AMQ International

Strategic Asset Management

Issue 198 Aug 21 2006

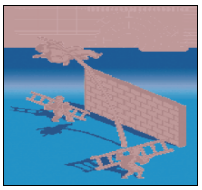
SKILLS SHORTAGES 2. - Creating Solutions

p.130

"We are all fishing in the same pond, and it is drying up!" Outcomes from the National Skills Summit, 2005

pp.131-132

The creative work of the IPWEA **"We have a pretty good idea of what, but how?"**



pp.133-135

"Of the Wall" Solutions Does AM have to be done by engineers alone? Where can we look for new recruits?

p.136

"Water, water, everywhere, yet not a drop to drink" Can Good Asset Management and Good Environmental Sustainability help the skills crisis.?

"Down here we poach from each other !"

Local Gov Asset Manager
Tasmania

Poaching is a short-term solution. But skill shortages are a long-term problem.

Awareness of the problem of skill shortages has accelerated enormously in the last few years, more so in the last few months! Everyone can now see that it is a problem whose time has come.

In this issue, I look at some of the creative solutions that are being tried – and some even more creative solutions that are not being tried – yet! I call these my "off the wall" solutions and we need more of them.

I will happily publish your 'off the wall' solution. If the traditional answers are not giving us what we need, we need to look to the non-traditional.

Consider and Enjoy!

Penny Burns

Researched and written by Dr Penny Burns, AMQ International,. unless otherwise specified, Published fortnightly. Subscription, Comment, or Inquiries to

AMQ International
PO Box 75 Salisbury South Australia
Tel 618 8281 5795
Email: sam@amqi.com Website: www.amqi.com

"WE ARE ALL FISHING IN THE SAME POND, AND IT IS DRYING UP!"

Key Points

- **NSSS takes a short-term perspective**
- **No recognition of the longer-term issues**
- **Industry reaction has been to**
  - **Produce careers promotion CDs**
  - **Produce careers promotion websites**
  - **Advocate more training**
- **All effort directed at the youth market**

The Australian Government's National Skills Shortages Strategy, a year ago, recognised that skills shortages were a problem, but they approached the problem as a 'short term problem' *and did not recognise it as a problem that would get worse as the population aged.* They acknowledged that there were a number of reasons why we face skills shortages. The ones listed were:

- strong economy with low rates of unemployment;
- growth of new industries with few ready-skilled tradespeople available;
- relocation of new industries into different regions with a different skills base;
- lack of interest in particular industries among potential job seekers;
- location of industry, or project-based work, in rural or regional areas with a small skills base;
- technology changes within an industry, especially production, resulting in new methods and therefore skills needs; and
- changes in underpinning skills needs to successfully undertake trade training for example, Year 12 maths for technology trades.

While all of these are important, the impression is created that this is a problem that is localised, restricted to particular types of industry *and short-term.*

We have all seen the demographic charts: the youth segment is projected to reduce over the next 15 years. If we are all fishing in this same, increasingly smaller, pond, what hope do we have?

You can access the National Skills Strategy website at:

http://www.getatrade.gov.au/skillshortage.htm

The website reports the actions taken by the 11 industries that took part. There is a great sameness to them. The focus is on 'building a great careers CD-Rom or website" and promoting training. All are focussed on the youth market.

This may be a reflection of the interests of the Department sponsoring the summit. But is it enough?

Also it is possible that each industry is also doing something more imaginative, looking at different sections of the population, trying different approaches, but they are not being promoted on this site.

"WE HAVE A PRETTY GOOD IDEA OF WHAT - BUT HOW?" (The creative work of the IPWEA)

Key Points

- Addressing the issue of retaining current workforce and attracting back those recently retired
- Encouraging young people into engineering by providing
  - work experience
  - "a good" experience
  - traineeships, etc
- Commonwealth funded engineering positions have not increased in 10 years
- Universities teaching more but to students not eligible to join our labour market
- When the boom ends, it does not mean that there will be a flood of engineers onto the market
- University of Western Australia being pro-active with their UWA Civil Engineering Futures Foundation

The **IPWEA** is also seeking to attract young people into local government engineering positions. BUT – and perhaps because their job is the hardest – they are trying harder!

Yes, they have a great website with career opportunities, but they don't stop there.

They have appointed a specialist Skills Consultant in Richard Usher. Realising that knowing 'what' you can do to encourage young people into local government infrastructure is not the same as knowing 'how to do it', especially as the number of administrative and legal conditions surrounding the employment of young people increase, Richard has produced a set of guidelines and templates for

- Retaining the Current Workforce (including Potential Retirees)
- Work Experience
- University Undergraduates Guide
- Position Description Template
- Secondary School Students Guide
- Careers Expos Guide
- Cadetships for TAFE & University
- Template Cadetship Agreement
- Scholarships
- Mentoring
- Employing Overseas Engineers
- EngQuest - A Guide

All of these can be found on the IPWEA website.

- **http://www.ipwea.org.au/news/261.html**

➔

I spoke with Richard last week and I queried the story that engineering places at Universities were 'going begging'.

