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ISSUES PAPER

Understanding vocational education and training, productivity and workforce participation: An issues paper

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About the research



Understanding vocational education and training, productivity and workforce participation: An issues paper

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This paper arises from the first year of a three-year program of research looking at the role of vocational education and training (VET) in improving productivity and workforce participation among the lower skilled. Two industries—meat processing and early childhood education and care—are being used to understand the issues.

The paper develops a framework for use in the field work to be conducted in the next phase of the program. It argues that four domains shape workforce development:

- ✧ the core services and/or products of interest
- ✧ the context of deployment and development of labour
- ✧ the flows/pools of potential workers and learners
- ✧ the formal system of vocational education and training.

Understanding each of these domains will lead to a better comprehension of the relationship between employers, workers, potential workers and VET.

In addition, the paper reports the results of some preliminary interviews to identify challenges in workforce development in the two industries being studied. It finds the following.

- ✧ In the child care industry, labour shortages and skills shortages are the main issues impinging on workforce development. These are driven by low wages, low existing qualification levels and the negative perception of the industry as a prospective career. The mixed purpose of the child care industry (care versus education) is also identified as a major issue.
- ✧ In the meat processing industry, the main challenges in workforce development are production volatility (mostly caused by seasonal factors), diverse customer preferences, and high labour turnover. The growing influence of intermediaries (for example, migration agents, employment brokers and trainers) is also an issue for workforce development.

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Executive summary

How, if at all, can VET make a difference in improving productivity and workforce participation?

This working paper reports on key findings arising from the first year of a three-year project examining this question. The research involves scrutiny of relevant literature and statistics and a detailed analysis of two industry case studies (early childhood education and meat processing), which were selected specifically to enhance understanding of the relationships between productivity, workforce participation and vocational education and training (VET) as they are played out in real workplace settings.

The key findings arising from the first year's research identify that a comprehensive answer to the research question can only come after consideration of four distinct domains of social and economic practice.

The first domain concerns the service and product of interest. While 'industry' is often presented as an uncontentious concept, powerful economic and political forces profoundly shape the nature of what economists label 'output'. Our analysis of early childhood education and care, for example, reveals that the core service is highly contested. On the one hand, there is long day care, which is concerned with keeping children safe while parents work. On the other, there are preschools and kindergartens primarily concerned with the development of children. What type of early childhood education and care service prevails will ultimately be determined politically, as the government plays the dominant role as funder and regulator. This threshold issue will profoundly shape skill needs. In meat processing, consumer trends and tastes are a driving force. While there is some contestation in this area, the direction in the medium term is fairly well established. In this sector, the industry challenge is to anticipate when and how this will and should change, and the degree of acceleration associated with this change.

The second domain concerns the context in which skills are used. These provide the immediate setting which either nurtures or neutralises the orderly development of skills. This paper notes a distinction between factors external and internal to the organisation, which will be developed more fully in the next phase of research. Factors which are external include funding flows, ownership arrangements, the degree of political leverage held by professional groups (if present) and the nature of consumer demand (uniform or splintered). Organisationally, 'internal' factors that affect the development of skills include employment structures, job design and employee receptiveness to training. In both industries most of these variables are currently working to undermine orderly approaches to workforce development. Funding arrangements leave limited scope for little more than very basic on-the-job training in early childhood education and care. In meat processing, pressures associated with cash flow, fragmented ownership and the casualisation of work similarly limit the capacity of anything other than the most rudimentary forms of workforce development.

The source of labour supply is the concern of the third domain. Issues in this domain are commonly defined on the basis of the core labour force categories; for example, employed or unemployed. When considering the role VET does and could play in boosting workforce participation, these categories are of limited use. The more finely grained systems of categories generated by social and health-based researchers are more powerful, although controversial. For

example, when considering women ‘not in the labour force’, understanding the adequacy and affordability of local early childhood education and care is important. And when considering single mothers on pensions, it is important appreciate the very high incidence of substance abuse, anxiety or depressive disorder (45.3%) among beneficiaries compared with only 18% amongst those receiving no income support. Mobilising such groups will require that any VET interventions work in concert with initiatives designed to address the non-skills based issues.

The provision of formal training services is the concern of the fourth domain. A great deal of the public debate on VET is taken up with public and private providers of off-the-job training or with increasing the number of people involved in work-based training positions (for example, traineeships and apprenticeships). This way of framing the issue overlooks other important models of training services. In making sense of VET arrangements particular attention needs to be devoted to understanding how training services models differ on the basis of: ownership (that is, public, private or network), site of service delivery (on the job, off the job or combination of the two) and the ethos pervading the service (that is, education of citizens, training for industry or acculturating worker citizens).

A summary of the trends and likely future path of work and skill in the two industries is provided. From these, two scenarios are identified, each fairly similar in form. The first scenario would see a continuing of current trends. This is characterised by skill deterioration as the legacies of earlier workforce development regimes are steadily exhausted and not replenished. The other possible scenario would involve overcoming fragmentation in service/products and the provision of more supportive settings for skill development and use. If the first scenario prevails, VET could play an important accommodating role in adjusting to production/service provision based on lower skill levels. If the second scenario prevails, VET could play a critical role in equipping intermediate-level positions with the necessary higher-order, more rounded skills.

The paper finishes by outlining the key elements of our research plan for the second stage. Insights into issues concerning productivity will be generated through a series of strategically selected workplace case studies and associated life histories. This will be followed in the third stage by an examination of workforce participation and will be accomplished through interviews with key informants in two local labour markets who can provide detailed insights on pathways and blockages currently experienced by those not in the labour force, and employers seeking to facilitate these pathways.

Introduction

There is significant interest in improving Australia's productivity performance. There is also growing interest in raising the economically active proportion of the population. Recent global financial instability and widespread recessionary conditions intensify the need to refine policy approaches to further enhance productivity and workforce development in order to help buttress the Australian economy. Achieving productivity improvements and raising the level of workforce participation require broad-based policy action that extends beyond unemployment programs and training alone. This paper is concerned with the question: can vocational education and training (VET) make a difference to productivity and participation?

No definitive answer is provided—yet. As a report arising from the first year's findings in a three-year study, this is to be expected. What the paper does provide is a clear specification of the issues to be examined empirically and the categories that will guide the next stage of our research.

Too often in VET policy-making it is assumed that, if we established 'the right kind of VET system', desirable broad-based change such as boosting productivity and participation would be achieved. As this paper shows, however, ascertaining VET's efficacy is a difficult task. To begin with, it is essential to be clear in defining the nature of the goods and services of interest. Too often in VET the notion of industry is assumed to be self-evident. We show below that nothing could be further from the truth. Next, the issue of clarifying setting is important, as is understanding the circumstances under which work is undertaken. This can nurture or neutralise orderly workforce development. Understanding sources and potential sources of labour is also more problematic than first appears. Finally, the notion of VET is prone to ambiguous interpretation.

Our major finding from the first stage of the research is that greater care needs to be taken to clarify and understand the key concepts. For the purposes of this project, we use the term 'domains' to explain these keystone concepts, and put forward an analytical method best suited to exploring how they function and intercept. The four domains are:

- ✧ the core service and/or product of interest
- ✧ the context of labour's deployment and development in production/service provision
- ✧ the pools and flows of potential workers and learners
- ✧ the formal system of vocational education and training.

In understanding each of these different domains we will be better able to map the interdependencies between employers, workers, potential workers and VET. And once armed with such insight we will be well placed to assess the past and likely future impact of various VET initiatives.

The paper has three parts: first, it summarises categories crucial for untangling the complexities of 'workforce development' to allow informed and clear analysis of the key issues; secondly, we have used those categories to outline the primary workforce development issues as described by key informants expert in our two industries and contained in relevant literature; and, finally, we propose a fieldwork research strategy that includes work site studies, local labour market studies and further analysis of the literature.

From skill formation to workforce development: The policy backdrop

The Council of Australian Governments (COAG) 2006 reform agenda states that there is a need to lift Australia's national productivity and workforce participation. It particularly highlights the need to increase the skill base of Australian workers, especially young people not in work and adults with no formal qualifications. In line with this government policy imperative, improving the supply of skilled workers and assisting firms to become more productive have become key goals of the vocational education and training system. Gaining a better understanding of the complex interaction between the supply and demand factors affecting the labour market is needed in order to inform the development of strategies for achieving this goal.

