

Submission to the Senate Education, Employment and Workplace Relations Committee
Inquiry into Industry Skills Councils
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This submission is derived from research I am currently undertaking into the relation between the education and training system and innovation in the mining, solar energy and computer games sectors. This research is being funded by the National Centre for Vocational Education Research (NCVER) under the National Vocational Education and Training Research and Evaluation Program (NVETRE), through a grant from the Department of Education, Employment and Workplace Relations (DEEWR). This submission and its contents are my own work and do not reflect the views of the NCVER, or the Industry Skills Councils (ISCs) I have interviewed.

This submission is based on results that emerged from my research about how ISCs fulfil their role in the Vocational Education and Training (VET) system, and factors that influence this. The ISCs have a central role in the VET system, and my findings are that each ISC involved in my research did a good job. However, I also found that each ISC faced a completely different situation in what they had to do and how they could accomplish their role. The three relevant ISCs were SkillsDMC (mining), EEOz (solar energy and mining to a lesser extent), and IBSA (computer games). That each ISC faced a completely different situation implies that policy regarding the ISCs should provide them with flexibility and recognise the complexities inherent in their role in the VET system. I discuss each of the ISCs in turn below, then summarise the relevant findings.

SkillsDMC serves the civil construction, mining and quarrying sectors, and so has to create training packages that reflect the structure of competencies required to perform certain jobs in these sectors. The set of skills required in these industries is relatively homogenous and stable. That is, the competences to perform certain jobs is similar enough between sectors that a single training package is adequate. I found that SkillsDMC does this well, and the industry uses the training package as a template to structure skills development, and to employ people more generally. The competencies required, and the structure of these competencies, is stable so that the incorporation of technological and occupation change is not a major issue. In general, the mining industry is concerned with the competences attained by workers rather than qualifications. This reflects that although the mining sector is the highest funder of training per employee of any Australian sector, it has a relatively low level of qualifications gained. Qualifications are important for supervisory levels and trade workers, not operators. On tradespersons, the mining industry finds the general training adequate, with only a relatively small amount of retraining required for working in mines. SkillsDMC focuses on operators rather than tradespeople. I found that companies package innovations such that the experienced operators only need minor retraining. This means that for SkillsDMC to assist the sector to have a suitably skilled workforce it has to reflect the competences required for the array of jobs in the sector. SkillsDMC has done this through analysing the various jobs and the competencies required to do them.

EEOz is the ISC for the electrotechnology area, and so faces no specific sector. Although EEOz does have certain core industries it deals with closely, such as the electricity producers and distributors, electricians work across the entire economy. The core of what EEOz does involves ensuring the training package contains the necessary electrotechnology fundamental theory and skills. These fundamentals have changed little in the last century, and so the core of EEOz's work is given. However, the expanding range of electronic technologies, including new electricity generating technologies such as solar cells, mean that there is an ever increasing range of specialisms in the electrotechnology field. EEOz then has to manage both a stable core and a number of pathways to specialist skills within the training package. EEOz has tried to keep a focus on traditional trades qualified electricians, and associated vocations. These more generic qualifications ensure that there is a pool of people with the knowledge and skills necessary for each speciality as it emerges and grows. If EEOz changed its approach toward pure specialism of training then this pool of trained electrotechnology workers would be fragmented, and a great deal more effort would have to be put into keeping the training package up to date as well as the training package being more complex. This focus on trade qualified workers is partly forced onto EEOz by the electricity regulators, who demand that workers dealing with live electricity have certain knowledge and skills, as well as by industry and the union. Because of this focus on qualified electrical trade workers, to some extent EEOz is weaker in regard to non-TAFE based training. In this private training space specific competences required change relatively quickly, and often are derived from international standards and new technologies. EEOz approaches these competences as a 'bolt on' to the core fundamental knowledge and skills, and so serves this aspect of their remit as an addendum to the standard electrotechnology qualifications rather than as focal aspect in its own right. One inherent problem with this approach is that as new technologies become increasingly important, such as renewable energy technologies, it becomes harder to fit these into the core of the training package. Given the overarching requirements for electrotechnology trained people I feel that EEOz has the correct focus. In conclusion, EEOz focuses on a specific body of theory and practices rather than any particular industry sector. By doing this electrotechnology trained vocational workers can adapt to innovations and serve any industry requiring their skills.

As an ISC IBSA faces no single core body of theory and practice or industry sector/s, as well as having the training package content and jobs for trained workers constantly changing. For example, IBSA is just incorporating computer games into the ICT training package it produces. However, computer games could just as well have gone into the arts training package IBSA delivers. The games skill sets are different enough to warrant a separate treatment, but are closely aligned with both computer programming and graphic arts. This shows how IBSA has to base its training packages on broad areas of theory and skills with a range of occupations and industry sectors as the recipients. Some areas of IBSA's remit are relatively stable, such as aspects of business and arts. Whilst others are constantly changing, such as computer technology in its many applications. IBSA therefore uses a broad approach to develop something that a wide array of players can fit into. This implies that users of IBSA training packages are more likely to have to 'interpret' the training package than those of SkillsDMC and EEOz, simply because IBSA cannot define the scope of their training packages as tightly as the other ISCs I

have looked at. Additionally, IBSA faces a constant change in the jobs that those trained under its training packages will undertake. Therefore, IBSA cannot be as close to industry as the other ISC's simply because they deal with almost all industry in the Australia, and this is constantly changing. My research shows that computer games registered training organisations (RTOs) use the relevant IBSA training packages, but find they are too broad and out of date for their specific needs. They have to interpret and adapt the training packages to the specific situation of computer games. As discussed above, this is inherent in the nature of the situation IBSA faces in creating training packages.

Overall, I found that each of the ISCs I looked at did a good job in the relevant context, but that each ISC faced a completely different world in which it had to operate to fulfil its remit. A vital factor underlying this is that the structure of knowledge and skills faced by each ISC is quite different. This means that the content of each training package has to be constructed differently by each ISC. In each sector I looked at the drivers for training package development are different. In mining the key is keeping close to industry practice, in solar energy it is the alignment of core and specific theory and skills, whilst in computer games general programming and art skills has to be developed in games specific technologies. The linkage with industry is different for each ISC. Mining is very close to SkillsDMC and expects the training package to exactly reflect the skills required for various jobs. In solar energy EEOz bolted these skills on to the core electrotechnology skills, and so the solar sector had to fit in as a junior partner to the regulators and large industry players. In computer games IBSA specifically researched how games could be incorporated into their training packages, and the games industry is part of a broader array of employers IBSA deals with. Additionally, the speed of change in knowledge and skills is different between areas. For the mining sector change is relatively slow at the level of competences. As stated, in solar energy core electrotechnology theory and skills have changed little over decades, although new areas of application constantly emerge. Meanwhile, for computer games, and similar industry sectors, change is rapid, constant and across many areas.

As far as I am aware there is little, if any, research into how the ISCs fulfil their role in the VET system. I recommend further research into how the ISCs do what they do be conducted. There is a trap of implicitly considering all ICSs as analogous to one another. My research shows that this is not true. Unfortunately, my research only includes three ISCs and has not studied them in enough detail to suggest specific policy recommendations or responses to the inquiry's terms of reference.

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