

WorldSkills Australia 2012 Nationals Planning Workshop

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Keynote address: Mr. Jack Dusseldorp, President, WorldSkills International

“21st Century skills and education as the vanguard to a more sustainable future.”

1. INTRODUCTION

How often has it been said; “Sustainability is not a destination; it is a journey!” But still people keep looking to nail down particular technological features of what is sustainable – they want to say that it is about certain sorts of energy technologies, it is about a particular type of water technology, it is about this way of treating waste.

Yet these technologies are transient; we know there will be smarter, more sustainable ways to do things in the future. But what we don’t yet know is what these emerging solutions will be.

So really, our mission in WorldSkills, is to equip the future’s leading technologists – today’s WorldSkills competitors – with the skills to adapt to new and more sustainable technologies, and be ready to adopt emerging solutions to the complex problems that make our current world unsustainable.

I see WorldSkills, and particularly our regional, national and international competitors as the vanguard of sustainability, they are the ones exploring all of our futures!

As a society we need to equip our young people with the skills to navigate the future, not just the present. If we don’t we are underestimating young people– they want to set sail!

It is increasingly clear that our educational institutions that we rely on to deliver tomorrow’s technologists are not able to meet the challenges of the future alone. The reasons for this are many and complex, but in the end we face increasing skills shortages at the same time as youth unemployment and disengagement rises. I believe these young people are hungry for something that they are not

getting – they are telling us “don’t give us another exam, give us a challenge and a place in the new world!”

This disaffection and hunger is at least partially explained because all around the developed world political and educational leaders continue to reinforce the false demarcation that communities draw between the ‘skills of the head’, pursued through academic study, and “skills of the hands”, learnt through vocational education and training. Globally, communities are valuing the head above the hand. Not only is it false to separate the two, but to value one above the other is an exercise in futility.

It has been clear for decades that vocational training needs to equip those entering the work force with administrative, analytical, research, business and inter-personal skills as well as technical and manual skills. The hand needs a head.

Computer diagnostics are now standard in many trades – they have been part of automotive mechanics for many years – and now, for example, smart meters are becoming a standard household electrical fixture. Administering the small to medium businesses that many vocational students work in has become increasingly complex and requires business and financial planning skills.

Technical standard and manuals proliferate and change rapidly, they need to be regularly tracked down on the internet, requiring research and analytical skills. Not only this, but customers are asking their tradespeople for advice on appliances and fit out – essentially customer service and design skills.

What may be clear to us in WorldSkills is not yet, accepted wisdom in our communities, either here in Australia or in many other countries around the world.

So while vocational skills are highly sought by our society, vocational education struggles to deliver to this demand. Certainly, as I’ve argued, part of the reason for this is an ongoing prejudice in the community that vocational skills don’t warrant the regard accorded to academic skills. This contradictory position – shared across Europe, the UK, Australia, Japan, China, the United States and Canada – values the output of vocational education but not the input or the process of delivery. Across the modern world VET tends to be a poor cousin in the educational hierarchy, a status that has discouraged talented young people for generations.

The skills required to explore our futures; the skills that we as a community ought to value - sustainable skills - are both conceptual and practical. They will be practiced right across the economy. Already today financial analysts routinely review the carbon risk exposure of investments; hairdressers sort their waste streams; university deans develop campus environment plans; plumbers install rainwater and grey water tanks; travel agents sell carbon offsets; construction carpenters review forestry certifications etc.

So I suggest to you that embracing sustainability, as WorldSkills Australia is doing now, allows vocational education to forge a 21st century identity; one in

which the mobility of VET students and the way they learn on the job, to help transform workplaces into learning places for sustainability education and training.

This offers the means of winning community acceptance for a parity of esteem between academic and vocational knowledge and skills.

Sustainability is the heart that unites head and hands!

2. WHAT DO APPRENTICES' & TRAINEES' THINK ABOUT OF SKILLS AND SUSTAINABILITY?

So, what do apprentices and trainees think about skills and sustainability? After all, they are the ones that that are exploring our futures.

A recent major survey of competitors at the WorldSkills Australia 2008 and 2010 National competitions asked just this question.