The concept of developing and improving labour market capacity has broadened from an issue related to 'training' and 'vocational education' to encompass notions of 'skills' and 'skill development' (Fenwick & Hall 2006, p.571). At the individual level skill formation is closely related to occupational identity and in turn affects income-earning capacity and career opportunities. From a business and macroeconomic perspective, skill formation is integral to the productive capacity of the workforce and to prospects of sustained economic growth (Watson et al. 2003).

Academic understanding of 'skill formation' has evolved to the point that it is now generally accepted that an encompassing concept of 'workforce development' is more useful than concentrating merely on the intersection of particular industries with the national training system (Buchanan et al. 2001; Buchanan 2006) or with specific occupations (Vujicec & Zurn 2006; Thursfield & Holden 2004). This recognition has helped researchers, policy-makers and practitioners to move beyond discussions of occupational 'shortages' and to map the inter-dependence of all the elements impacting upon the formation of skills (Windsor & Alcorso 2008).

New conceptual frameworks are also emerging to allow us to talk more clearly about complexities in VET. The analytical concept of a 'skill ecosystem' has been developed to provide a holistic and contextualised view of skills (Finegold 1999). The notion has been adopted by labour market researchers in Australia since the late 1990s to highlight the complexities of impacts upon skill formation (Buchanan et al. 2001; Buchanan 2006). While there is a growing acceptance that to understand training there needs to be a more thorough study of the workplace and workforce elements of the system, there has been less work on identifying specific interventions to move skill formation out of 'recession' and in to 'growth'. Where that work has occurred, including the various skill ecosystems pilots by governments in New South Wales, Victoria and Queensland, researchers have reaffirmed that skill shortages have less to do with a failure of 'training' than the dysfunction of local 'skill ecosystems' (Watson 2008).

How is this project generating new insights to help policy-makers and practitioners understand VET's current impact and future options in relation to improved productivity and participation?

The core of our project is built around an in-depth exploration of structures and practices associated with the nexus between employers, workers and the VET system. In 2008 we examined the major large-scale data sets commonly (and some not so commonly) used to examine these issues (Considine et al. 2008). Having identified their limitations, we illuminated the issues of interest by conducting a wide range of key informant interviews and scrutinising recent policy and scholarly literature on the two industries of central concern to our project: early childhood education and care, and meat processing. These interviews were undertaken to provide an initial map of key workforce development issues. They have also allowed us to identify issues to be further investigated in the field work stage—stage two. Our key finding for this work has been the importance of distinguishing the four distinct domains shaping workforce development and identifying the key factors at work within them. It is to this matter that we now turn.

The shaping of workforce development

This section describes categories we have developed to enable a better understanding of both the mechanisms of workforce development and the state of skill formation within a sector or industry. It locates the process of skill formation within what this paper calls, ‘domains of influence’. These domains are where policy and practice converge to determine the factors that lead to the ‘development of the workforce’.

By understanding what shapes workforce development we can then identify ways to, where possible, improve systems and practice to enhance productivity and increase participation. The VET sector is the major ‘provider and codifier’ of skills, but it is only one of the domains that shapes workforce development.

The four domains are:

- ✧ the core service and/or product of interest
- ✧ the context of deployment and development of labour
- ✧ the flows/pools of potential workers and learners
- ✧ the formal system of vocational education and training

The following discussion introduces these categories as important to the research and summarises our thinking about them and the issues that will inform our analysis in these areas.

Domain 1: The nature of the core services and/or product

This is the starting point for understanding the connection between work and skills and it is often overlooked. The service or good being produced determines the work being performed and the consequent range and level of skills required. The core service or product varies with each industry, and within each industry, and can change, based on conditions in the market place, funding, regulation and policy. How these factors coalesce defines the ‘skills’ being sought.

Understanding how the core output is constituted and how it is valued allows us to determine the relative stability of the core service or product. In other words, how vulnerable is the core service or product to change? This then has implications for the role of VET in predicting and identifying fundamental changes in skill needs and then how VET responds.

We suggest there are two primary forces that shape the core services and products: politics and economics. The role that each force plays in setting the parameters of the output is not equal across industries and sectors. For example, politics plays a primary role in shaping early childhood education and care and a secondary one in meat processing.

The influence of the state can be exerted in at least three ways: as provider of a service or producer of a good; as a ‘funder’; and as a regulator. Early childhood education and care is a good example of government activity and regulation setting the foundations of the core service. Here the state is a service provider, the primary funder, and it regulates standards. The decisions governments make

and activities they undertake in each of these roles shapes the service. We can see this by looking at the two core service types in early childhood education and care:

- ✧ child care: primarily in long day care, which has evolved to keep children safe while their parents are at work, inferring the need for ‘caring’ skills
- ✧ preschool and kindergartens: school readiness programs to assist in the development of the child, inferring the need for ‘teaching’ skills.

In early childhood education and care the core service is debated and contested. While the current regulatory and funding frameworks divide ‘education’ and ‘care’, the experts argue that integration of the two, ‘education’ and ‘care’, is what the core service should be. The resulting skill division as seen in the two occupational groups, ‘teachers’ and ‘child care workers’, impacts on all the elements associated with performing the work at the site level. It shapes wages, the occupations themselves, conditions, and, in the case of early childhood education and care, outcomes for children. This contributes significantly to ambiguity about the skills that are required to provide the service. Here settlement of the ‘core service’ helps to clarify the skill needs.

Determining the core product in a manufacturing environment appears to be more straightforward and less contentious than identifying the core services for community or human services. In the case of the meat processing industry, the product is meat for eating. Different types of cuts and processes may be undertaken to produce the end output, but there is little debate about what constitutes the commodity. The state has an impact by setting quality standards, but it has been some time since the state was a ‘resourcer’ in any direct way. Consequently, the most powerful ‘shaper’ of the core product is economics as it plays out in the market, in consumer trends and tastes, and in the elements of the production chain.

Clarifying the core service and or product clarifies the range and level of skills that are required for the ‘output’. It assists industry and VET stakeholders to anticipate and respond to changes in fundamental skill needs. Understanding the nature of the service or product delivered clarifies the *range* of skills in play. The way in which skills are evaluated, measured and traded in the market is not static. Unpacking the relationship between core service/product and skill can help reveal the extent to which skills might be re-evaluated in the light of changing social norms and a changing market environment. How these core services and products are viewed by key stakeholders also establishes the limits for expansion in terms of skill development. This will ultimately help VET stakeholders to identify essential skill needs, understand the factors that have influenced these frameworks of definition, and, it is to be hoped, gear the system to anticipate future skill needs.

Domain 2: Context of deployment

This is the context in which skills are deployed. Historically, workforce development (which includes anticipating and understanding how to maintain appropriately skilled labour supply) has been understood through the prism of occupational analysis. This has allowed key stakeholders to track shifts in labour market change by identifying areas of shortage, and understand where and how pockets of workforce growth and decline have occurred. However, the deficiencies in this approach become evident when researchers seek to uncover the reasons for shifts in occupational composition and how training systems might respond to these shifts (Vujicec & Zurn 2006; Thursfield & Holden 2004). These deficiencies exist because broad-based occupational data analysis is usually stripped of the workplace, labour market or economic context in which it has occurred. A further criticism of an occupational focus within workforce development analysis is the confusion of ‘causality’. In other words, a labour shortage in a specific occupational group may imply a lack of sufficiently trained staff, but it may also conceal ill-conceived workplace practices. For example, lack of management training, an inefficient approach to recruitment and/or induction at the workplace level, or disagreeable workplace conditions may all have played some role. Much of the academic discussion surrounding the setting of deployment has been built and developed through the skills

ecosystem concept. This concept notes diversity within skill levels (high, intermediate and low) and between networks (markets, firms and institutions) as important to skill development (Buchanan 2006). In other words, the ‘health’ of a skill ecosystem can determine whether and to what degree a workforce is developed.

Domain 3: Labour supply—pools and flows of labour

Consideration of labour supply issues is of both analytical and policy interest. Any thorough analysis of the industries of interest is impossible unless some consideration is devoted to understanding the origin of the labour that performs the work. More importantly, it is essential, given the project’s interest in offering insights into how, if at all, workforce participation can be boosted. The primary questions of interest concerning this domain are:

- ✧ Where does the labour come from that produces the services and goods of interest?
- ✧ Are there other sources of labour potentially available, especially given that the industries of interest in this project have been regarded, rightly or wrongly, as low-wage, low-skill ‘entry’ industries?
- ✧ If there are pools and flows of labour available, what would it take to get them to increase the rate at which they are deployed:
 - ◆ in the industries of interest to us?
 - ◆ potentially in more appropriate industries more suitable for absorbing such labour?

