



Workforce Futures:

Towards an Australian Workforce Development Strategy

Skills Australia would like to hear your views on *Workforce Futures* and welcomes your written submission by **6 November 2009**.

To assist with the analysis of submissions received, we request that feedback is provided using this template. Your co-operation is appreciated.

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Please email submissions to secretariat@skillsaustralia.gov.au

Submission information

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Workforce Futures:

Background Paper One

What does the future hold? Meeting Australia's skill needs

The *Workforce Futures Overview* paper raised a number of questions relating to Skills Australia's proposed approach to developing an Australian Workforce Development Strategy. In this section, we seek your feedback on questions relevant to meeting Australia's skill needs. *Background Paper One* at www.skillsaustralia.gov.au/Publications_and_Resources highlights a number of issues for discussion which are relevant to your response.

Please provide feedback to these questions in the boxes below. A space has been provided at the end of the section to provide feedback on other issues you wish to raise.

Future skill needs and projections

Q1. Are Skills Australia's interpretations of our future skill needs reasonable? Is there other evidence or analyses that should be considered?

1.1 Forecast timeframe is insufficient

In the section "Narrowing the focus on skills needs", the comment is made that "Because they are forecasts, a five year time-frame {for occupational and industry projections} is considered reasonable". This approach seems inconsistent with the identification and addressing of occupations for national planning identified in the second paper, where a key requirement for action is "where the skills are specialised and there is a long lead time to develop them". By definition, if you identify a skill-set that will be at a critical shortage within 5 years; and it takes a long lead time to develop that skill-set; then you cannot address the shortfall by developing it. My advice is to consider forecasting trends over a longer period than 5 years... forecasts can be difficult and are not predictions, however the approach outlined in the papers (trying to address skills shortages with a 10-20 year development time in 5 years or less) seems to be self-defeating.

1.2 Notes on the interaction between supply and demand:

When performing scenario analysis, we encourage our clients to consider both supply and demand for output and the trends and factors that might affect them.

We see the aim as being able to match supply and demand – note that this is subtly different to increasing supply to meet demand; as the gaps can be closed by changing demand

management where you know that you will not have the capacity to meet a demand.

Where supply and demand don't match, there is an opportunity cost regardless of whether supply is greater than demand, or vice-versa. Where demand for skills exceeds the availability for skills, the opportunity cost is the lost output / capacity due to the lack of capacity. This seems to be well understood in the discussion paper.

There is also a cost associated with supply exceeding demand; and this has received only limited attention in the discussion papers. Where the supply of skills exceeds demand, these skills will be underutilised and will drop off (through attrition or re-skilling) until supply and demand reach equilibrium. In this case, the lost opportunity is that of having trained some of those individuals in skills that are in shortfall, rather than those which are in surplus. This is inefficient and signals poorly targeted training.

Most importantly in this regard is that the cost of not matching supply and demand is cumulative – it is not just how closely supply meets demand in 2025 or 2030 that matters, but the cumulative over and under-supply of output in the period between now and then that is the true cost.

1.3 Notes on the granularity of forecasts

There is a natural tendency when analysing large sets of data to aggregate to a manageable summary. This is fine in general, but can be problematic if it hides variance that would be obvious if a deeper analysis was performed.¹ My concern in this regard is that unless the analysis is done (and reviewed) at a very granular level, significant gaps between the supply and demand of skills may be missed.

1.3.1 Example Scenario: Hiding deficit and surplus by aggregation

One scenario to illustrate the problem of variation in aggregated data would be where scenario analysis shows that there will be neither a surplus nor a deficit of engineers by 2025. In actual fact, it could be that by performing the analysis at a more granular level, it would be shown that there will be a surplus of 10,000 Electrical Engineers and a deficit of 10,000 Civil Engineers by 2025. Overall, there is no surplus or deficit of engineering skills; but not all engineering skills are transferrable – and they take a long time to competence.

1.3.2 Real-world example: Victorian Teachers, 2001

To use a real-world example, in 2001 analysis of graduate teacher areas of speciality in Victoria showed that there would be an estimated 439.80 new government teachers available in 2002, and compared this to 423.30 vacancies that were "difficult-to-fill" in 2001². At an aggregate level, this is a great story – 439.80 teachers for 423.30 positions equates to a 3.8% surplus of teachers. It is only by breaking down the teachers (and the positions) into speciality that the true picture emerges – that 202.1 teachers (51.2% of all available teachers) will not be able to be employed in their area of speciality; and that 137.7 positions (41.7% of the difficult to fill positions) would be unable to be filled with a qualified teacher. In this real-world scenario, analysing at only an aggregate level would hide very real and significant problems.