According to the survey there has been a significant take up of green skills in Australian workplaces and courses in the last 3 years. Apprentices and trainees recognise that increasingly all their jobs could be green.

Beyond this, what kept coming through in the survey responses was that these young people want to embrace sustainability practices. "[I]t's a great practice to pass down to younger generations" said a 17 year old electrical installer from Queensland. What's more, apprentices' and trainees commitment to sustainability has remained consistently high over the last 3 years – that is before and after the GFC. We know this because the survey was previously run in 2008.

The survey shows that apprentices and trainees clearly recognise a strong imperative to practice sustainability, more than twice as strong as any practical benefits that might encourage them. In fact they appear to be fairly unsure of the practical benefits of applying sustainable skills and only dimly perceive any market signal from employers and clients in terms of price or employability. They are certainly not looking to Government regulation and legislation for answers.

The WorldSkills competitors that were surveyed understand that that sustainability is more complex than just being green, but they also understand that environmental issues are central to our common future. A 25 year old cabinet maker from NSW said that learning about skills and sustainability is a "Fundamental condition of work: Good efficiency and waste management equal greater profits/results."

Apprentices' and trainees' acknowledgement of the professional relevance of sustainability may be attributed, at least partially, to efforts in Australia (and all across the world) to introduce sustainability into vocational education. Over the last 3 years the number of Australian apprentices and trainees who say they

have not learnt about sustainability has dropped from 36% to 19%. Similarly, apprentices' and trainees' learning of sustainability skills from all sources has increased on average by 130% in the last 3 years.

These encouraging results indicate some early success for the shift toward a more comprehensive sustainability agenda across many occupations and industries, with sustainability increasingly becoming embedded in training, especially on-the-job, but also in more formal training. This is also encouraging for the recent efforts to evolve holistic government policy frameworks.

For example, I understand in Australia that, as part of the implementation of an inter-Governmental Green Skills Agreement, all (or most) training package now incorporate environmental sustainability considerations.

While, in Australia, significant progress has been made teaching the importance of sustainable practices at TAFE and other places of training, the survey showed an alarming gap between young peoples' personal and professional interest and their confidence that they have the knowledge needed to respond.

The survey showed that in 2011 Australian apprentices and trainees remain highly confused about the how to respond to the challenge of environmental sustainability. They don't see:

- A clear market signal, either from clients or competitors;
- A clearly communicated commitment from employers; or
- A clearly communicated commitment from educators.

While TAFE is apprentices' and trainees' main source of learning about sustainability skills in 2011, as it was in 2008, and employers also provide a major source of learning; learning from interpersonal sources, such as friends and family and social media is growing exponentially. These young people are reaching out beyond the traditional sources of vocational learning in their search for answers around sustainability.

It is important to note that this is a global phenomenon. Australian is not alone in struggling to green its existing vocational training system.

In Germany, (where they've just announced their commitment to phase out nuclear power in favour of renewable energy alternatives), over the past decade or more, many occupations and associated training curricula have been adjusted and refined to take account of the skills needs of eco-industries.

Given the skills and competency requirements of the eco-industries, specialised environmental occupations have also been created. But even in German, with a substantially longer track record in integrating sustainability into skills, a lifelong learning system is needed to provide the skills demanded by labour markets rather than specific workplaces.

Alongside Australia other countries are looking to close the gap with early movers like Germany. Over a very short period, Korea has restructured a large

number of policies and strategies across different ministries to align with centrally focused green growth initiatives.

We now begin to witness signs of a paradigm shift to green growth and sustainability across Korean society. In Korea, vocational education and training has not traditionally focused on green jobs. But now diverse delivery mechanisms are being utilized for green skills development, ranging from short-term training courses and seminars to formal education offerings such as specialized graduate school programmes, to e-learning and on-the-job training.

As part of an international community of expert practice, WorldSkills Australia is ideally positioned to directly respond to apprentices and trainees reaching out for sustainability skills.

The WorldSkills movement is made up of the mentors, the teachers and trainers and thought leaders that young people are now looking to for answers on how they are to build our common future. The WorldSkills movement has the potential to share and transfer new sustainability skills and new approaches to skill development around the globe.

