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About TENZ

Technology Education New Zealand (TENZ) is a professional network working to support and promote Technology education in New Zealand. TENZ:

- 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.

To register for TENZ, visit www.tenz.org.nz.

National Technology Education Awards nominations now open

The national awards providing professional recognition for excellence in technology education instituted by the TENZ Trust Board with the support of IPENZ Engineers New Zealand, is now into its third round.

The first series of awards was made at the TENZ 2003 conference in Hamilton, with a second round of presentations being made at the 2005 conference in Christchurch. A third series of awards will be presented at this year's TENZ National Technology Education Conference in Auckland.

Awards will be again made in four categories:

Outstanding Contribution to Technology Education Award

This is the highest professional award made by Technology Education New Zealand. Those nominated may come from a school management, teacher education, classroom teaching, research, curriculum development, administration or 'industry' background. Recipients will have given service to technology education over a long period of time and made an outstanding contribution, showing commitment and leadership.

Teacher Educator in Technology Education Award

This award is made to lecturers, advisors, facilitators, consultants or teachers for their service to teacher development work in technology education. The category is for high quality work that has developed teacher understanding and confidence over a significant period of time in pre-service and/or in-service training.

Subject Leadership in Technology Education Award

This award recognises excellence in subject leadership. It is made for a



Diana Eagle receiving her 2005 Award from Professors Peter Jackson (IPENZ) and Alister Jones (TENZ Trust Board)

significant contribution over a period of time in developing technology education programmes in a school or organisation and achieving consistently high standards of performance from students.

Outstanding Teacher in Technology Education Award

This award is made to classroom teachers who have displayed outstanding capability in teaching technology over a period of time. They may be a coordinator or Head of Department or those not holding such positions but consistently displaying excellence in their teaching practice.

Nominations will be considered by a selection committee established by the TENZ National Council and the decisions made referred back to the full Council for ratification. Each individual award will be accompanied by a short citation.

TENZ members can obtain a nomination form by emailing TENZ@ipenz.org.nz

The closing date for receipt of nomination forms is **Friday 29 June 2007**.

TENZ CONFERENCE 2007

Auckland
02 to 05 October

Special TENZ Member Registration rates

Early Bird TENZ Member Registration: \$400

Standard TENZ Member Registration: \$500

Programme update:

"There need to be more presentations from classroom teachers! Teachers want to see and hear what works in other classrooms."
– Recent feedback from the ITEA 2007 Conference

The TENZ conference is planned around the revised Technology curriculum and the programme has been arranged around the three new strands – Technological practice, Nature of technology and Technological knowledge.

Although each day has a major focus on one of the themes, all themes are carried through the three days. As well as the papers and workshops that are being offered by conference attendees, a number of 'experts' have been invited to present papers specific to these themes.

The programme has been carefully structured to maintain a balance between theory and practice, and to accommodate all sectors in the education field. The programme will ensure that all teachers, at all levels are able to take something from this to support their teaching in technology.

Promotion

Flyers have recently been posted to all schools – if you're responsible for technology in your school, please alert staff to this and encourage someone from your school to attend. This is an opportunity to develop your understandings and go back to school with strategies to trial with your technology classes and departments.

Closing date for submissions

Closing date for submission of all paper and workshop abstracts is Monday 14 May 2007.

Website

www.tenz2007.auckland.ac.nz

From the Chair...

Wendy Fox-Turnbull, Chairperson of the TENZ National Council, recently had cause to write to the *Education Review* to counter critical comments on technology education published in their 23 February edition.

In responding to the criticism she detailed some of the important implementation issues which have had to be addressed in the ongoing task of embedding this new learning area into the NZ Curriculum.

In concluding her response she commented that "technology is an exciting and innovative curriculum which promises to be even better following research into the new curriculum. It should offer a balance of academic and practice opportunities to students and open pathway into a number of careers from trades to university.