Traditionally, workforce participation is considered on the basis of the labour force framework. This distinguishes between the following fundamental categories of people:

- ✧ Whether people are in the labour force or not. This defines the ‘participation rate’.
- ✧ Whether those in the labour force are employed or unemployed. This defines the ‘unemployment rate’.

When considering issues of equity and policy, considerable attention is devoted to disadvantaged or ‘at risk’ groups. These are commonly defined as comprising young people (especially those with low levels of educational attainment), women, people with disabilities, Indigenous Australians, and those of non-English speaking or cultural and linguistically diverse backgrounds.

The labour force framework is primarily useful for collecting labour statistics and informing policy and analytical debates about the labour market in general. We provided an exhaustive overview of the data available on this basis in our initial report for this project (Considine et al. 2008). This revealed that these categories do not get us very far when thinking about boosting workforce participation. This is especially so, given that the debate has taken on a much sharper edge over the last decade or so. This is because it has been informed by a desire to reduce ‘welfare dependence’ within Australian society by reducing the number of people relying on public income support to survive. The guiding objective here has been to move people off ‘welfare’ and into ‘work’. The key categories shaping this discussion arise from types of income support provided. The most common categorisation, with indicative numbers of people receiving this form of payment, is provided in table 1.

Table 1 Forms of income support of interest to ‘welfare to work’ initiatives and indicative numbers of recipients, Australia, 2006

Type of income support	Estimate of those receiving this kind of payment
New start/youth allowance (unemployed)	450 000
Support for parents (partnered and sole parent)	400 000
Disability support allowance	650 000
Total	1 500 000

Source: ACOSS (2008b, p.1).

These categories help us to understand the number of people relying on the state for survival. However, they provide little information of use for thinking about the policy challenges associated with increasing workforce participation by moving people from ‘welfare to work’. The requirements here are for an understanding of the following types of questions:

- ✧ Is it possible to change these people from being inactive to active members of the labour market?
- ✧ If it is, what are the barriers to achieving this?
- ✧ Can these be overcome?
- ✧ What role, if any, can VET play in developing these people so that they can be deployable?

Categories for making sense of this population so that questions such as these can be answered are scarce. The underlying concern of policy in this area has been to prod people into ‘work first and ask questions later’. Indeed, one of the major outcomes of the Australian approach to welfare to work has been a significant increase in ‘breaching’ welfare recipients, where they were deemed not to be meeting stricter activity tests (Pearce, Disney & Ridout 2002).

There have been a number of social and health-based researchers who have endeavoured to devise a more nuanced set of categories to help make sense of the terrain for use by policy-makers in this area. An Australian model of ‘job seeking attitudinal segmentation’ was prepared for the Australian Government earlier this decade (Colmar Brunton Social Research 2002). The study was based on qualitative interviews with 52 job seekers and statistical analysis of 3500 respondents to the 2001 Job Seeker Evaluation of Employment Services (Centrelink) Survey. The key categories identified in the survey and estimates of the proportion of job seekers falling into each of this are summarised in table 2.

Table 2 Different types of job seekers, Australia, 2002

Type of job seeker	%
Drivers – are highly motivated and open to all job opportunities	16
Struggling job seekers – are highly motivated and open, but are less confident about their abilities	8
Drifting job seekers – want a job but are unsure what job they want or how to look for work	13
Disempowered job seekers – want to work but have lost all confidence in themselves and their skills, believe they’ve reached their ‘use by date’	15
Selectives – are highly motivated but place specific limits on the type of job they are looking for and will accept	7
Dependants – are limited in the types of jobs they will consider. They are motivated to find a job but are losing confidence about finding the ‘right job’	12
Cruising job seekers – are relaxed about being unemployed, do not want to work in a full-time or permanent job and are not looking for work	16
Withdrawn job seekers – are not motivated to look for work and believe they are not able to work because of medical or psychological condition	13

Source: Colmar Brunton Social Research (2002).

The Colmar Brunton taxonomy is not presented as a definitive taxonomy, but serves two roles in the context of this research. Its first role is to provide an analytical starting point by presenting a more disaggregated account of the generic ‘job seeker’ profile. The categories outlined in table 2 give insight into the complex and ambiguous relationships individuals tend to have with the labour market. In many of the categories, for example, the VET system alone would not be able to address the key obstacles to labour market entry. Many of the challenges pertain to self-esteem, confidence or social alienation and are beyond the ability of formal training systems to address. As part of a broader array of initiatives, such as job subsidies or work placements and quality case management, VET initiatives could potentially contribute to helping different parts of the job-seeking population into ongoing paid employment. The Colmar Brunton taxonomy is also included in this research because it provides a more detailed qualitative account of those considered to be marginal job seekers (for example, drifting, disempowered and cruising). This is central to the debates concerning who should be considered not in the labour force by Australian Bureau of Statistics (ABS) standards, and is highly pertinent to the contexts of our two case studies (meat processing and child care). The motivations and perceptions of people in the ‘not in the labour force’ category, and the potential for formal policy interventions to address these perceptions, are highly relevant to discussions about workforce participation and how it might be strengthened.

It is important to recognise that even more refined categories such as these need to be supplemented with insights about the health of the population on income support, especially their mental health. Peter Butterworth has undertaken extensive research on this matter. A summary of some of his most basic findings is provided in table 3.

Table 3 Mental health characteristics of income recipients

	Attempted suicide (%)	Substantial psychological disorder (%)	Common mental disorder (e.g. anxiety, depression etc.) (%)
Working age, no income support	2.0	13.7	19.0
Income support			
– all	*	28.4	31.0
– sole women with kids	11.0	29.0	45.3
– unemployed	8.0	27.9	33.7

Note: * Data not available.

Source: Butterworth (2003a, 2003b, 2005); Butterworth & Berry (2004); Butterworth, Crosier & Rodgers (2004); Butterworth et al. (2006).

These findings reveal that many of the people of interest to ‘welfare to work’ policy need major support to get through life and not just back into the disciplines of working life.

When considering a possible role for VET, great care will need to be exercised in thinking about what role, if any, it can play in assisting these people. Importantly, there may be a role for VET in training those involved in providing support services to these populations.

Domain 4: The formal VET system and VET service models

The realm of policy and practice of primary interest to this project is the VET system. In this realm there is, *prima facie*, considerable potential for new initiatives to make a difference. In conducting our field work, our primary question of interest is: how does the VET system help make workers competent to produce the goods and services of interest?

A major difficulty in answering this question is that VET is a very complex and multi-layered area of policy. It is also the domain which is subject to considerable flux and contestation in relation to

its relevance, funding and meaning. Making sense of the current situation is helped by appreciating the evolution of this realm of both education and labour market practice.

In the nineteenth century, mechanics institutes emerged as self-improvement societies amongst workers and artisans. From the start there was interest in matters of both immediate economic relevance and deeper, education objectives of self-realisation. This tension between the instrumental and the more reflective part of the system has remained ever since. Government intervention in the late nineteenth and early twentieth century played a critical role in formalising that space between general secondary and higher education. It was also pivotal to the survival and revitalisation of the apprenticeship system (Shields 1995a, 1995b). By the second half of the twentieth century the VET system had taken on a broader, quasi-welfare state function, especially following the end of the long boom in the early 1970s. What are now referred to as Access and Outreach programs came to occupy a large proportion of teaching hours. Since the mid-1980s the elevation of intermediate level skills has been regarded as a vital policy objective. This was especially relevant to the changes in the 1980s directed at supporting more open and widespread career paths for blue-collar and unskilled white-collar workers. The organisation of the system based on competencies and not fixed trades was critical to this endeavour. The shift to competency-based training evolved, in the early 1990s, into a preoccupation with nurturing a training market. Arguably, the primary issue of policy interest now is one of ‘market design’; that is, how can the market in training services be best organised to achieve efficiency and fairness in Australian society (Cooney 2008).

It is important to disentangle policy rhetoric and aspiration from actual reality. Mark Cully, in a recent analysis reflecting on Australian and United Kingdom experiences (2008), makes the very important observation that the Australian VET system is best described as one which is ‘industry lead but supply driven’. By this he means that formal leadership of the system resides with industry-based organisations—both employer bodies and industry skill councils. Substantive funding arrangements, however, are primarily channelled through the public sector and especially the public training provider—institutes of technical and further education (TAFE). While there is some contestability over funding, most if it still goes through TAFE.