3. WHERE CAN AUSTRALIAN APPRENTICES AND TRAINEES FIND THE SKILLS THEY WANT?

Achieving sustainability is a bigger and more complex issue than providing new skills as the demand arises. It is my belief that to help our young people build our common future we will need to re-imagine a vocational learning community which is dynamically linked to equally re-imagined industrial and business communities. What is needed is a new approach to skill formation which has VET working strategically with industry, government and community agencies to achieve agreed economic and social goals.

A UNESCO Discussion paper has eloquently encapsulated the challenge:

"The process of re-orienting VET towards sustainable development is a broader and more pervasive task than that of revising syllabuses and devising new teaching and learning materials that incorporate principles and examples of sustainability... The crisis of unsustainability cannot be solved by the same kind of education that helped create the problems... Schools, colleges and universities are part of the problem."

The chance of these sorts of reforms being implemented relies ultimately on the willingness of people in education, the community and the private sector to work together in new ways.

I believe WorldSkills remains one of the more effective means to achieve this goal, here in Australia and on a global basis, through the cooperative action of its Members through the skill competitions, through education initiatives, and

through advocacy and action research – a field of endeavour that is being taken up by the newly formed WorldSkills Foundation – whose first action research project is to globalize research into what constitutes vocational excellence; research that was initiated in Finland and adapted in the UK and at WorldSkills Australia's 2010 national competition in Brisbane.

The modelling vocational excellence (MoVE) on-line survey collected data on the WorldSkills experience from over half of the national WorldSkills competitors. Overall the survey found that the competitors highly valued their association with WorldSkills. Only 9% of competitors responded that their experience was disappointing. 20% said that it was much more than they expected, with the remainder saying it was either better or much better than expected.

An overwhelming majority of national competitors regarded WorldSkills as likely to be beneficial in their career. Competitors also clearly regard WorldSkills as an important learning opportunity. Significantly, 45% of the national competitors said that being 'stretched to learn new skills' was most important, while 34% thought that benchmarking and receiving feedback was most important.

At a deeper level, what the MoVE research highlights is the increasing importance of the so-called 'soft skills' as expertise develops. The research found that self-regulation and self-management contribute significantly more than natural ability in the development of vocational expertise.

The MoVE Research also highlights the success of WorldSkills as a community of expert practice. This success in engaging and motivating its young participants suggests that WorldSkills plays an important role as an aspirational community for vocational students, trainees and apprentices.

These findings, I think, position you all in the vanguard of skilling the collarless workforce of the future.

WorldSkills Australia, and the Worldskills movement globally, is a uniquely placed network of people and expertise, able to influence and shape the learning of 21st Century VET.

4. CONCLUSION

The further we travel into the 21st century the more pressing will become the need for high order skills and for a new way of understanding what vocational education means. Formulating and applying solutions to emerging problems of water and food supply, capturing carbon and recycling materials are matters for high level skill, deep applied knowledge and the capacity to theorise and solve novel problems.

It calls for a new way of understanding the relationship between practical skills and knowledge production. It calls for strategies to enable specialists from different fields, skill types and levels, to work together as high-order problem solving teams.

21st Century skills & education: The vanguard to a more sustainable future

More than ever, guidance, advice, mentoring and brokerage will be critical if young people are to be truly at the centre of learning and skills development. These intermediary roles can help turn large and impersonal systems into accessible networks, particularly for young people who are at the margins of mainstream provision.

After nearly 30 years involved with WorldSkills – the last 12 as its President – I have witnessed a dramatic increase in interest in VET from both government and industry in all parts of the world. As a global community we need the new integrated skill sets and knowledge to navigate our common future. What Government and industry have not been so successful at is engaging and equipping young people to meet this need.

I hope that the leadership you are demonstrating here today to develop excellence in sustainable skills will show the way forward as we have done in so many aspects of the WorldSkills movement.

More that this, WorldSkills Australia is providing the means for the Australian community to see and understand the practical connection between higher order vocational skills and our sustainable future. This will inevitably help our politicians and their constituents to see VET in a new light and appreciate skill competitions as an effective means to take us all forward.

Thank you.