"Compulsory only since 1999, this year will see the first intake of students who have had technology from Year 1 entering our secondary schools. Accordingly programmes of work and teaching will need to adjust upwards as these children progress through the secondary systems.

"A friend and teacher of Year 3 children in a rural primary school in North Canterbury recently taught her class about the internet and how it can be used for research. If children are learning this in Year 2 what will they be capable of when they reach Year 9 and beyond? Teachers need to think flexibly and need to challenge themselves to ensure they are meeting the needs of all students moving into the 21st Century."

TENZ members who wish to read the complete text of Wendy's response, titled 'Would the Real Technology Education Please Stand Up!' can do so by emailing TENZ@ipenz.org.nz

An ICT month for Techlink

This page keeps you informed of new developments on the Techlink site – the website dedicated to providing resources for Technology teachers and celebrating achievement in the classroom and beyond!

New ICT Beacon Practice case studies on Techlink

Techlink has recently added four new Beacon Practice case studies focusing on Information Communication Technology.



TEACHING IN AN ICT CONTEXT – Katikati College and Hillcrest High School Cluster

By linking together in a cluster ICT staff from both schools could share experience and work together to advance teaching learning and assessment in their ICT programmes.

This case study provides insights into assessment (including the development of alternative assessment schedules), getting the balance right between ICT skills and technological practice, and making programmes fun.

www.techlink.org.nz/GIF-tech-education/beacon-practice/ICT/BP604-Teaching-in-an-ICT-context/background.htm

ICT PROGRAMMES FOR JUNIOR STUDENTS – Year 10, Katikati College

This course aimed to equip students with a combination of ICT and technology practice skills and knowledge through the design and production of a CD ROM, a kiosk PowerPoint presentation based on a topical ICT issue, the creation of a website

using Dreamweaver, and a ‘Digital Creativity’ project.

www.techlink.org.nz/GIF-tech-education/beacon-practice/ICT/BP628-Junior-ICT-programme/background.htm

ICT PROGRAMMING – Year 11, Hillcrest High School

The Year 11 programme involves students researching and developing a computer program that addresses a real-life issue. Students learn programming principles, interface design, coding animations and interactivity. They learn that ICT projects don’t happen in a vacuum and are exposed to some of the social issues that come to bear on ICT projects.

www.techlink.org.nz/GIF-tech-education/beacon-practice/ICT/BP629-ICT-programming/background.htm

MULTIMEDIA CD-ROMS – Year 12, Katikati College

Students were asked to develop a multimedia solution to an identified issue. Students would produce a CD-ROM with some combination of text, images, audio, video, animation and 3D modelling.

www.techlink.org.nz/GIF-tech-education/beacon-practice/ICT/BP630-multimedia-CD-Roms/background.htm

New Student Showcases

KAIMAI RANGES CD-ROM

John Cordell, Year 12 ICT, Katikati College

In producing his interactive guide to the Kaimai Ranges, John demonstrated good technological practice and achieved a high quality outcome, incorporating photos, text, graphic images, audio and animations into the final product.

Read more at www.techlink.org.nz/student-showcase/ict/john.htm

WORMS POWERPOINT PRESENTATION

Paul Organ, Year 10 ICT, Katikati College

Paul made an informative presentation about worms – self-replicating computer programmes that infect the operating systems of computers, often with bad results.

Read more at www.techlink.org.nz/student-showcase/ict/paul.htm

Help us celebrate YOUR students’ successes

Do you have an enthusiastic student who has completed an excellent project? Techlink are eager to hear about such students and continually add new projects to the Student Showcase. To find out more contact Nick Maitland nmaitland@techlink.org.nz

Techlink email alerts

To be informed when new case studies are published on the Techlink site, then subscribe to Techlink email alerts, by sending ‘Subscribe’ in an email subject title to nmaitland@techlink.org.nz.



NZSMT Fellowships – don't miss out!

Applications for New Zealand Science, Mathematics and Technology Teacher (NZSMT) Fellowships for 2008 close on Friday 13 July 2007.

