation** – more academic in approach, this one-hour session allows the author of a paper to share their ideas and invite questions of the audience.

Guidelines for all types of presentations are now available online at www.tenz.org.nz/2009/presentation.cfm

WORKSHOP: LEADING TECHNOLOGY IN YOUR SCHOOL

This one-day workshop, to be held on 5 October 2009 at the conference venue, is sponsored by the Ministry of Education's GIF – Technology Education Initiative and leads into the TENZ Conference.

The workshop will be set in the context of developing middle management skills to lead the technology curriculum in your school, and will be of vital interest to all Technology Curriculum leaders and coordinators in primary schools and Technology HODs in intermediate and secondary schools.

The workshop will cover:

- The Curriculum as a framework
- Technology's position in the New Zealand Curriculum Framework
- Components of Technology – strands and components of technology
- Achievement objectives – their role
- Indicators of Progression – what are they and what is their purpose?

- Implications for leading school curriculum development and programme planning.

The registration fee for this workshop will be waived for those who attend the conference. To register your interest, email niall.dinning@xtra.co.nz

CONFERENCE POSTERS

Conference posters (above) are available online in pdf format, at www.tenz.org.nz/2009/promotion.cfm.

Teachers are encouraged to print a copy and post it on the staff notice board.



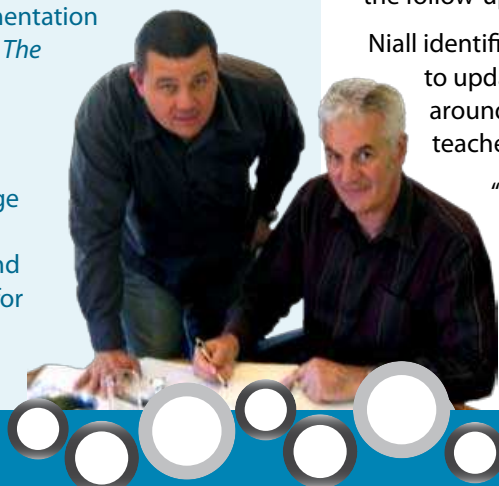
TENZ 2009 REGISTRATION	EARLY BIRD (> 21/8/09)	STANDARD (> 30/9/09)	LATE (> 2/10/09)
Individual Member Full Registration	\$400	\$500	\$550
Non-member Full Registration	\$450	\$570	\$620
Day Registration	\$225	\$250	\$270
Student Registration (proof required)	\$275	\$400	\$450
Member School Registration (3 teachers)	\$900	\$1,200	\$1,400
Dinner	TBA	TBA	TBA
Partners Programme	TBA	TBA	TBA

Ministry of Education Update

THIS IS ONE OF A REGULAR SERIES OF ARTICLES by Geoff Keith and Niall Dinning that focus on Ministry policy and strategies related to technology education.

Geoff Keith, Senior Advisor with responsibility for the Technology learning area at the Ministry of Education is leading the implementation of the technology curriculum in *The New Zealand Curriculum* (2007).

Niall Dinning is contracted as National Co-ordinator for Technology Education to manage technology related projects, communicate with the sector and develop the strategic direction for technology education.



LEADERSHIP SUPPORT CONTINUES

Niall Dinning reports that funding from the GIF Technology Education Initiative will see a continuation of the support which has been targeted at Technology HODs and those in primary schools with responsibility for leadership in this curriculum area.

This support will be through a series of one-day seminars to be held in major centres in each of the school support service regions.

The secondary HOD Days will be held during the last week of November and the first week in December, with the primary days being scheduled for early Term 1 2009. This timing was selected as a result of sector feedback that it would encourage maximum attendance at the sessions.

The primary days will be followed by a trial one day context specific skills and knowledge workshop for Years 1-6 teachers in two of the regions, focusing on either Materials Technology or Electronics.

"If this type of skills-based workshop proves successful, the aim is to extend them into the other regions," Niall says. "The Leadership Day will be at no cost, with a nominal charge for the follow-up workshops."

Niall identifies two main aims of the Leadership days: firstly to update those attending with the key messages around the 2007 curriculum, and secondly to support teacher planning for 2009 to prepare them for 2010.