Given this understanding of VET, how are we to develop an operational set of categories concerning it for our next stage of work? To begin with it is important to keep the role of the formal VET system in perspective. For many workers and workplaces it is not all that significant. As the ABS Survey of Education and Training has shown that for years most industries rely on legacies of foundation education and informal learning on the job.¹ Where people do engage with it, in any comprehensive analysis it is important to understand there are three key dimensions to the system that need to be considered.

- ✧ *The owner of the services*: historically, it emerged from what we today call the non-government organisation sector, but is mostly run by the public sector. Increasingly, however, there are growing numbers of private training providers.
- ✧ *The site(s) of learning*: like other areas of education it is commonly assumed that the key site of learning is the classroom. As noted above, however, for many workers ‘on-the-job’ experience is the major source of new skills. And, as is well known, apprenticeships (and similar arrangements) combine both on- and off-the-job arrangements for the development of skills.
- ✧ *The prevailing ethos of the service*: more than the primary, secondary and higher education sectors, the VET sector has had a long-standing tension between its commitments to ‘general’ education and ‘instrumental’ training. The concern with education has been with people as citizens and not just as agents in the economy. The more instrumental concern has been with training ‘workers’ for ‘industry’. However, there is a long tradition of endeavouring to blend both.

In operationalising these ideas for our field work we will identify how different models of training services function in children’s services and meat processing.

¹ For example, 80% of workers get on-the-job training, the most common form of training people are involved in.

Key issues from industry studies

We now turn to the industry case studies for a preliminary overview of the key workforce issues in early childhood education and care and the meat processing industry. The categories described in the first part of the paper have ordered our thinking, but these preliminary ‘stories’ have been structured around the key constraints to workforce development as identified by key informants and relevant literature. The primary purpose of these studies is to establish some of the key issues that need to be taken up in the next year of research.

Methodology and selection of case studies

This program of research is focused on the key concerns of productivity and workforce development. The two case study industries of child care and meat processing have been chosen because they offer a setting through which key concerns regarding equity and access in the context of productivity and workforce development might be explored. VET policy has historically been developed mindful of equity concerns, including: gender labour market segmentation; access in rural/remote areas; entry points and the career trajectory for low-skill positions; and the impact of globalisation and highly competitive international markets on the development and preservation of skills. The case study industries chosen for this project have been selected because of their scope for exploring these concerns.

Child care is a female-dominated industry which faces an almost unequalled level of skill challenge. The industry operates in a predominantly low-funding environment, with an ownership profile that has limited the improvement of job quality. The sector is caught in a state of low wage–low skill equilibrium. Workers are leaving for higher wages elsewhere or into jobs with commensurate pay but far less responsibility. Turnover is high and atypical employment is common. Work intensification in the industry has limited the opportunities for training and development for those currently working in the sector. While some operators are committed to providing better-quality jobs for their workers and expanding the training opportunities provided, they are constrained by the low-cost funding environments in which they operate. It is a sector that purports to need greater numbers of workers with higher levels of skill, but currently has a limited capacity to realise that goal at the workplace level. In this setting, the challenge of productivity is focused around quality-of-service arguments, with the resultant skill implications.

Meat processing is a male-dominated industry which has historically been highly important in sustaining rural and remote labour markets. The increasing importance of export markets means that the development of ‘skill’ and the way skills are deployed remain key issues for the sector. An appropriately skilled workforce helps to establish and maintain market advantage. For example, a sufficiently skilled workforce is required to ensure certification of a high-quality product. Skilled workers are also considered to be more ‘adaptable’ by being able to build on existing processing techniques. This adaptability can make processors more responsive to changing consumer preferences in both style and presentation of product. In this setting, the challenge of productivity and workforce development are focused on building an adaptable workforce, and how workers might be sourced to meet these requirements for adaptability.

In terms of methodology, the more formal and intense phases of field work (qualitative interviews at the industry and workplace level) will occur in phases two and three of the research project. We do, however, present the results of early intelligence-gathering. This includes key informant interviews with industry training bodies, industry-level employer organisations and industry-level employee organisations, which have been conducted to give insights into the industry landscape, training and skill settings currently understood to operate within these very different sectors.

Early childhood education and care

The information that follows is based on 15 key informants interviews supplemented with a review of literature. Participants were drawn from across the child care sector, including two representatives from a corporate provider, one community provider, two private providers, and representatives from two unions, one employer association, one professional association, two training providers and three state governments. In addition, researchers attended three meetings of a workforce reform group that has been operating over the past two years with membership from child care services, academia, union and professional bodies.

The child care industry in this context refers to formal care and education delivered to children and infants in the years before school. It covers services as such long day care, preschool and kindergarten. We have chosen to focus on institutional care environments primarily because they constitute the largest component of care funded by governments and they are where current policy attention is concentrated. Our study at this stage has not included family day care or in-home care.

The Federal Government has prioritised improvements to the quality of child care in its 'education revolution'. In its first budget after coming to power it announced federal funding for universal teacher-led, play-centred child care for all children the year before school, and targeted funding to increase training for child care workers. The government has also undertaken a review of quality standards seeking to develop a new framework to 'improve human capital outcomes for all Australians' (Department of Education, Employment and Workplace Relations 2008, p.1). The Council of Australian Governments' (COAG) Productivity Agenda Working Group has agreed upon five key policy directions, three of which are of particular relevance to this study:

- ✧ strengthening the health, development and learning of 0 to 5-year-olds
 - ✧ improving the quality and sustainability of the early years learning workforce
 - ✧ enhancing and integrating the provision of early childhood education and care services.
- (Department of Education, Employment and Workplace Relations 2008, p.5)

The time is opportune to look closely at the workforce development requirements of the sector, given the growing attention to quality and the fundamental link between quality in child care and skills.

Despite the very different positions held by participating key informants, they spoke with one voice when they identified the key barriers to improving workforce development—they unambiguously nominated the key challenges as *labour* shortages and *skills* shortages which, they agreed, are being driven by very low wages, low existing qualification levels and a negative perception of the industry as a prospective career. Consequently, all supported workforce reform for the industry and believed that the fundamental way to improve quality of service across the industry was to lift the quality of jobs within it.

Our preliminary work suggests these are indeed critical issues but also indicates that settling the *purpose* of early education and child care is a crucial step in designing a quality system. While this seems self-evident, there is still a significant gap between policy understandings of 'quality' in the industry and regulated practice. That settlement will have major implications for an effective VET response.

Nature of the core service: Divided or integrated

The ongoing discussion over the core purpose of early education and child care impacts on the debate regarding appropriate skill formation. Historically, two mainstays of purpose have been present in this debate—the delivery of ‘education’ and the giving of ‘care’. Most ‘developed’ countries have been moving toward various degrees of integration of the two (Moss 2004). Administratively, this is primarily achieved by having early education and child care under the auspices of a single government entity. In operation it is a question of how the work is done—integration requires that the process of education and the process of care come together in the one service. The degree of integration at the service level can vary depending on the skills and the distribution of skills at the worksite. Full integration would require that each worker be skilled in education and care. Partial integration might mean having the workforce divided between ‘carers’ and ‘educators’ at each worksite. Experts regard the ‘dichotomy’ as a false one. As Peter Moss (2004) outlined in a UNESCO policy briefing:

The workforce in early childhood in all countries must respond to two related developments; the divide between care and education is breaking down; and the professional role is becoming more complex, with growing recognition of the importance of working with parents and other services and of the competence of young children as learners.

In an integrated model of early education and child care, the skills associated with care and education co-exist in each job role, they are not divided between a teacher on the one hand and a carer on the other. A simple real-life example of the benefits of integration can be seen using the activity of a nappy change. At face value a nappy change requires no great skill. You practise it under supervision once or twice and, then, paying attention to safety and hygiene, you quickly become an adept nappy changer. However, in an integrated model the nappy change is part of the ongoing process of development for each baby. It is a valuable opportunity for strong communication and relationship building to take place between adult and baby. This is a quiet one-on-one time to communicate, check a baby’s responses, physical wellbeing and engage in bonding and relationship building. It is, in best practice, a key daily developmental interlude. An appropriately skilled practitioner is able to actively use knowledge gained from these experiences. Key informants talked about ‘intentional’ teaching to describe the process of taking knowledge gained and turning it into a developmental response.

Some key informants go as far as to say that the division between care and education roles may even be an expedient way of actually maintaining a low pay rate within early education and child care. These informants argue that the traditional under-valuing of ‘care’ work has never allowed any scope to reflect the actual skills required to provide the core service. It is also argued that this separation between the two functions (care and education) is reflected in the very occupational divisions of the sector and supports a further undervaluing of care. This undervaluing is reinforced through the truncation of career path and developmental progression for many early education and child care practitioners.