Each year up to 60 NZSMT Fellowships are funded by the New Zealand Government, to enhance teachers' understanding of science, mathematics, social science or technology and thereby improve the teaching of these subjects in schools. NZSMT Fellowships are awarded for between one to four consecutive school terms.

This prestigious award gives teachers the opportunity to be released from school on full pay for up to one year, providing an excellent opportunity for your personal and professional development and to gain a new perspective on your teaching and learning.

To underline what a great opportunity these awards represent, here are profiles of two 2007 NZSMT Fellows.

Cheese-making: Age-old biotechnology in modern times

Joanne Hutt from Shirley Boys' High School in Christchurch has an NZSMT Fellowship to study the biotechnological practices of making cheese and cheese products.

Working with cheese producers, Joanne is looking at the cheese-making process, from concept development and market research to product design and manufacturing; at how raw materials are chosen and how manufacturing processes are designed to make the most efficient use of these materials and minimise waste. She is also looking at career opportunities in the cheese industry and the gap between what schools teach and what employers need.

Joanne lives at Little Akaloa, a small bay on Banks Peninsula. Her interest in cheese-making began when she



Elsie Patterson, Chrissy Walker, Rose Fitzgerald and Elle Walker behind cheese moulds at a cheese-making workshop – part of the Fellowship's requirement is to share the knowledge gained during the programme

wondered why, given the resurgence in interest in handmade and homemade cheeses, none of the dairy factories on the peninsula, which had closed as a result of centralisation of milk processing, had re-opened as small, boutique cheese-making operations

Joanne describes her NZSMT Fellowship as "a whirlwind experience".

"It's a fabulous opportunity to be granted a year to research and share your passion and professional interest with others, while retaining your job and salary!"

Joanne's programme has included milking cows, attending lectures at Lincoln University, participating in cheese-making seminars, researching recipes and conducting "trial after trial after trial".

"Want to know how to make feta, camembert, mascarpone and farmhouse cheddar? Ask me! Now that the cows have dried off, I'm back to Lincoln to write up a summary of cheese-making in New Zealand and interview cheese-makers to get a personal touch to the narrative."

Reinventing new age technology

Peter Horne – Assistant Principal at West End School in New Plymouth – is based with a small New Plymouth company EcoInnovation, as well as with the Taranaki Research Centre at Pukeariki.

During 2007, he is researching and reporting on the principles and practice of different types of sustainable energy generation from the past through to today. He is also case studying energy generation devices appropriate to Taranaki and looking at ways to reduce energy consumption.

EcoInnovation is developing its product by fitting modified recycled Fisher and Paykel washing machine Smart Drive rotors and stators to Micro Hydro (Pelton Turbine) or EcoInnovation wind turbines. Extensive computer testing has been done on the output and efficiency of these energy generation devices.

So far, Peter involvement has included helping in many aspects of construction of wind turbines and installing them in Tauranga and Te Puke. He has also demonstrated the Ecotrailer during the Ecoday at the Sustainable Living Centre in West Auckland and to the field staff at the Department of Conservation in Turangi, where these devices can be used in a number of DoC settings

Peter's next step is to look into the appropriate sustainable energy devices for the Taranaki environment along with ways of reducing energy consumption.

How to find out more ...

NZSMT Fellowships are administered by The Royal Society of New Zealand. For more information contact teachers.fellowships@rsnz.org or visit the Royal Society website, at www.rsnz.org/awards/teacher_fellowships

NZ Curriculum Project – May update

Feedback on the reviewed curriculum has been received, collated and analysed by the Ministry and the final part of the review process is under way. The focus now is on making the minor changes identified to clarify and communicate intent and direction of the curriculum.

The writing group for the Technology curriculum met in Wellington early in May to consider the feedback and reports on the earlier drafts of the proposed curriculum and to complete the final version of the revised curriculum for the Ministry. It appears that the feedback and reports received for technology provided no strong mandate for major changes to the structure or intent of the October draft of the curriculum. Changes

that have been made have largely been to provide readers with further guidance and clarification around the intent and direction articulated in the Introductory Learning Statement and Achievement Objectives within the curriculum.