"The new unit planning resource which has been developed will form a large part of the primary focus and also be part of the secondary focus, but there will be also be a focus on NCEA for the secondary teachers," he says.

TEACHER RECRUITMENT CAMPAIGN CONTINUES

From the end of October, TeachNZ will be rolling out another major national advertising campaign to encourage suitably qualified and experienced people to think about moving into secondary technology teaching.

Advertisements will feature on TV, radio and in relevant professional and trade publications. The campaign follows up on the success of the 2007 promotion, which was initiated to address the acknowledged nationwide shortage of Technology teachers in secondary schools.

Two of this year's ads will have Food and Materials Technology focuses, featuring teachers Marietjie van Schalkwyk and Steve Ronowicz and student projects that are published on the Student Showcase section of the Techlink website.

Those following up on the adverts will receive detailed information on the Teacher Recruitment Scholarships (Technology), which are allocated across three categories: school-leavers/undergraduates (five available nationally); graduates (50 available); and career changers (30 available).

The scholarship pays course fees for up to four years of full time study for school-leavers and undergraduates, for one full-time study year for graduates and for up to two full-time years of study for career-changers. In addition, the scholarship pays an allowance for full-time students – \$10,000 over the period of study for school-leavers, undergraduates and graduates, and \$30,000 for each of up to two years of study for career-changers.

Those following up on the ads can receive detailed information by calling 0800 TeachNZ or visiting their website, www.teachnz.govt.nz/technology-scholarships

Geoff Keith was impressed with the success of last year's promotion and points to the newly introduced career-changer initiative being over subscribed for technology. "In the end there were 100 Technology scholarships granted for 2008 – 59 for people from other careers and 41 for undergraduates and graduates," he says. "This new cost-of-living component in the career-changer scholarship appears sufficient to attract people already in employment to a new career in teaching technology."

Those interested in applying can download a pdf from the TeachNZ website at www.teachnz.govt.nz/technology-scholarships. This document contains details on the awards, eligibility criteria and information about the application process, FAQs and the 2009 application form.

Applications open on 1 November 2008.

From building houses to building students' futures

Carpenter Sean Fullick (pictured), with 25 years' experience in the building industry, was one of those attracted by last year's advertising campaign. Having moved from the UK to New Zealand with his young family 18 months previously, he was working in Tauranga when he heard the radio adverts.

"I rang the 0800 number to find out what the score was, and it pretty much snowballed from there. They told me that there was a scholarship available – it wasn't as much as I was earning at the time, but it's a pretty good match, and for me personally there was no way I could entertain taking two years out of full time employment to retrain without that sort of incentive," he says.

Sean's tertiary provider was the University of Waikato and he started the teacher training component of his two-year



full-time course in February this year, together with what he describes as "a really good mix of people".

"Those first 12 weeks involved some pretty in-depth stuff, and at that point all that pedagogical stuff probably didn't really mean much to us, because we hadn't had any of the in-class practical element."

However, the first seven-week practicum that Sean spent at Otumoetai College soon fixed that.

"That gave us an opportunity to work in-school – to teach a number of classes and start putting into practice what we'd been talking about. And it was only then that you started to appreciate why you'd been given those readings."

"I think everyone was pretty apprehensive. With the skills background of a tradesman, you don't lack confidence in what you are teaching. Where you do lack confidence is in managing behaviour – how to get students' attention and things like that. It's putting all those little skills into practice that can be quite difficult. But I thoroughly enjoyed it and really couldn't wait to get back into the next practicum again."

A lot of the emphasis during the year has been looking at the transition from the old curriculum to the new one, "so I'd like to feel that we've been getting as much knowledge as existing teachers in that area," he says.

"From what we've seen the element of skills training is still vitally important – but it's gone way past that now. It's getting students to come out with the ability to problem solve, to think for themselves and to manage time. Environmental issues are becoming much more important and there are just so many different things they have to consider. When I was at school and studying woodwork it was never that – the skills training was excellent, but there was none of that 'big picture' element to it."

Next year Sean will be following through a second full-year programme to take his City and Guilds trades qualification, which was assessed as being L4 equivalent, up to L7 – and then it's out into schools as a fully trained and qualified teacher.

