PRIMARY INDUSTRY CENTRE FOR SCIENCE EDUCATION

NETWORK

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Teachers, Science, Industry and National Curriculum

Susanna Greig and Carissa Green (UNE PICSE) guide Mitch Smidt (O'Connor Catholic College, Armidale) through the PICSE resources developed for teachers at the UNE PICSE TPD event

Twenty science teachers from secondary schools in Armidale, Gunnedah, Guyra, Inverell and Tamworth spent two days at the University of New England on Dec 1 & 2, 2011 and discovered the latest advances in research supporting food security.

Edgar Cooper joined the predominantly New England teachers, travelling from his school in Perth WA to participate in this event. The Teacher Professional Development (TPD) is a core annual activity of the national Primary Industry Centre for Science Education (PICSE). Teachers all over the country were participating in similar activities which are run at the various PICSE Activity Centres by the PICSE Science Education Officers.

Mr Cooper, who received a travelling scholarship, said *"these PICSE events are some of the best professional development programs offered to teachers and the opportunities the PICSE program extends to our students are just terrific"*. In the week following the UNE PICSE TPD event, Yvette Ballard from Guyra Central School, travelled to Toowoomba to attend the USQ PICSE TPD also on a travelling scholarship.

At the UNE PICSE TPD event, teachers interacted with leading scientific researchers in various aspects of food production and environmental protection. The teachers were provided with lesson activity ideas for their classroom teaching and were shown and provided with teaching resources developed by PICSE, including the latest interactive program: Chemistry and Biology Interactive Lessons which was launched at this event.

The evening dinner function is a highlight of the event and the teachers thoroughly enjoyed an informative, thoughtful, inspiring and humorous address offered by Professor Iain Young, Head of School, Environmental and Rural Science, UNE. Iain outlined the issue of food security and the way science can provide solutions. We thank Professor Iain Young, Dr Chris Guppy, Dr Daniel Brown, Dr Darryl Savage, Dr Darren Ryder and Paul Lisle from UNE, Dr Gururaj Kadkol from the NSW Department of Primary Industries, and Belinda Pine from NSW Dept Education & Community for their contribution to this event.

Mitchell Smidt from O'Connor Catholic College in Armidale has been attending these PICSE events at UNE ever since they were initiated some years ago. *"It's been fantastic,"* he said. *"I've piloted some of the materials in the classroom, and it's worked out really well. The kids can get really involved in interactive programs."*

"It's been very informative – and great to see lots of new resources," said Anthony Gaias from Macintyre High School. *"I am thrilled to be able to take the new Interactive Lessons program back to the classroom where the kids will enjoy it."*

Susanna Greig, who runs the UNE PICSE program, said: *"These events really are valuable opportunities for teachers to be updated on current research developments, enabling them to pass this updated information on to their students. It's a terrific opportunity to work with teachers linked to the PICSE program to support students in discovering the exciting science linked to primary industries."*

..... From the Director

Growing Science in the Regions

Across Australia 168 PICSE Year 11/12 science students started the New Year actively checking out the tertiary and career options for young scientists. These carefully selected young people were linked in with passionate scientists in areas ranging from policy, research and extension. This is the pointy end of the PICSE program, where life changing decisions are made by these young people.

Prior to the PICSE Industry Placement Scholarship (IPS) program, most of these students had not had an opportunity to experience the relevance of their area of science to local primary industries. During this five day personalised IPS program, these young men and women develop a deep understanding of the vast array of exciting and rewarding pathways that science provides within our critical Primary Industries.

A hallmark of PICSE is its ongoing innovation, often sponsored by our industry and business partners. In 2012, PICSE and one of our valued partners, Dow AgroSciences, are designing an exciting innovation by extending PICSE's very popular Science Investigation Awards (SIAs) into *"cyberspace"*. Badged *"Science for Growth"*, this *"on-line"* program has been designed to assist teachers in the teaching of the National Curriculum strand *"Science Inquiry Skills"*, in which Year 9/10 students are required to be actively engaged with science through designing and completing their own investigation.

Science for Growth (S4G) will support science teaching in regional and remote schools, as well as schools in large towns or cities. Schools not registered for the "Science Investigation Awards" program can seek further information by emailing the PICSE S4G Coordinator at PICSE.Admin@utas.edu.au

Associate Professor David Russell

PICSE Students give the "thumbs up" to the PICSE Science Investigations

From Western Australia .....

More than just a Camp!

Twenty-five of the brightest science students from all over WA and two Travelling Scholarship students from the Sunshine Coast (QLD) and the South Australian Riverland were awarded 2011/12 PICSE Industry Placement Scholarships to attend the week long residential camp at the University of Western Australia during December.

Many students suspected that this would be just a nerdy science camp but little did they know that they would be making numerous industry contacts, building new networks and making friends for life. In addition, the camp provided a taste of the wide range of sciences that support Primary Industries and the variety of career opportunities. An emerging theme from almost all presenters was the opportunity to travel extensively both within Australia and internationally.

The biggest dilemma faced by the students at the end of the camp was the difficult task of selecting an area to focus on after finding out about the many study and career options within primary industries science.

"The Industry Placement camp made me aware of all the variety of areas in science to study that I had not previously known about," said Lachlan Crossley from St Stephen's School in Duncraig. *"The presentation by Megan Ryan and Dion Nicol on drought tolerance plants and the Future Farm CRC was so interesting, but so was the CSIRO presentation on genetic modification and the session by Professor Graeme Martin on animal production systems."*

UWA IPS Students during an industry visit at Kings Park Botanical Gardens

One of the standout features about the camp was the interest from all of the students and the range of questions that they asked the presenters from UWA and industry. *"The presenters were impressed with the depth of the questions asked by the students. The students have left lasting impressions with the industry representatives and by being involved in the PICSE program, it will benefit them greatly,"* said Belinda Pope, the UWA Science Education Officer. *"I have already been approached about casual employment for some of the students from our industry visits."*

... From the Strategic Development Manager

An Awakening of the Passion!

Dr Boris Baer, Bees and Population Sustainability, presents to UWA IPS Students

I was fortunate late last year to be given the opportunity to attend a PICSE student camp at the University of Western Australia. Why is this significant?

More often than not, PICSE investors and partners seek to report the tangible outcomes of the program: students visited, camp and industry placement numbers, industries involved, topics covered and future career aspirations and intentions. Whilst these are important metrics to report, the experience of attending the camp has left me with some vital intangible benefits of the program that often do not receive consideration or mention.

Like an infant taking its first steps, the student realization that they could be embarking on a lifelong journey, (involving discovery, global travel, friendships and adventure) like that of their presenters, is remarkable to see. This could be me!

This transformation is more than just increasing interest: it's the awakening of passion. On more than one occasion, I witnessed an outwardly shy and reserved student start chatting to fellow students, ask probing questions of presenters and university staff and almost without exception, seek out the career pathway.

By the completion of the camp, students had commenced their very own professional network. Contact details, websites, organisations of interest, all recorded for follow-up and future interaction. They are also more knowledgeable, confident and outgoing, knowing that they have been taken outside their comfort zone and succeeded.

This experience has reinforced to me that a critical function of PICSE is the exposure of the many and varied science disciplines and fields of research (underpinning Primary Industries) to impressionable students at the cusp of considering future career options.

Earlier this month, the PICSE Senior Management Team conducted a workshop to develop a strategic plan for the next three years. A focus of this plan will be to boost the exposure and facilitate increased interaction of industry to students and showcase the world-leading science conducted here in Australia.

Vic Dobos

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