Later this month the Ministry will be finalising the curriculum document and the process for sign off by government. It appears that the final draft of the reviewed curriculum will be considered by the Reference Group during June and be presented to the Minister of Education by the end of that month.

It is then scheduled to go to Cabinet in July with the formal announcement of how it will be mandated made in September.

Level 1 Technology Achievement Standards Review Consultation

As part of the cycle of reviews, and as signalled in the Consistency Review last year, there is a full review of NCEA Level 1 Achievement Standards in 2007. The reviewed Level 1 Achievement Standards will be available for use in 2008.

The recommendations relating to the Technology Achievement Standards made during the 2006 Consistency Review can be viewed at www.minedu.govt.nz/index.cfm?layout=document&documentid=11481&indexid=1007&indexparentid=1004

The secondary school sector was invited to send in further comments and recommendation for change to the Level 1 Achievement Standards in February 2007.

The Principal's Nominee in each secondary school has now received a package containing the draft reviewed Level 1 Achievement Standards, the rationale for the changes and the consultation questionnaire for each subject, for distribution to Heads of Departments and Teachers in Charge.

The Consultation Questionnaire for Technology is available electronically on the Ministry of Education website at www.minedu.govt.nz/index.cfm?layout=document&documentid=8882&indexid=1007&indexparentid=1004

Questionnaires should be returned to the Ministry – either electronically or in hard copy form. To be taken into account, these must be received by 21 May 2007.



National Certificate of Educational Achievement
TAUMATA MĀTAURANGA Ā-MOTU KUA TAEA

LECTURE:

'Exploring artifacts in context'

2–4pm Thursday 17 May

Massey University College of Education, School of Curriculum and Pedagogy, W 1.12, Whareiti Building, Centennial Drive, Palmerston North

Maggie Rogers, Senior Lecturer in Education (Primary) in Design and Technology Education at Goldsmiths University of London, UK, will examine the values inherent in selected artifacts and discuss the relationship between these values and the design context.

Maggie will demonstrate the role of this work in technology teaching and initial teacher education.

Maggie's specialist interest in environmental education and education for sustainable futures through design and technology has been developed through Partners in Change funded by WWF.

Maggie is co-editor, with Professor Sally Inman of London South Bank University, of *Building a Sustainable Future: Challenges for Initial Teacher Training*, published by WWF in 2006.

Light refreshments will be available.

To confirm your attendance, email Wendy Osborne, W.Osborne@massey.ac.nz

Kiwis at global innovation forum

A New Zealand delegation recently attended the Larta Venture Forum – the world's largest and longest running showcase of early stage innovation and entrepreneurship – giving them the chance to pitch their breakthroughs to an audience of potential investors, partners and customers.

The Forum (www.theventureforum.com) held in San Francisco on 1 and 2 May, included an expo of technology from hundreds of early-stage companies, short business presentations by selected participants, and a range of informal deal-making opportunities.

The first ever New Zealand pavilion featured five companies and the commercial arms of four New Zealand universities.

The Forum is organised by the Larta Institute, a non-profit organisation specialising in commercialisation, networking and capital raising services.

Since 1993, companies helped by Larta have raised over US\$1.5 billion in capital. Larta works with governments, government agencies and leading research and development centres in the US and around the world to stimulate economic growth by mentoring the most promising innovations and emerging companies.

More information can be found in the news section of the ForST website at www.frst.govt.nz/News. This site is an excellent source of information on current commercial technological developments across a range of sectors.

DIY gaming for the classroom

Video game makers increasingly include toolsets in their products for users to edit and create their own games. Adventure Author is an educational initiative set to bring this creative technology into the classroom.

Adventure Author aims to develop creativity in students by turning them into game developers. It allows 10-14 year-olds to design and build 3D interactive, fantasy-based computer games – developing characters, writing dialogue, structuring plots and designing the visual appearance of a game, as well as dealing with technical programming issues and game testing.