Momentum continues to build

Gaining Momentum by Design – the TRCC Technology and Graphics course held in Wellington during the break between Terms 3 and 4 – was massively oversubscribed, full well before the early bird closing date. Brian Allen, chairman of the course's organising committee, reflects on the success of the course, and then we look at the keynote presentations.

“WE DESIGNED THE TRCC TECHNOLOGY AND GRAPHICS course to try to suit the needs of teachers who would be coming. The visits we organised, the Futureintech Ambassador presentations and the repetition of some of the workshops were all structured as a result of feedback we had been given.

“The venue was excellent – right in the middle of the city, and the layout in the hotel meant that people could sit down at the tables when they felt like it and form small groups and just talk about things.

“A key aspect of these courses is the links that you form with other professional colleagues. It's asking those ‘How do you do this?’ and ‘Why do you do it like that?’ questions and getting honest answers that you can identify with. Unexpected learning outcomes pop up in every workshop or in discussions at morning and afternoon teas or across the table at lunchtime. Opportunities for social interaction are extremely important and our course dinner was a good one!

“Workshops were very popular. The teachers appreciated the ‘technical’ stuff that was put in front of them – they're always hungry for that. Many of the presenters were not that well-known, but we knew they were doing good things in their classroom – things other teachers could relate to.”

Feedback

“I started to get good feedback on the first day, so I knew we were on the right track. What I was hearing on the second day showed that the people were enjoying what they were doing – it was challenging their thinking and they were getting a buzz out of that. By the third day we saw that everything had come together nicely and that people had





KEYNOTE ADDRESSES

The balance that Brian mentioned was clearly evident in the keynote addresses which featured on each of the three days.

Elizabeth Osborne

With the importance of modelling now gaining greater recognition within the curriculum, Elizabeth Osborne's opening keynote address provided a timely focus on the model making industry, modelling techniques and the wide variety of materials available for use in graphics and technology programmes in schools. Examples she considered included scale models to provide a visual representation of an idea, and items for testing and evaluating designs or for small production runs.

Throughout her talk she emphasised the importance of having a good understanding of the characteristics and limitations of modelling materials being considered for use and showed a variety of real life examples illustrating that the true test of any model is how well it meets the particular needs for which it is developed.

The follow up workshops led by Elizabeth and Matthew Moss gave the opportunity for more detailed consideration of materials and processes which were outlined in the talk – including rapid prototyping developments.

Further information can be obtained from the Topmark Products website at www.topmark.co.nz.

Cliff Harwood



Cliff Harwood's keynote address on the second morning started off by questioning what could be gained by looking back and charting the path leading to our present technology curriculum. However Cliff conceded that perhaps we do need to go back and just have a look at our roots and see where we've actually come from - and then more importantly look to where we're going to in the future.

Over the course of the hour, Cliff talked through the development process from the start of 'technical education' in the late 1800s to the 2007 New Zealand curriculum statement.

In doing so he was able to focus on the changing ideology behind the curriculum innovations and, by using examples of actual student work, explored what they have achieved in terms of changing what has been happening in the

been changed by what they had seen and done, and that really excited me."

"A number of teachers told me that, as a direct consequence of attending, they've been encouraged to go back to their schools and change their programmes. Others told me they attended as many of the keynotes and workshops as they were able and picked up all the resources on offer, and that they were now going back to share the material with their department."

TENZ 2009 conference

"Another indicator of success was the number of people who told me they were now intending to come to the TENZ conference in Napier next year. This shows that the course has challenged people enough to want to continue their own professional development, and that they see the TENZ conference as a vehicle for doing that."



classroom. In his consideration of this evolutionary progression he placed a huge emphasis on the importance of knowledge and skills.

“There’s no point in putting a brief or an issue or a context in front of kids and expecting them to follow through the process,” he contends. “Because without actively developing their knowledge and skills, most of them will just wander around and go nowhere.”

He finished off this engaging and enlightening journey through New Zealand curriculum development with some personal thoughts on where technology education might be heading in the future.

“The world of technology is moving really quickly – what we’re doing is preparing kids for that world. My vision is that we don’t just get kids developing things for the world of today, but that we give them the opportunity to develop things, at a conceptual level, for the world of tomorrow.”

Cliff built on the material he presented by running two well attended follow-up workshops in which he was able to go into greater detail on the process of programme design.