In the discussion paper, high-school teachers are identified as being the profession with the 3rd

¹ This is further discussed in my blog post at <http://bit.ly/3wjoZL>

² *Teacher work force planning (2001)*; Part 4: A statistical overview of teacher supply and demand; Table 4P - "Difficult-to-fill vacancies in secondary schools, 2001, and number of new graduate teachers per government school vacancy", Victorian Auditor-Generals Office; http://archive.audit.vic.gov.au/reports_par/agp7304.html, retrieved 4th November 2009.

highest growth in the number of new jobs between 2009 and 2014. Based on the above example, I would recommend deeper analysis as to which particular specialities of high-school teacher will be required. In the report cited above, 22% of all available graduates had a biology specialisation; there were 55.38 graduates for each vacancy. Therefore if that any program to encourage people into the teaching profession was not targeted, it is feasible that 22% of all people who were attracted to teaching as a result of the program would be attracted to doing a biology specialisation. This would be counter-productive as it would a) exacerbate an existing problem of an over-supply of biology teachers; and b) not solve the actual problem of a shortage of teachers with other specialities.

A risk-based approach

Q2. What is your response to our proposal that governments should adopt a risk-based approach to skills planning? What do you see as the respective roles of industry, governments, education and training organisations and individuals in planning?

The risk-based approach seems very sensible, but there are some concerns about the method of identifying the risk-based occupations, in particular the granularity of the analysis (see response to question 1, above).

Criterion A, "Long Lead Time", identifies occupations that take a long time to competence only by looking at those occupations that are related to formal training. In reality, however, there are a great deal of very critical occupations that take significant experience to come to competence, but are not VET or University-related – or, that VET or university training is not the main requirement to be competent in a role.

One example that comes to mind is Air Traffic Controllers (these employees take a long time to competence; are critical to the running of the country's infrastructure; and are trained by a company, not a recognised education provider). Under the model proposed, it appears that a critical shortage of skills in this area would not be identified. There are also many professions (architects, politicians, journalists, analysts, and indeed most professions) where time to competence is significantly longer than any formal education; and no recent graduate without on-the-job experience would be able to perform the role effectively.

Investment to support workforce demands

Q3. How can we best use current investments to support our emerging workforce demands? What types of interventions may this require from governments, education and training organisations, industry and others?

Proposed actions

Q4. Do you have any comments about any of the specific actions suggested in Section 4.3 of Background Paper One?

Impact and ways to improve Skills Australia's proposed approach

Q5. How might our suggestions impact on your organisation/industry? Can you see advantages or disadvantages to our proposals? What could we do about it? What else should we be considering to make our future planning even better?

Other comments

Q6. Do you have any other comments in relation to meeting Australia's skill needs or issues raised in *Background Paper One*?



Skills
Australia

Workforce Futures:

Background Paper Two

Powering the workplace Realising Australia's skill potential

The *Workforce Futures Overview* paper raised a number of questions relating to Skills Australia's proposed approach to developing an Australian Workforce Development Strategy. In this section, we seek your feedback on questions relevant to realising Australia's skill potential by powering the workplace. *Background Paper Two* at www.skillsaustralia.gov.au/Publications_and_Resources highlights a number of issues for discussion which are relevant to your response.

Please provide feedback to these questions in the boxes below. A space has been provided at the end of the section to provide feedback on other issues you wish to raise.

Time for the next step in progressing Australian workforce development?

Q7. Is it timely to adopt an innovative approach to skills that includes a focus on how skills are used and is linked to the way work is organised? How relevant do you find the definition of workforce development offered by Skills Australia (see Paper Two, Section 1.1)? How could it be improved?

Generally speaking, I would say that the definition of workforce development offered is a good definition. Aruspex considers that there are three elements to workforce output: Productivity, Availability, and Capability. The definition put forward by Skills Australia covers having enough people in the right locations in the workforce (Availability) and with the right skills (Capability), and having the infrastructure, tools, and working environment, to productively leverage the capability of those individuals (Productivity).

The caveat I would add is that the two statements "the assumption that a highly qualified population in and of itself results in increased productivity and economic growth is being re-evaluated"; and "There is no debate about the intrinsic value of increasing education value of increasing education levels" conflict with one another. This is a debate that should be had by examining the correlation between the cost of education as a % of GDP and GDP per head of population if government policy is currently set on the assumption that all levels and specialties of education contribute to economic productivity (even if they are well utilised in a work context).

Encouraging workforce participation and improving productivity

Q8. How can we link education and community-based strategies to build the level of workforce participation in Australia? How can we ensure our workplaces make effective use of people's skills and knowledge? What do you think are the pluses and minuses of localised, regional or industry-based approaches?

Workforce participation can be encouraged by raising awareness amongst employers and industry about some of the benefits of flexible work practises.

Work Design

Flexible hours, job-sharing, and part-time work are ways in which skilled people can be encouraged to participate in the labour force, where they might otherwise not be interested in working. Many organisations pay lip-service to flexible working practises, but in practise advertise full-time jobs and expect employees to work in the office, Monday to Friday, from 9am to 5pm. For many roles this is unnecessary, and anecdotal evidence suggests that offering truly flexible work practises:

- a) promotes equitable access to the workforce for groups that might otherwise be unable to work;
- b) encourages skilled employees such as those who have young families or are phasing-in to retirement to utilise these skills; and
- c) in the case of working from home or at local hubs, can promote participation in the employment market, save employers money, and save commuting time and traffic congestion – thereby boosting productivity for the employees and employers, but also for the community in general.