The software is based on *Neverwinter Nights 2*, a popular Dungeons and Dragons game which comes with a toolset for fans to create and share their own adventure games.

The project, which has been developed at the School of Mathematical and Computer



Sciences at Heriot-Watt University in Edinburgh, is documented in the April issue of *CUBED* at www.britishcouncil.org/science-cubed-story-3.htm

CUBED is a monthly online publication from The British Council with a focus on innovation and design.

What's new on the Hub?

The second newsletter of the year from the New Zealand Biotechnology Learning Hub was released in April.

It includes information on:



EMARK: E-NUMBERS AND E-COLOURS

The eMark is a food label to help you make food choices based on how much energy you need. The information sheet provided shows how different foods give us different amounts of energy and the video clips explore the use of the eMark.

FOOD FOR ENERGY UNIT PLAN

In this unit plan, students are asked to design and make a new snack bar. The snack bar must be tasty, appealing, and contain different amounts of food energy.

The New Zealand Biotechnology Learning Hub April newsletter can be accessed on its website at www.biotechlearn.org.nz/news/newsletter/newsletter_april_2007

Futureintech update



Getting creative in the community

This year's Transpower Neighbourhood Engineers Award is open for entries from primary, intermediate and secondary schools between now and October. These Awards recognise projects which involve students working with an engineer to meet a perceived need in their school or local community. The aim is to encourage innovative thinking in the areas of engineering and technology, and to initiate students in the processes involved in a real-life context, demonstrating the wealth of possibilities technology has to offer. Projects can involve a single student, a group, a class or the whole school.

Successful projects must demonstrate good technological practice in identifying a problem, assessing the options and working towards a solution.

Winners in 2006 included a water feature to brighten the entrance to a school building; an outdoor chess game to add to the interest of the playground; a 'speedy scanner' to spare the backs of librarians from constantly bending; and a go-kart designed to appeal to teenagers.

To find out more about the Transpower Neighbourhood Engineers Award, visit www.nea.org.nz, or contact the Co-ordinator, phone 04-473 2021, email neawards@ipenz.org.nz.

2006 Transpower Neighbourhood Engineers Merit Award Winner, Otatarā School, Invercargil

Individual ingenuity – working one-to-one with Year 13s

A growing area for Futureintech is in supporting Technology at Year 13. Students at this level have the opportunity to work independently on their individual projects, discovering the satisfaction of turning their own ideas into reality.

In these cases students can benefit hugely from working alongside an experienced practitioner, who can advise them on their approach to design, research and the production process. Increasingly, Futureintech is being asked to provide Ambassadors to work with students at this level on an individual basis, to act as a mentor on a specific project.

Tracey Petley-Hibbs, food technologist with Nice 'n' Natural Ltd, Auckland, and an experienced Futureintech Ambassador, is currently working with a food technology student at St Kentigern College. Tracey's role is to act as an advisor on the student's highly original idea, helping with the development process and ensuring that it is brought to fruition.

If you have a Year 13 student who would appreciate some one-to-one expert

guidance on seeing a project through from conception to production, please contact your nearest Futureintech Facilitator.

Let Futureintech join the debate

We are often asked for Futureintech Ambassadors to speak to Year 13 Technology classes, particularly in the context of Achievement Standards 3.4 and 3.6. The requirement for students to observe the working practices of technologists is ideally suited to what Futureintech provides, and we are more than happy to help in this area.

We are also frequently asked for Ambassadors who are able to discuss the ethical responsibilities of their work, and the way that their own moral guidelines and professional standards, the company practice and New Zealand law inter-relate. These have led to some fascinating debates, with students enthusiastically engaging with the issues involved.

Contact your local Facilitator for more information.

North Auckland: Rod Hare
021 714 359,

rhare@futureintech.org.nz

Central Auckland: Angela Hart
021 479 892

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South Auckland: Gay Watson
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