Marlon Beyer-Reigler



The closing address was given on the third afternoon by Victoria University student Marlon Beyer-Reigler. Marlon, who came through the Technology and Graphics programme at St Patrick’s College, Kilbirnie, boldly started his keynote address by stating that there’s nothing he likes more than the outrageous, the eccentric and the pretty much downright bizarre. “The great thing about the design and technology industry is that it has given me an opportunity to really push my imagination and myself.”

His keynote address focused on the ‘rhetoric of the image’ within design. This, he said, could be easily described as communicating ‘critical design’- the opposite of ‘affirmative design’, which reinforces the status quo.

He explained that critical design is set free from constraints and will often challenge its audiences’ preconceptions and expectations – “thereby provoking new ways of thinking about the object, its use and more importantly the surrounding environment.”

“It’s more of an attitude than a style - a position rather than a method,” he says, “and critical designers generally believe that design that inspires us, provokes us, makes us think and questions fundamental assumptions can make a valuable contribution to debate about the role technology plays in every-day life.”

For the next hour, Marlon confidently guided his audience through a range of photographic and video illustrations showing how, unlike ‘traditional design’ which is evaluated on things like the quality of the idea and ease of use, critical design focuses on the communication of the idea rather than the development of a product or service.

FIND OUT MORE...

Brian is keen to ensure that the material presented is available on the TRCC website as quickly as possible. Check on its availability at www.trcc.org.nz.

The Technology tide is turning

Techlink communications and marketing officer Nick Maitland reflects on his last two years working in Technology education before taking up a new position as Marketing Coordinator for the College of Education at the University of Canterbury.

"THE TIDE HAS DEFINITELY STARTED TO TURN," Nick says. "Support for Technology is certainly growing. Particularly over the past year, there's been a real feeling that momentum is building and people are really starting to get in behind it.

Nick's role was to promote the multi-faceted nature and value of Technology education to those with a vested interest in the leaning area – interacting with teachers, students, senior management in schools, Boards of Trustees, parents, employers, folk from tertiary institutions, professional organisations, ITOs and government and non-government agencies.

When he applied for the position in 2006, he knew little about Technology education. "I left school long before Technology came in, so it was totally new to me. I knew things had changed – well, I hoped that they *would* have changed – but I had no idea by how much. So I was pretty much jumping in at the deep end when I took the job on."

In some ways coming to the area fresh was an advantage, Nick says. It enabled him to quickly get to grips with the curriculum and see its possibilities without too many pre-conceived ideas. This was important, as Technology was still facing a reluctance to change among particular groups of teachers.

"Some of the politics around Technology education haven't been helpful either. Many of our politicians seem to have made statements without much consideration of what's actually going on – just pandering for votes really – and that's not doing anyone any good."

The root of the problem, Nick believes, is that many people simply don't understand the philosophy underpinning the



curriculum and Technology as a learning area, and they don't understand how far things have changed since the 'old days' of woodwork for the boys and cooking for the girls. "But when they take time to find out about it, they're amazed at what's going on."

"Our approach has been to get as much information out there as we can – information that will help change people's perceptions of technology education and that will have a positive influence on what's going on in schools."

And the approach seems to be working, he says. "The Techlink site is getting more hits than ever and we're getting a wider group of schools outside the Beacon Practice project keen to contribute and a wider range of audiences interested in the material presented."

One of Nick's first jobs was to spread the good news that Technology had become an approved subject for university entrance. "That was huge. It happened during my first few weeks on the job and letting people know about it was one of my first tasks."

"The challenge then became how to build on that and get Technology as a subject recognised as being desirable for a whole range of tertiary courses. Getting that message into the promotional material for schools has been something I've been working on for a while now, because this is the vital next step."

Nick's role gave him good insight into the importance of Technology education and he leaves the job convinced about the value the subject offers not only to individual students but to the country as a whole.

"I've definitely become more technologically literate and come to appreciate how important it is to have students coming out of school with greater awareness about the way technology works and how it affects all our lives, so they can look at new technologies in a more critical way."

"Anyone who's had a chance to go into classrooms and talk with students will have seen that things are definitely changing for the better. I've been lucky to get into quite a few classrooms and been amazed at the quality of the work being produced and how switched on some students are."