Not so, says Richard. **The number of Commonwealth funded positions in engineering has not increased in the last ten years** and all are taken up as far he knows. Universities will tell you that they are increasing their engineering training and this is true, about **20% growth in the past ten years, BUT this is not training for Australian students but rather the on-shore and off-shore training of others.** "They graduate with our qualifications, but they are not eligible to join our workforce", says Richard.

Resources Boom and the Demand (and possible future supply) of Engineers

In both Western Australia and Queensland the mining boom is drawing in much of the available engineering talent. Even when the boom comes to an end, and there is no sign of that happening in the near term, it does not mean that large numbers engineers will be released onto the non-mining market, for the assets now being constructed will need to be maintained.

In the Netherlands where they realise that their North Sea Gas is a non-renewable resource that is running out, the Government is sensibly using the windfall gains from the sale of gas to fund training and research that will stand the country in good stead when the resource is exhausted.

Why can we not do this in Australia? And use some of the funds from OUR windfall to fund the training of engineers and other needed professionals? If enough professional organisations adopted it as a policy to approach the Government on this basis, maybe something beneficial could happen?

UWA Civil Engineering Futures Foundation

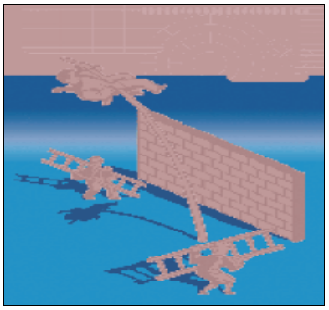
In the meantime, the University of Western Australia has had the wit to tap into both the need for, and the ability to pay, of industries currently benefiting from the WA resources boom. They have set up the UWA Civil Engineering Futures Foundation. You can find out more about this at

http://www.civil.uwa.edu.au/foundation

where they describe the program as one aimed at:

> "increasing the number of students undertaking Civil Engineering, enhancing their experience at UWA, and providing them with opportunities to interact with industry.
>
> Firms and organisations are invited to contribute to a fund which finances a range of activities dedicated to the promotion of Civil Engineering as a career. The fund is held in the School of Civil & Resource Engineering at UWA, and is administered by the School's Industry Advisory Panel, which comprises representative directors and senior engineers from leading local firms."■

"OFF- THE- WALL" SUGGESTIONS



Ideas

1. **The "Offshore Solution" to reducing the costs of training for both the community and the trainee.**
2. **Tap the Markets Others Have Not Yet Seen**
3. **Redesign the job to make it do-able by the lesser skilled. Take a leaf out of the military manual.**
4. **Watch what you say, and write! You could be encouraging the wrong responses.**

1. The "Offshore Solution"

Reducing the cost of training

The cost of training a civil engineering (any engineering) graduate is high. For Commonwealth funded places, the cost may be around $150K per place.

For Students, costs are

- HECS fees of about $20K to $28K if deferred until income earning starts, PLUS
- Funding living costs for 4 years.

What about training our own students offshore? There are excellent training facilities in both Malaysia and India, where both the cost of training and the cost of living is far less than it is in Australia. This would be cheaper for the Commonwealth and for the Student.

Australian lecturers are already teaching according to Australian standards in offshore locations but their students are local students who do not enter the Australian workforce. So why not use our lecturers and our standards to teach our students?

Extra benefits may include: developing communication skills, being ambassadors for Australia and having the 'overseas' experience.

2 Tap the Markets Others Have Not Yet Seen

Everybody wants to train the young. (see "Fishing in the Same Pond", p.130) but why limit yourself to this market?

Labour markets currently neglected.

- Women over 40 who haven't been in the workforce for 10 to 15 years
- Those of any gender and age whose grasp of the English language is not strong

Are these people 'trainable'? How can you doubt it?

Take a woman who has spent the last 15 years raising children. There is someone who has 'learnt on the job' many critical life skills. Experience has shown that, provided with a job, these people prove to be the most loyal of employees. They do not 'shop around' trying to get promoted or to 'fast track' their career.

Many non-English speaking migrants and refugees held responsible positions in their own country and it is mostly the rules that we imposed years ago, because we wanted to protect what were then 'scarce' jobs, that they have been blocked out of consideration with their original qualifications. Instead of making these people resit exams for qualifications they already have and to do it in a foreign language, why not reduce their workload by giving credit for knowledge already gained, train them in the gaps and spend the time saved in learning English communication skills? (Side benefits of this for community integration are too obvious to be stated!)

3 Job Redesign

Deconstruct or "How to disassemble and reassemble a rifle in 60 seconds".

When you were conscripted into the army during wartime, you did what the army needed which may not necessarily have been what you are trained to do.

So whether you were an orthodontist, accountant, bus driver or a jazz singer, you were likely to end up working as a mechanic and stripping down and repairing a two-ton truck.

You were not taught mechanical theory, there was no time for that. Eventually, you might have got a posting to another depot and learnt to extend your skills to three-ton trucks, or to motorcycles. In other words, you learnt on the job – and you learnt only what was strictly necessary for the task in hand.

Most people managed most jobs that they were set to do!