While each state has its own regulations for administering children’s services and education, overall, Australia continues to have divided regimes of early childhood education and care. This is starkly represented in the split between two types of service: preschool and child care.

Child care includes various formal service types, including long day care, family day care, occasional care and vacation care. Child care services have evolved to maximise the potential engagement of parents in the labour market. Long day care is available for children from birth through to the commencement of school. Federal funding for these services effectively requires that they be open for long days, mirroring the span of the standard working day, and for 50 weeks of the year. The child care workforce is based around the occupation of a ‘child care worker’. Their wages are low by general labour market standards.

Policies for preschool have concentrated on an ‘educational’ principle of service—readying children for school. This can be seen in the arrangement of funding. It is based on part-time attendance over

the school year and generally based on a short school day. The preschool workforce is built around the teacher occupation. Preschool is primarily funded by state governments and is available to children the year or two before they start primary school. State governments regard department preschools as ‘feeder’ institutions to government primary schools and they mandate the presence of a teacher in each class.

Table 4 Characteristics of two service types providing early education and child care: Long day care and preschool

Characteristic	Long Day Care	Preschools
Funding	Federal low-cost and market-based	Predominantly state government – diverse
Age of the attendance	Birth to school: 0–5 years old	Year or 2 before school: 3–5 years old
Service opening hours	Over the long day (reflecting the span of a standard working day)	Over the short day (varies by state but tends to reflect the span of a standard school day or shorter)
Operating weeks	50 per year	40 per year
Key occupational group	Child care worker	Teacher
Wages	Low paid: teacher-qualified earns 25% less than school teachers	Increasing parity with school teachers
Largest ownership group	Private sector	NSW, Vic.: community; all others: government

The dichotomy in service purpose and delivery is evident in the expectation of workers’ skill levels and occupations. Workers in long day care are classified as ‘child carers’, while in preschool the core profession is the ‘teacher’. According to one key informant, this has created a situation where child care workers will walk children down the road to the sessional preschool and wave them goodbye so they can ‘go get their learning done’, as if the educational development of the child can be turned off and on like a tap.

Quality is productivity

The key challenge to improving productivity via early education and child care is improving the quality of the service. The ‘productivity’ argument here is simple: the better the quality of early education and child care, the better children’s cognitive, emotional and social development is (Department of Education, Employment and Workplace Relations 2008). They grow to become better workers, better citizens and better parents themselves. And if parents today have greater confidence in the quality of early education and child care, they will be more likely to re-enter or enter the workforce. There are economic, community and individual benefits that radiate out from improving quality in this area. Therefore early investment is wise.

The profile, purpose and intention of early education and child care activities is elicited through engagement with many highly complex bodies of knowledge, including neurological, social, psychological and behavioural development. Practitioners and researchers point out that it is of fundamental importance to consider the ‘here and now’ experience of the child (Theilheimer & Cahill 2004; Davis & Cahill 2006) as pre-eminent in the formation of skill and training regimes. These arguments stem from the assertion of the rights of children, as citizens, who have an entitlement to care opportunities that will develop their potential; for example, the assertion that children fare better if they have access to quality developmental opportunities and thoughtful care *across* their early years (Sammons et al. 2007) and not just in the year or two before school. A parallel set of arguments emphasises education as playing an important role in developing human capital, which will ultimately be deployed in the labour market. This has been part of early education and child care practitioner wisdom for many years but more recently neuroscientists and economists have begun to provide evidence of the same. Neuroscientists have found that the foundation connections in the brain’s architecture are made in the first three years of life. The experiences of the child during that period are critical and directly impact later development. These early

relationships and their quality can adversely impact the structure of the brain (Gallinsky 2006). Consequently, remediation is more difficult and costly than high-quality development achieved earlier in life (Cunha et al. 2006). As the recent discussion paper released by the Council of Australian Governments' Productivity Agenda Working Group notes:

... it is quality of the education and care that matters in delivering benefits (Sammon et al. 2007). Quality services have positive effects on children's verbal, intellectual/cognitive, and social/behavioural development and, later on the long-term success in school and life.

There is no discernible opposition to the proposal that high-quality services are better. But what constitutes a high-quality service? While there is much debate about how to measure and ensure quality, the literature appears to reflect five main predictors of quality in early education and child care:

- ✧ ratios of adults to children
- ✧ group sizes in each room or service
- ✧ qualifications and professional development of the workers
- ✧ relationships between workers and children
- ✧ worker satisfaction/job quality.

(Gowrie 2008; Nyberg 2007; Mooney et al. 2003;
National Institute of Child Health and Human Development 1999)

On each of these measures it appears Australia has room to improve quality in early education and child care (OECD 2006; Hill et al. 2006). While every key informant supported the view that the education and training of workers in the sector is critical to that improvement, they recognised that there were fundamental structural barriers to lifting the capacity for and the transmission of workforce development across the sector. Most key informants believe that the regulatory requirements and a market-based system of early education and child care are limiting the capacity of services to improve quality.

Funded for 'efficiency' and not for 'quality'

Early education and child care over the last 30 years, coinciding with trends across the community services sector, has moved from an optimum funding model to a low-cost one. In the 1970s planned expansion of community child care was introduced and the Federal Government provided capital grants and operational subsidies on the basis of need. Funding was linked to the workforce based on qualifications and classification scales.

Today the picture is very different. Funding is available to any centre that is accredited. There is no assessment of need for the service, rather the 'market decides' and there is no funding link to workforce development. The private sector operates approximately 70% of the services in long day care, with nearly 30% run by the now-defunct corporate entity, ABC Learning.

Table 5 Chronology of policy reform in early education and child care

Date	Main federal policy reform
1972-75	Planned expansion of community child care via capital grants and operational subsidies
1991	Extension of subsidies to private sector
1997	End of operational subsidies and capital works grants for community sector
2008	15 hours universal teacher-led care for every child the year before school

Limitations of the current regulations regarding ownership and funding are well documented (Brennan 1998; Wannan 2005; Hill et al. 2006). The very public collapse of ABC Learning gives weight to the arguments that corporate expansion and consolidation represent a threat to the stability of the industry. In addition to this, the industry faces further workforce development

challenges. A ‘corporate’ environment, it is argued, places pressure to keep wages down and tighten the ratios of staff to children to increase profit margins. This has had a profound impact on the quality of both service and jobs in the sector (Wannan 2005), and it could be further argued that it has shaped the entire skill ecosystem of the sector.² To some extent, statistical evidence corroborates this claim. Low-cost market-based funding has coincided with the expansion of lower qualified jobs in the sector. The proportion of degree-qualified workers in long day care has decreased steadily since 1997, from one in five workers to one in ten, while the workforce has grown from 37 000 to approximately 56 000 (Liquor, Hospitality and Miscellaneous Union 2008). Nearly all of the growth in workforce has been in either VET-qualified workers (59%) and unqualified workers (31%).

Care work is undervalued

Care work is traditionally undervalued. It is also undervalued or largely misunderstood as unskilled work. This is reinforced in child care by the failure of most jurisdictions to regulate for specific qualifications to be held by early education and child care workers. Qualified workers, generally those who hold a certificate level III, are paid only marginally more than unqualified workers. This contrasts with the complexity that key informants claim is inherent to the work. Practitioners explained that ‘judgements’ are required to be made constantly and that the work, when done effectively, is skilled and under-recognised as such. The special and specific nature of the work is also reflected in the existence of a tailored degree for teachers who work in early childhood. Some key informants discussed the importance of vocational identity in scaffolding professional development. Many agreed that this is lacking for many workers in early education and child care. Despite the practice of ‘care’ being ‘ancient’, it has never been consolidated as a strong occupation in early education and child care for many reasons, most of which are associated with gender. Further work needs to be done to understand ‘care’ skills and how they can be better valued, transmitted and acquired.

Poor-quality jobs

In any industry, a mismatch between job demand (high) and pay (low) creates a disincentive for workers to either enter or stay in the industry. The extrinsic quality of jobs in early education and child care is low. Key informants have all said that the major barrier to recruitment and retention in the sector is low wages and poor conditions of work. Workers leave to take up better-paid jobs in other industries with less responsibility, and it is getting harder to fill both qualified and unqualified job roles. Qualified teachers are attracted to the better wages and conditions in schools where they can earn up to 25% more, have longer holidays and much more time to develop teaching programs. It might go some way to explaining why workers are, as one informant put it, ‘... staying away in droves or leaving to work in call centres and cake shops’.