NZQA Update

Return of Externally Assessed Technology and Graphics Materials to Schools

To maintain consistency with examination-based externally assessed subjects, NZQA will now be sending completed assessment schedules for Graphics and Technology directly to candidates in January. Assessment schedules will be returned to candidates along with their marked examination booklets for their other subjects.

The candidate portfolios will be returned to schools from 15 to 19 December 2008. This is a change from previous years when the portfolios and assessment schedules were returned to schools in early February.

Best Practice Workshops

NZQA is launching a series of Best Practice Workshops across the country.

All schools have received a survey form via their Principal's Nominee asking for comment on proposed subject-related Moderation workshops to be delivered

by NZQA's full-time moderators. Schools have been asked to comment on subject areas where there might be a particular demand and to give an indication as to preferred times of the year. In order to keep school costs down, NZQA is examining the possibility of offering the Moderation workshops during the 2008 external examinations period and the 2009 school holidays.

Alongside the Moderation workshops, NZQA is also piloting a series of generic workshops. Workshop coordinator, Ian Munro, reports that Dunedin and Christchurch schools are the guinea pigs for this.

"The response has been heartening. The Christchurch workshop has grown to become two workshops with still other schools wishing to participate. This particular workshop topic, *Writing Assessment Tasks*, seems to have hit the nail on the head."

Once participants' evaluations of *Writing Assessment Materials* have been reviewed, NZQA plans to deliver it around the country during 2009, possibly in conjunction with a second topic.

Techlink update

The Techlink website has a rapidly developing bank of well-documented technology success stories but we are always looking for more!

As another year quickly draws to a close, there's an opportunity for you to reflect on the good things that have been happening in your departments, syndicates and classrooms at all levels, and a chance for us to capture some of this practice to promote to a wider audience through the site.

It may be programmes being developed to meet the requirements of the new curriculum, innovative units of work, neat examples of outcomes students have produced or just quick 'snapshots' of things that have worked for you in the classroom.

This material can be readily gathered and drafted through to final publication on three main sectors of the site:

Case Studies in Technology teaching

CASE STUDIES
Technological Practice
Hard Materials
Soft Materials
Food and Bio-related
Electronics
ICT
Enterprise Links
Beacon Practice
Classroom Practice

Techlink features over 120 case studies, in three main categories:

Classroom Practice (including Beacon Practice) case studies range from classroom units in all Technology disciplines through to departmental and inter-school planning and are illustrated with examples of student documentation, outcomes and photographs, and supplemented with curriculum-

related analysis. The main body of work is from the 21 schools involved in the GIF Technology Education Beacon Practice project from 2005 to 2007.

Enterprise Links case studies show how a group of teachers initiated, maintained and benefitted by having industry contacts interact with their students, and illustrate how technological practice is relevant to careers and business practice.

Technological Practice case studies tell the stories from the practice of over 60 technology-related enterprises from throughout New Zealand. They provide an excellent classroom resource for Technology teachers to use as examples of product and process development and problem-solving in technological practice.

Student Showcases

STUDENT SHOWCASE
Materials (Hard)
Materials (Soft)
Food and Bio-related
ICT
Electronics

Student Showcase pages celebrate the achievements and successes of Technology students from around New Zealand. There are almost 100 students featured, covering a wide range of projects in all Technology areas and at all levels. New Student Showcases are added every week.

Teaching Snapshots

TEACHING SNAPSHOTS
Junior – Years 1-6
Middle – Years 7-10
Senior – Year 11
Senior – Years 12-13

These are single-page 'snapshots' of ideas/strategies that teachers and lecturers have used successfully with their classes. A snapshot could be of anything related to the teaching of Technology: a single idea, a resource, a collaboration, a technique, a strategy, a solution to a specific issue, or simply

good teacher practice. The aim is to give teachers a cache of ideas/activities/approaches to refer to as a knowledge base, that they could perhaps adopt or use as a point of inspiration for the continued development of their own practice.

Contact Techlink now...

Start the publication process by emailing techlink@techlink.org.nz. Tell us a little about the good work you want to promote and we'll take it from there. A visit or a follow-up interview will be arranged and the material developed through to final publication when all permissions are received.