It seems that the majority of employers are very much stuck in a traditional paradigm of working conditions, location and hours – although when questioned they may acknowledge the benefits of flexible working practises, in reality most job vacancies are advertised to be performed in the manner in which the incumbent performed them – at 40 hours per week, on weekdays between 9am and 5pm, and in the company's central offices. Skilled people who are out of the workforce may be enticed back if employers took a more contemporary view of the nature and format of work.

Management Training

Good management holds the key to unlocking productive capacity for organizations, industries, and economies. This is a point that was raised multiple times in the Melbourne consultation, and it was discussed that making available management training programs as required (that is, when an employee is promoted to management) would encourage not just those employees, but entire enterprises and industries, and therefore the economy as a whole, to unlock their potential. Poor management can frustrate and hamper efforts, stifle innovation, and lead to high turnover; and so a program such as this may have a significant return on investment.

Reskilling "Career Changers"

There is discussion in the paper that "nearly half (45 per cent) of the workforce changes their employer every three years, and many people change not just their employer but also their industry and occupation". This is a challenge in predicting future skills availability, to be sure, but it can also be seen as an opportunity.

To begin with, individuals with knowledge of multiple disciplines are far more likely to be innovative and to generate breakthrough ideas:

"The best chance to innovate lies at the intersection {of multiple fields of knowledge}. Not only do we have a greater chance of finding remarkable idea combinations there, we will also find

many more of them."³

However, where this change of occupation and industry requires formal training, this degree of change must have a productivity cost for the economy as an aggregate. We could harness the opportunity and minimise the productivity cost presented by this social trend by encouraging employees to retrain *before* they leave their existing field. One way of doing this would be to change the taxation ruling that currently states "you cannot claim a deduction for self-education expenses for a course that does not have a sufficient connection to your current employment even though ...it enables you to get new employment."

If indeed there "is no debate about the intrinsic value of increasing education levels"⁴, then this seems like a logical step to encouraging new learning across the board, and smoothing the path for employees to retrain in other fields without having to leave their current jobs. This will ensure that they are more productive more quickly when they do change careers.

Promoting non-"Classroom" skills

At many times throughout reading the discussion papers, it seemed that "training" was being used as synonymous with "skills", though there was some recognition that not all skills were formally acquired.

"Much of the skill and knowledge needed to perform effectively in a job is learned in the workplace from managers and co-workers, over time"

– *Background Paper One, p.32*

Beyond the comment above, Section 3 discussed current trends in education and training, though it was titled "current trends in education and **skills**". There needs to be recognition that many of the skills required for our nation to reach improve its productive capacity (and, indeed, many of the easily addressed skills shortages) are in skills that are not learned in a classroom. These skills include, but are by no means limited to, management ability.

Skill Retention, not just training

There is much discussion in the documentation about how to generate new skills, and little about the retention of key skills and experience in the workforce. It should be considered that there are two side to having a good supply of skills: one is the generation of new skills, but the other is the retention of existing skills. Research should be done to ascertain the reasons why highly skilled people leave the workforce, the country, or their chosen industry; and what can be done to stop this "leaching" of skills.

It should be considered that programs such as industry-based mentoring programs could achieve two goals:

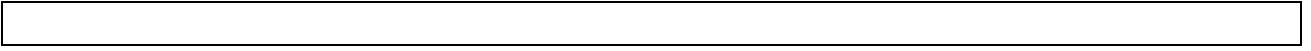
- a) Assist in the acquisition of skills and experience that cannot be learned in a formal education environment; and
- b) Encourage experienced workers to stay in the workplace for longer than they otherwise might by delaying retirement or assisting in another capacity (in this case, as a mentor).

Skill Reallocation

In areas where there is a forecast skill surplus that is related to an area where there is a forecast skills deficit, it may be an effective strategy to consider pre-emptively offering training packages to upskill employees such that they have the skills to be employed in a related industry by the time some of the jobs in their current industry become surplus.

³ Johansson, Frans (2004); *The Medici Effect: Breakthrough Insights at the Intersection of Ideas, Concepts & Cultures*, Harvard Business Review Press, Boston, p.20

⁴ **Workforce Futures:** Background Paper Two, p.6. As an aside, perhaps this debate *should* be had, or at least some study done to ascertain a causal link between higher education levels and GDP per head of population.



A national approach

Q9. Do we need a shared national workforce development framework to link and coordinate the range of activities being undertaken across Australia? What elements should it contain? What might be a good outcome from having a shared framework?

Impact of workforce development

Q10. What impact would a workforce development approach have for your organisation and/or industry? How might government support or facilitate change, thinking about both the productivity and the workforce participation aspects?

Strategic priorities and leadership

Q11. What is your response to our proposed strategic priorities? What are the implications for your organisation/industry? Who might take leadership responsibility for these different elements?

Linking framework and funding

Q12. How can we strengthen the linkages between government agencies and organisations responsible for education and skills on the one hand, and business development and innovation on the other? Can you envisage different program arrangements or funding flows?

Other comments

Q13. Do you have any other comments in relation to realising Australia's skill potential or issues raised in *Background Paper Two*?