When labour shortages are acute, there is typically a limited capacity to release staff and back-fill in their absence. Over time, persistent vacancies reduce access to both on- and off-the-job training. This is because, across the system, low-level funding limits the ability to attract and keep higher-qualified workers or to pay for upskilling of the existing workforce. All of this has been borne out in the early education and child care sector. Key informants report that operators are finding it harder to find workers who are suitable for the field, and are increasingly relying on workers who have little intention of staying in the sector.

² It is worth noting that ABC Learning has had a very well subscribed internal registered training organisation, training workers to the certificate III level. A closer examination of that ‘earn as you learn’ model may provide some important and useful insights.

Competition with schools for teachers has also contributed to underskilling. Employers are less likely to invest in workforce development if it is likely that workers will gain a qualification, only to leave. This is particularly acute at the diploma level, as workers leave to find employment as higher-paid teachers' aides in the state schooling system. An informant explained that, out of a recent class of 90 child care graduates, only four ultimately entered the industry. As one informant described it, local employers have invested significant time in providing training places for the students and were 'put off' by this experience.

High turnover, unfilled positions and high proportions of unqualified workers contribute to increasing work intensification. Turnover in the industry is approximately 30% nationally, which is very high (Liquor, Hospitality and Miscellaneous Union 2008). This has a negative impact on the development of ongoing relationships with children in early education and child care services. Some states have up to 40% turnover, which some informants regarded as 'dysfunctional'. Workers are less able to access training on the job and have little energy or time to undertake study outside work (Watson 2007). Career paths are short and there is little monetary incentive for workers to gain qualifications.

There are high proportions of part-time and casual work in the sector, which further limits capacity and access to training. Industry key informants also raised concern over the growth in labour hire in the sector. In some cases, funds that might have been directed to staff development have been used to pay agency staff wages because operators have been desperate to fill vacancies.

At the service level, business experience appears to be variable, at best. A high proportion (in the order of 80%) of businesses within the sector is small. Managing the operation of an early education and child care service is a challenge to some local administrations. According to key informants, managers of centres are often untrained in managerial practices. The challenges associated with managing ratios, rosters and daily operations often reduce the time and capacity for consideration of professional development for staff.

However, there is evidence of pockets of innovative practice within the industry. Key informants have identified sites that have been able to improve ratios, offer some improvements to wages and conditions, instigate creative job design and capture economies of scale through diverse business models. Informants indicate that some operators have facilitated staff access to professional development by managing rosters more effectively. However, it should be noted that informants also note that significant constraints on developing innovative practice persist. External factors are creating substantial barriers to improvements being seen (replicated) across the industry. The overarching funding regime is noted as a significant barrier to lifting the value of the work undertaken in the sector. All key informants accept that changing the dynamics of the low wage–low skill equilibrium will take time. Informants also note that, with appropriate and better deployment of funding, improvements could be made to quality. These improvements are necessary for growing workforce development.

Early education and child care is at a crossroads in Australia. There is an opportunity to design an integrated early education and child care system, and new evidence drawn from experience at the industry level can assist in this design process. A consolidated research effort is required to critique the experience of experts in 'care' and 'education', and then turn this analysis to the implications for workers who might be trained with skills specific to the early education and child care purpose.

Meat processing industry

The initial research for this part of the project included a scoping phase to ascertain the prominent issues of concern within the sector. Given the diversity across meat processing, a decision was made to focus on drawing key informants from one sector specifically, so that a more detailed understanding of the challenges within this market segment might be explored. Key informants were interviewed to provide industry-level intelligence on red meat processing and its operations,

the economic and labour market pressures broadly facing the industry, and current practices with regard to the management, deployment, training and development of labour. These interviews were supported by a review of the available literature. It should be noted that the published literature in meat processing is less extensive than is the case for early education and child care. An effort was made to ensure that key informants included a cross section of employer organisations (industry level), unions, training providers and industry-level experts. The National Meat Industry Training Advisory Council provided an important key contact for this project by facilitating some of the interviews and providing expert and ongoing advice.

The meat processing industry comprises a mix of small and large operators, with approximately 500 meat processors currently operating in Australia. The act of processing can include a range of tasks from slaughtering (for example, knocking, stunning or sticking an animal), sectioning (for example, slicing, cutting, detaching bone and meat from a carcass), to further processing of sectioned meat (for example, grinding, blending or curing). Processing may also include the preliminary stages of production for several meat by-products including hide, pelt, render and tallow.

International markets are now considered absolutely critical to the survival of the Australian meat industry, because local (domestic) markets alone would be insufficient to sustain the industry at its current size (Jahan 2004). The majority of Australian sales in beef, lamb and mutton products occur in export markets. Meat and Livestock Australia (MLA) estimates the value of beef and sheep meat industries alone to be almost \$16 billion (2008).

Delivering to export markets means the processing sector must have the capacity to handle a high volume and be responsive to an increasingly diverse range of consumer tastes and preferences, in order to remain competitive. This creates a number of skill ‘contradictions’ within the sector. For example, a high volume of meat must be processed quickly in order to meet the demands of export markets. For this reason, many processing plants have sought to create greater efficiencies and economies of scale by moving to a mono-species operational model (in which a plant processes only one type of animal). The mono-species model, however, has the potential to narrow the breadth of meat processing skills, as workers are typically only trained to process one species or breed.

A major problem confronting the meat processing sector is clarifying where a recruitment and retention problem ends, and a skills challenge begins. As it stands, while many employers report high labour turnover, it is not entirely clear what factors exert the biggest influence on turnover at the workplace level. The challenge to source and retain labour may be the result of processing plant location (which are often in regional or remote areas), low pay, and/or the poor quality of job (undesirable working arrangements and hours, low skill and poor career path), or skill shortage.

The key workforce development challenges in meat processing can be distilled to five main issues: industry volatility; diverse customer preferences; high-volume labour turnover from low-quality jobs; the growing influence of intermediaries (agents, brokers, labour pools); and lost skill opportunities. These issues raise a number of questions for the next phase of research.

Industry volatility

‘Tremors’ in the meat production chain can create ‘aftershocks’ for critical mass within the industry, including the maintenance of a stable and sufficient supply of labour. This creates two preconditions for skill atrophy. Low-profit margins mean that employers are reluctant to set aside funds for training. The seasonal nature of work in the industry means instability in labour supply.

Any manufacturing production chain can confront events which impact on overall infrastructure capacity. However, the meat sector is particularly vulnerable to unforeseen events of great magnitude. We use the term ‘tremors’ because both the impact and aftershocks of these events can powerfully resonate across the sector. These aftershocks can undermine the critical mass of the industry and this, in turn, undermines the ability of the sector to maintain a pool of appropriately skilled labour.

Seasonal factors are widely noted to be a significant challenge for the meat sector because these impact upon pasture availability and can include natural disasters such as drought, but can also include smaller changes in weather such as unseasonable rain, cold or heat. The degree of impact of these events is difficult for the meat processing sector to both measure and anticipate. For example, some commentators have noted that drought can actually help the processing sector more accurately anticipate volume because farmers choose to steadily reduce the size of their holdings (herds) over a set period. This is particularly the case for beef and veal (Drum 2008). Ironically, a break in the drought can lead to a sharp drop in the number of stock available for processing because farmers choose to retain stock in an attempt to rebuild for future seasons.

Changes in customer preference between different meat products can affect the entire production chain. Preferences in style of product preparation and shifts in international commodity market prices for raw materials (for example, price of grain) can also have a profound impact.

In the Australian meat industry, the impact of these tremors has created aftershocks for both the management and development of labour. In particular, the quantity of labour and composition of skills required by the industry can shift dramatically. For example, some large conglomerates maintain 'ghost' abattoirs which remain idle for long periods, in the hope that seasonal conditions may change and therefore make the processing plants viable. This means these facilities are rarely in operation, but when they are, they are often required to process large amounts of stock quickly. Examples of these exist in Queensland, South Australia and Western Australia. In other circumstances, for example, in the Northern Territory, some abattoirs are retained only to process overflow from the live export trade. A 'tremor' at the local level (for example, a change in weather conditions) can also mean that processing facilities are required to stop production quickly and with little notice. In regional New South Wales, a sheep processing plant was required to shut down at short notice due to a lack of meat supply. This meant the 400+ workforce were sent home at short notice and were forced to use one of their rostered days off. The impact of these events is potentially destabilising to a local community or region that is heavily reliant on a single industry.