GET OUR NEW BROCHURE:

What's so different about Technology Education?



Don't forget that Techlink's new brochure is available in bulk for promoting your school. The brochure presents Technology as an essential part of a student's general education and necessary for participation in an ever-changing society, and is illustrated with six

projects from different schools.

This brochure is perfect for passing out at career or choices nights to parents, students, or anyone interested in understanding developments in Technology Education. Techlink also has copies of 'Technology Education – celebrating the work of New Zealand students.'

Order free copies of both brochures at: www.techlink.org.nz/ordering.htm

NEW CLASSROOM PRACTICE CASE STUDIES

Establishing a new combined materials senior Technology programme

Year 13 Materials Technology, Mount Maunganui College

With no existing pathway for students from Year 9 through to Year 13 in Technology, teacher Jean Wallace set out on a long-term course of action to create one, starting from the top down, by establishing and embedding a new Year 13 Materials Technology programme in the school curriculum. Read more at www.techlink.org.nz/GIF-tech-education/beacon-practice/Teaching-Practice/cp808-new-combined-programme

Interactive Learning: Multimedia CD



Year 12 students developed an interactive multimedia CD-ROM using industry best practice for a designated target audience, and learnt about programming principles, interactivity and interface design, animation

coding and technological practice in ICT.

Read more at www.techlink.org.nz/GIF-tech-education/beacon-practice/ICT/CP810-ICT-Programming-and-multimedia

Extreme Makeover

Year 11 Food Technology, St Kentigern College

Students were asked to take a family favourite recipe and adapt it, as in the Healthy Food Guide magazine Extreme Makeover section, to make it healthier. Students worked

with their families and the magazine editor and nutritionist as they developed their products.

Read more at www.techlink.org.nz/GIF-tech-education/beacon-practice/Food-and-Biological/CP813-Extreme-Makeover

Year 10 ICT programme



This course is divided into four terms, with a different focus in each. Students began the year learning how a computer works and had the option to be assessed for two NCEA unit standards.

In the Graphics segment they each created and promoted a conceptual gadget. In Term 3, students developed individual websites and in Term 4 learnt programming and produced a computer game.

Read more at www.techlink.org.nz/GIF-tech-education/beacon-practice/ICT/CP812-Y10-ICT-programme

UPDATED CLASSROOM PRACTICE CASE STUDIES

It is Techlink policy to review and update case studies two years after publication. Here are links to the updated pages of these case studies

- [Te Papa Souvenirs – 2008 update](#)
- [Tararua Chocolates – 2008 update](#)
- [Bright Ideas – 2008 update](#)
- [Value Added Noodles – 2008 Update](#)
- [Mentoring Using Ex-students – 2008 update](#)

CURRICULUM LINKS

In a new initiative to provide added value to case studies, Techlink is developing pages that highlight aspects of curriculum as evidenced in the documented practice. These often take the form of focus questions designed to illuminate and encourage discussion. The following pages have been done:

- [Te Papa Souvenirs – Curriculum links](#)
- [Tararua Chocolates – Curriculum links](#)
- [Bright Ideas – Curriculum links](#)
- [Mentoring Using Ex-students – Curriculum links](#)
- [Value Added Noodles – Values and Key Competencies](#)
- [Street Luge – Values and Key Competencies](#)
- [Cellsense – Curriculum focus activity](#)

NEW TECHNOLOGICAL PRACTICE CASE STUDY

Cow Power



This case study examines the BioGenCool process developed by North Canterbury farmer Ian Bywater, which extracts the biogas (methane gas and carbon dioxide) from

cow effluent and uses it to generate electricity. Read more at www.techlink.org.nz/Case-studies/Technological-practice/Food-and-Biological/Cow-Power

This case study features a [Curriculum Links](#) page including discussion topics and web links for further research.