What would it take for us, today, to get some retired military personnel to 'deconstruct' some of the jobs that we need to have done, and then to teach them to our currently unemployed?

How would we make this work?

4 Watch what you say!

We could change the way we write and speak! For example, How do you react to the following?

"And this project will create 600 jobs"

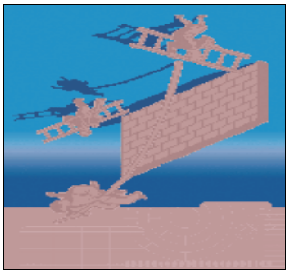
What if we were to say?

"And this project will require us to find - and fund – 600 skilled positions"

Same fact, but different slant!

"Creating jobs" was of critical importance when unemployment was high, but Australia is now in the 15th year of continuous expansion. Unemployment is low. Those who are unemployed are so largely because they do not have the skills, and sometimes the willingness, to do the jobs that are available. Simply 'creating' more jobs will not help us to reduce their numbers. It will just put further strain on those who already have jobs. And that is what we are seeing now. But old ideas take a long time to die!

AND TWO 'NOT- SO- OFF-THE-WALL' SUGGESTIONS



Ideas

1. Increase the range of disciplines able to carry out Asset Management tasks
2. Lobby the Government to increase the numbers of commonwealth funded places in engineering and to grant Commonwealth Engineering scholarships that provide Hecs-free tuition.

#1. Increase the Range of Disciplines Involved in Asset Management

The Engineering Associations have taken on the challenge of addressing skills shortages with vigour. The IPWEA (pp.131-132) are particularly creative. But asking engineers to find ways of achieving outcomes with fewer engineers is a bit like asking asset managers to achieve outcomes with fewer assets!

So we really need to spread the task of creative asset management solutions to other disciplines. **Can accountants, planners, administrators do more of the tasks that are currently being done by engineers?**

#2. Federal Engineering Scholarships

Why would anybody in their right mind do an engineering degree? It is four years (at least) hard work with no income, and when they graduate it is not to receive really great salaries and great community respect (although the current skills shortages are probably doing something to correct that).

If the community wants young people to make this sacrifice then they should show that they appreciate them for it!

I would suggest that the Engineering Associations band together and lobby the Federal Government to increase the number of funded positions and provide Commonwealth Scholarships for Engineers that provide training Hecs-free. The cost to the Government would not be great: 100 such scholarships would cost less than $3 million and the full cost of training, around $20m. A trifling fee for the wider benefits to the community.

It is not that this is without precedent. The Federal Government has reduced Hecs fees for young men wishing to take up training as primary school teachers in recognition of the greater value to the community of such teachers.

Today, thousands of jobs are flooding into India because of the vast numbers of highly trained, intelligent, engineers (particularly IT engineers) that are available there at low rates. Because of this many thousands of non-engineering jobs are also being created. For each engineer employed, many unskilled jobs are supported. It also works in reverse! For each engineering position that goes offshore, we also lose the supporting structure.

WATER, WATER, EVERYWHERE—YET NOT A DROP TO DRINK!

Key Points

- **A non-asset solution to the water crisis**
- **Switch water from low value usage to high value usage**
- **We do this for other assets and resources!**
- **Reduces pressure on skilled resources to both construct and maintain infrastructure not required**

Doctor Who Fans
You may have noticed the strong asset management themes in recent episodes. In one, robots are forced to cannibalise human body elements because they have 'run out of spare parts' and in the latest, 2-part episode, the Cybermen are created as part of the 'ultimate upgrade—an infinite life extension for the human asset.' **A sign that asset management has 'arrived'?**

Asset management is about more effective use of assets. If we are successful in this we

- Reduce the demand for assets
- Reduce our drain on world resources
- Achieve long term environmental sustainability.

Sometimes Visitors can see our issues more clearly than we see them ourselves. A visiting water expert from Rotterdam, the Netherlands, recently stepped where angels fear to tread. Speaking on the ABC after a conference in Queensland, he made two important and valid points:

Recycled water…

That as a long time resident of Rotterdam he had been drinking 'recycled' water for years – "anyone who lives at the end of a river system has" (*next time you criticise the quality of SA water you might think about that!)*

Or Dams?

When asked whether Queensland should adopt recycled water or dams to meet the city water crisis , he said that **there was a much cheaper solution than either.**

Households are relatively low consumers of water. (The ABS statistics confirm this: in 2000-2001 of 24,909 gigalitres consumed **9%** was by households and **60%** by agriculture)

Switch water from low value agriculture to high value residential!

If agricultural use were reduced by 10%, the household water problem would be resolved -much cheaper, quicker and more effectively than by building dams or convincing people to drink recycled water! Given that much of our agriculture production is low value exports and that households value a litre of water far higher than the price paid by irrigation farmers, it should be possible to buy the water back!

Politics to one side, does it not make sense? And if it makes sense, should we not be at least discussing it as an option? Sometimes it takes a visitor to state the obvious.

And reducing demand for unnecessary dam infrastructure would reduce demand on scarce engineering resources!!