Diverse customer preferences

Catering to export markets with diverse customer preferences creates the potential for skill growth, but prevailing industry and market conditions mean this potential remains unrealised (dormant).

Catering to export markets requires Australian producers and processors to remain continually responsive to the demands of these consumers, in order to remain competitive. The recent global financial crisis and the significant movement of the Asian region towards recession (Japan in particular) means this 'responsiveness to demand' takes on a new and grave significance for Australian operators who deliver to these markets almost exclusively. International markets require a higher level of customised product to cater for diverse cultural, religious and consumer tastes. More than two-thirds of all Australian beef produced is processed for two major export markets—Asia (largely Japan) and the United States. The processing required to meet these two markets is very different. In Japan, a higher-quality grade of meat is demanded by the consumer, which requires specific slicing and boning. This is also the case for the Korean market, where consumers have a distinct preference for meat to be sliced with the bone and joint remaining attached to the meat, making it more suitable for BBQ-style preparation. For the United States, a large proportion of the export product is hamburger grade meat, which undergoes a further level of processing before packaging. In sheep, the export chains are more varied, with Australia exporting to more than 70 different countries. A high proportion of the sheep product exported is mutton.

Meeting diverse customer demand has significant consequences for the skill sets required by the workforce. One key informant noted that 'it is the overseas market that actually creates the push for qualified workers'. In other words, a workforce able to respond and adapt (finesse) processing techniques to customised products will compete better internationally. Indeed, the consequences of not remaining flexible to the demands of these individual export markets can have deep consequences for the industry. In 2005, Malaysia actually suspended beef imports from a large

number of Australian abattoirs because inspectors were not satisfied that slaughtering processes satisfied halal certification standards (Australian Broadcasting Corporation 2005). The global recession also highlights that the obverse might also be true. If an overseas market has the power to mobilise a sector of the industry in skill terms, a crisis in this market may also have the power to cause a skill crisis.

High-volume labour turnover from low-quality jobs

Turnover appears endemic in the industry. This in turn, impacts on employee receptiveness to train.

Across all of the key informant interviews, the issue of high job turnover was raised consistently as the biggest obstacle to increasing productivity and developing labour within the processing sector. The intrinsic elements of much meat processing work mean that it is inherently 'unpalatable' to many people. This intrinsic problem, it was argued by informants, affected turnover in a number of ways.

Worker flight to other sectors within the food processing industry was mentioned by a number of informants as a particular problem. In particular, in regions where both cheese and ice cream were manufactured, meat processing plants had 'lost' workers to these employers.

Worker flight to other industries also posed a significant problem. Mining was named by many informants as a key competitor for meat processing labour. In one key informant interview, a human resources manager noted that 80% of exit surveys (at one plant) indicated that the worker was leaving because he or she had found a job in the mining sector.

The low pay structure associated with much meat processing work means that the intersections with the welfare system are highly significant. In other words, workers, particularly in regional areas, typically cycle in and out of the labour market. Industry informants noted that access to child care, an adequate public transport network, and the risk of losing other benefits (such as housing subsidies) played a big part in affecting the decisions of low-paid workers to stay in employment, or even enter employment. As one informant noted: 'changing parts of these systems would have a greater impact than changes to the VET system in terms of entry'.

Again, the meat processing industry can be singled out as confronted by a peculiar industry paradox. In studies of the meat processing industry in the United States, Kandel (2005, p.466) notes that (like Australia) there is a strong propensity for operators to choose rural locations for abattoirs because land is cheaper and there are less levels of regulation that might be associated with being located close to a densely populated residential area. This approach also enables the establishment of large facilities which can process a high volume and therefore yield greater economies of scale. Ironically, this also intensifies the difficulties associated with sourcing labour, as regional labour markets face challenges in retaining a cross section of workers of appropriate skill level. This mirrors the situation in Australia. Over the last 30 years, meat production has increasingly been held by fewer operators, thereby achieving greater economies of scale, but similar labour challenges have erupted.

The growing influence of intermediaries (agents, brokers, labour pools)

In an effort to maintain a flow of labour into the industry, employers have taken extreme measures to attract and retain labour. Skilled positions are increasingly filled by overseas labour. In this scenario, labour is trained by the company overseas; recruitment of workers is then dependent on their successful completion of training to certification standards.

In Australia, the difficulties in sourcing and retaining labour have culminated in the growth of brokering agents who mediate and provide workforce and training solutions for employers. In the meat processing industry, the most extreme example of this is found in the growing trend of importing labour which has been specifically trained to undertake certain tasks in the processing chain. The most high-profile example of this is found in the use of the 457 visa to import skilled labour to undertake meat processing work. This is a highly contentious and controversial issue for

the meat processing industry. Some key informants interviewed went as far as to claim that any growth in skilled workers in the industry had occurred because of the upsurge of operators using 457 visa workers. Others are heavily critical of the scheme because of the potential to exploit workers under the scheme.

The reliance on skilled migrants to source processing labour is not peculiar to Australian experience. In the United Kingdom, pig processors in Scotland and cattle and pig processors in Ireland rely heavily on the importation of eastern European labour to meet labour supply (Moxley et al. 2008). In the United States, there is a heavy reliance on Hispanic workers and the better part of growth in meat processing facilities has occurred in the rural mid-west and south-east of the United States, which eases and facilitates the entry and relocation of these workers from the south (Kandel 2005).

Lost skill opportunities

Technical redesign of the production process has not resulted in a concomitant redesign of labour.

Maintaining a high level of skill in slaughtering, boning, trimming and slicing is important because it maximises the use of a carcass and ensures no waste. A report on the Scottish pig industry found that a higher level of skill delivered some of the greatest productivity improvements because it ‘maximized the yield of usable material’ (Moxley et al. 2008, p.68). Research into the meat industry overseas notes that, where innovations in technology have occurred in tandem with a training strategy, this has led to the greatest productivity improvements. For example, a workplace case study of a pig processor in Scotland incorporated a gut house as part of its mainstream abattoir operation and established its own training school at the same time. In this way, the employer ensured a pipeline of sufficiently skilled labour to service the new operation, in tandem with introduction of the new technology. The operation yielded productivity improvements as a result (Moxley et al. 2008, p.58).

Although few studies exist to document the skill profile of the sector, researchers suggest that low skill levels do appear to be a persisting feature of meat processing. Although many jobs require multiskilling, and both boning and slicing can comprise highly complex set of skills (a boning room can include up to 100 different tasks, a slicer may need to incorporate up to 18 different slicing methods), the overall profile of the industry is still one comprised largely of low-skilled jobs. Reports conducted by the Productivity Commission on the pork industry found that a lack of skilled staff was impacting animal welfare, occupational health and safety, and quality assurance (2004, p.91). The Australian Meat Industry Employees Union notes that only approximately 30% of the entire industry is skilled, with 70% of the industry comprised of jobs described as requiring ‘little skill’ (Australian Meat Industry Employees Union 2006). This reflects another anomaly within the industry—that there are many qualified people in the industry, but the industry remains highly reliant on low-skilled labour to function.

The meat industry has been noted to have a culture of ‘resistance’ to training (Rafferty, McDonald & Norton 2008). However, little research currently exists which might shed light on how this resistance is manifested. This raises a number of questions about how employers, at the workplace level, make choices about the points of the ‘skill’ chain in which employers choose to invest. A large-scale research project in Canada examining training regimes in low-paid industries found that employers tend to rely almost entirely on on-site training for lower-level qualifications. The research found that, when training money is available, it tends to be invested at the higher end of the occupational hierarchy, because this is perceived to reap the best productivity improvements in the long term (Zeytinoglu et al. 2008).

Are some job tasks resistant to re-invention?

Slaughtering animals is confronting work. This was confirmed by the commentary of key informants at interview. One informant stated simply: ‘It’s a bloody hard job’ or as another

interviewee noted: 'No matter how you call it, we're still killing an animal'. In other low-pay occupations that also contain difficult and challenging tasks, researchers argue that workers in this role undergo a re-negotiation with the act of work. For example, in home care, which is a low-pay and low-status job, workers have embraced the notion of 'dignity in dirty work' (Stacey 2005). Correctional officers, for example, although often engaged in difficult and dangerous work, embrace the notion of performing an important duty to the community in the form of protection. It could be argued that in meat processing, re-negotiations between the worker and job role is a more complex undertaking.