NEW TEACHER SNAPSHOTS



Promotional flier

Deputy Principal Lynne Topham of Heaton Normal Intermediate School developed a brochure to inform parents of the benefits of technology education for their children. Read more at www.techlink.org.nz/teaching-snapshot/Y07-10-Middle/heaton-brochure.htm

Sensory testing for juniors

Jacquey Neilson of Bush Primary Schools' Technology Centre introduced her Year 7 students to formal sensory testing, a successful activity which reinforced their Technology and which they all enjoyed. Read more at www.techlink.org.nz/teaching-snapshot/Y07-10-Middle/bush-sensory-testing-juniors.htm



NEW STUDENT SHOWCASES

Photo Album

*Samalia Morrison, Gisborne Girls' High School
Year 12 Materials Technology*

Samalia was asked to make an item to mark the school's 50th jubilee, and decided to custom-make a photo album that could serve as a memento for those attending and could be used to display photos from the event. Read more at www.techlink.org.nz/student-showcase/materials/samalia.htm



Elevated Clothing Rack

*Samantha Wallace, Gisborne Girls' High School
Year 11 Materials Technology*



Samantha Wallace lives on a farm. In winter, washing and, more particularly drying, the ever-present mountains of muddy work clothes becomes a real issue. When Samantha's Technology teacher asked her to find an

issue and develop a solution for it, Samantha's mother was quick to suggest the idea of building a clothes drier. Read more at www.techlink.org.nz/student-showcase/materials/samantha.htm

Waffles Makeover

*Neala Ye, St Kentigern College
Year 11 Food Technology, 18-week project*

When Neala was asked to develop a healthier version of a favourite family recipe, she decided this was a good opportunity to experiment with her new birthday gift, a waffle maker. Read more at www.techlink.org.nz/student-showcase/food-and-biological/neala.htm



Iron-enriched vegetable lasagne

*Tracey Jaques, Tararua College
Year 12 Senior Food Technology, 14 week project*

Tracey wanted to create a product for the vegetarian market and developed an iron-enriched lasagne vegetable bake that could be heated in the oven or microwave. Read more at www.techlink.org.nz/student-showcase/food-and-biological/tracy.htm



Baby Cot

*Sindy Wu, Botany Downs Secondary College
Year 12 Multi-Materials Technology, full-year unit*

Sindy designed and built a cot for her key stakeholder, her baby brother. Their mother, her client, wanted a bigger cot with a higher drop side, which he could use until he was three. "Health and safety was an extremely important key factor in Sindy's technological practice, and is reflected in her final outcome," says her teacher Dip Achary. "Her outcome was comparable, and even better, than what was available in the market."

Read more at www.techlink.org.nz/student-showcase/materials/sindy.htm



AMBASSADORS VITAL TO CAREER DECISIONS

For Steve Andrew (pictured with student Matthew Baird), a technology teacher at St John’s College in Hamilton, a big part of teaching is getting his students hooked early.

“At Year 9, they really just get a taste of Technology,” he says. “We can’t expect them to have a terrific understanding of everything. But I want them to have that hunger to come back. If your programme is really motivating and captures their imagination, then they’ll be standing at the door waiting to get in.”

His strategy is to give his students fun, hands-on projects with real results, and then celebrate those results by displaying them in the school, the local media, and the Techlink website. His most popular example is a year-long assignment to design, construct, and test street luges for a local race course. “We need to make sure they come and enjoy themselves,” he says. “They take away something that they have made, and they feel really proud about it.”

To support this effort, Steve brings in Futureintech Ambassadors to visit his students. Earlier this year, he got in contact with Dean Barker, a scientist from HortResearch.

“We connected his presentation to our externals at Level 2. We had to do a case study on a product and look at the knowledge base that was used to make it, so Dean talked about a project he’s been working on at HortResearch.”

Dean also arranged a site visit for the Technology teachers at St John’s. It gave them the opportunity to talk to people from different stages of the project, from design to manufacture, so that they could get an idea of the process.



“Our students have to do everything,” Steve points out. “They have to look at the issue, design it, and build it.”

Steve finds that this interaction with Futureintech brings the outside world into the school environment.

“Technology happens outside. The materials are made outside, the issues are usually outside, the people the students need to talk to are outside. The school is just the place to bring it all together. When the Ambassadors come to the school, our kids realise that there’s something different out there. That’s going to get more and more important as things go along.”

This wider perspective of technology is particularly valuable as students begin to make decisions about their careers. “It’s a real concern that students don’t look at the full possibilities for themselves,” he says.

To find out how Futureintech can support your Technology curriculum, contact us at enquiries@futureintech.org.nz, or visit our website, www.futureintech.org.nz.

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