In research overseas, it has been noted that it is this very issue that has led to the heavy reliance on migrant labour for undertaking meat processing work. Kandel describes this as the 'social content' of work, and argues that the 'status' of the job within the labour market becomes a key factor in job recruitment and retention. In this scenario, migrant workers are sourced to fit employment profiles of jobs because local workers will not take them. Taking this view, lifting the wage floor alone will not solve recruitment and retention problems faced within the industry.

Future work

So far we have completed the first in a three-year program of research. We have defined categories to frame our thinking and around which to design future stages of research. In the next year we will be undertaking a more in-depth analysis of our two industries of interest, predicated on a more developed concept of the skills ecosystem. We will also place emphasis on applying greater conceptual depth, by looking outward, towards international experience.

Overview of key questions and research methods

We will undertake a mixture of research methods to answer our key questions of interest. This will include site-based case studies in early childhood education and care and meat processing; a literature analysis, including international case studies of innovative VET and industry practice; and life histories with people who are not in work, either as job seekers or people not seeking work.

VET and industry

In early childhood education and care and meat processing we will examine two specific skill trajectory scenarios. This examination will be undertaken in a systematic way, through development of a model which identifies the key elements critical to either skill growth or skill atrophy. This model will be developed in a way that offers scope for replication in other industries, and in other training settings. The model will provide a methodological framework to both guide the consideration of the skill scenarios and develop research protocols and lines of investigation for these industry case studies. The first, scenario A, will look at the role of VET in the industries if they continue on their current paths. The second, scenario B, will assess the impact of significant industry change and investigate the implications for VET.

Scenario A: Industry status quo

This scenario provides scope to investigate the role of VET in lifting productivity in our two industries if the current external and industry contexts remain fundamentally the same.

At this early stage it is apparent that there are organisations in early childhood education and care that are able to improve the quality and productivity of the current workforce more effectively than others, with better ratios, creative job redesigns and improved wages and conditions. Alongside these initiatives, those workplaces have been able to offer development opportunities for workers and consequently enjoy lower turnover rates and higher qualification levels. The issue of maintaining labour supply is critical to the future of the meat processing industry, and is a significant challenge, given the vagaries of seasonal change and customer demand. The large number of well-established and long-standing meat processors in Australia demonstrates that employers do have strategies to confront these challenges.

We will investigate this scenario by undertaking case studies of innovative or best practice in each sector. Workplace case studies would provide an important starting point for further research (including examination of training and productivity/quality approaches) in our sectors. These case studies would provide the opportunity to explore how employers respond to the challenge of labour supply, whether these solutions have been formed in partnership with a region or locale, and

how these responses intersect with the VET system. Studying key operations will allow us to gather insights into how this is achieved and the role that VET does or should play. Understanding these strategies better and examining whether they are challenging or changing the dynamics of skill atrophy will be of great value to industry stakeholders more broadly and VET practitioners and policy-makers. In effect, by undertaking a closer examination of the workplace-level variables and the VET service models that engage most effectively, we aim to share some of the better practices that are currently occurring within the sector.

The issue of how workers engage with and understand the labour market they operate in is best informed by life histories. ‘Career’ workers in meat and early childhood education and care could be interviewed at our case study sites to enable us to better understand how these workers have become committed to a long-standing career in these industries, and whether training has offered beneficial career transition points throughout their work history in the sector. Has a ‘local’ connection formed part of the enduring connection to an employer? What other factors have influenced worker decisions to stay and develop within the industry?

Our key guiding questions for scenario A will include:

- ✧ What are the features of best-practice workforce development in our industries?
- ✧ What has been the current role of VET in maximising any improvement in productivity and quality?
- ✧ What are employers’ views of engagement with the VET system?
- ✧ How, if at all, are VET arrangements currently contributing to competence development for the industries of interest?
- ✧ Where are the different models of training services operating in our industries?
- ✧ Can these practices be generalised? And if so, how?
- ✧ What impact will this approach have on the industries position in terms of skill growth and atrophy?
- ✧ What will be the impact on workforce participation?
- ✧ Why do workers stay and what role has or can VET play?
- ✧ Why do workers leave meat processing and early childhood education and care and what role has or can VET play in keeping them or assisting in redeployment to other industries?

Scenario B: Industry transformation

The second scenario will look beyond current workplace level solutions to apparent ‘intractable’ barriers to improvement. It will look at the potential trajectories of the industries and assess the impact the future might have on workforce development and participation. This will help establish how VET can best position itself to predict and respond to changes in skill needs.

It is clear from our preliminary analysis of early childhood education and care that an understanding of the ‘core’ service or product is necessary to the development of a longer view of an appropriate education and training response. Fundamental shifts in skills needs cannot be predicted unless that broader contextual analysis is undertaken. A concerted move to a more integrated system of early childhood education and care raises a series of fundamental workforce development questions. Which profession will be core and what will be the balance with other occupations? What education and training will be needed to optimise the capacity of those workers? And under an integrated system, what will be the role of vocational education and training in the ongoing professional development of such a workforce?

Recent research in Europe suggests that employers and governments in Denmark and the Netherlands have approached the issue of low-skilled work in the meat processing sector in a unique way. A more detailed exploration of these case studies would offer insight into the policy approach that might be formed in response to low skill–low wage traps within meat processing and early childhood education and care. We would also investigate the impact of upskilling on local labour markets profiles in those contexts.

Our key questions guiding scenario B will include:

- ✧ How does VET position itself to anticipate and respond to fundamental changes in skill need?
- ✧ What structures would work best to inform and plan VET strategies?
- ✧ Are there examples overseas which might give insight into how governments and employers have sought to resolve the low wage–low skill nexus?
- ✧ What are the implications for different learner pools and the role of VET?
- ✧ What are the impacts of upskilling on current labour market entry points, and what is the role of VET in either finding new ones or accessing changed ones?
- ✧ How does VET contribute to the evolution of work and skills in the industries under review? Is it really only a ‘derived’ demand or can it help shape different scenarios? If the trajectory of skills atrophy continues, can it do anything more than merely deliver ‘accommodating’ training to ensure lower-skilled workers get more formal qualifications? Or can it also lay the basis for more a more integrated service based on either more capital-intensive production (in meat processing) or integrated education and care (in children’s services)?
- ✧ If policy does favour early childhood education and care over other notions of children’s services, or meat processors do move to capital-intensive production, what will happen to lower-skill workers currently in the sector? What processes for upskilling can be provided? And if there is only limited room for them in this sector, where else are they likely to find ongoing work?

Beyond workplaces: VET and ‘underutilised pools of labour’

VET can and does operate beyond industries and has a role to play in engaging with people who are not in the labour market. It has a role in increasing workforce participation that sits outside of the skill ecosystem of any one industry. We aim to better understand what is keeping people out of the labour market, looking at both job seekers and latent job seekers. This will involve ascertaining what role VET might play in maximising potential for labour market entry, by providing support to both individuals and intermediaries.

Some of this work crosses over with our industry studies. For example, at site level we can deal with issues of employer attitude to different job-seeker pools under the two different scenarios. But going beyond workplaces will be necessary. Talking to the range of intermediaries engaged in assisting job seekers will be critical to those understandings, as will collecting life histories of people who are not currently in work. We will use these insights and our understandings from the literature and statistical work already undertaken to refine a typology to assist in selecting a range of participants.

We will focus our empirical work on two local labour markets. This will take careful selection, given the great variety of possible sites which will probably provide very different insights; for example rural/regional labour markets are very different from metropolitan ones. However, there is considerable variation between different rural/regional labour markets. Preliminary work will have to be done to determine the most appropriate sites for this study, although it is clear at this stage that a regional/rural site will be important to pick up some of the most extreme barriers to labour market entry.

We have outlined a list of guiding questions that have been raised by our preliminary work looking at underutilised labour pools.

- ✧ Where could new sources of labour be found for case study industries?
- ✧ How can VET assist with mobilising currently underutilised pools and flows of labour?
- ✧ What parts, if any, of the population on income support could potentially be available?
- ✧ What would it take to get them to be economically active in these sectors?
- ✧ How important is VET *vis-à-vis* other services such as those relating to mental health and housing for supporting them back to work?
- ✧ What parts of the VET system are best suited for this? For example, should more attention be devoted to group training organisations or ethical labour hire companies? How do partnerships between registered training organisations, job network providers and employers function? Are there other effective networks involving VET in Schools, private registered training organisations, vendor and equipment suppliers and structured on-the-job learning/rotation systems? Can such arrangements be ‘purchased’ to spread access to high-quality on-the-job learning experiences?

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