

Old dogs, new tricks: Training mature-aged manufacturing workers

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1. Introduction

Mature-aged workers are becoming increasingly important in Australian workplaces, as in many other countries. Australia has a tight labour market with unemployment in January 2009 standing at 5.3 per cent and declining, despite the impact of the Global Financial Crisis (Australian Bureau of Statistics [ABS], 2009). Employers report difficulty in filling even jobs that do not require qualifications. Thus organisations need to retain workers well past the age at which in previous decades many workers began to think of retiring. Therefore, it is imperative that issues associated with the training of mature-aged workers are examined closely. This paper reports on a project commissioned in 2007 by Manufacturing Skills Australia, the Australian Skills Council for the manufacturing industry. The study was about the employment and training of mature-aged workers, with fieldwork concentrated in the manufacturing sector. For the research, ‘mature-aged’ was taken as 45 years and above, as this was the definition used in Australian vocational education and training (VET) policy documents; 45 years is also used in OECD documents (Tikkanen & Nyhan, 2006). The focus of the study was on operational-level (‘factory-floor’) employees rather than on managerial or professional staff. Mature-aged workers are, of course, present in all walks of life, but the research did not look at the training and learning of those in managerial or professional occupations.

This paper reports some of the findings of the study, addressing three main research questions. These are:

1. What are the views of the strengths and weaknesses of mature-aged workers, as a group, that are held by employers, in-company trainers, mature-aged workers themselves and experts from stakeholder groups?
2. How do mature-aged workers respond to training opportunities?
3. How do (and can) companies organise training processes to make them suited to mature-aged workers?

The title of the paper refers to an English saying “You can’t teach an old dog new tricks”. The findings of the study indicate that, in fact, mature-aged workers are generally keen to learn ‘new tricks’ and suggests some ways to assist them to learn more effectively.

2. Background

The following section summarises the key points from the most relevant bodies of literature and explains the contribution of the current study.

¹ We would like to acknowledge the contribution to this research study, and the life work, of Chris Selby Smith, who died suddenly in 2007 and who is sorely missed for both his work and his gentle personality by all in Australian research in vocational education and training.

2.1. Skills, training and qualifications of mature-aged workers

It has already been noted that the Australian economy is experiencing labour shortages; it is also generally viewed as being under-qualified (Shah and Burke, 2006). In such a situation there is a need to grow the skills and qualifications of the existing workforce and this necessarily involves existing mature-aged workers (Australian Industry Group, 2006). Currently one in three potential workers over the age of 45 is not in the workforce (Kossen and Pedersen, 2008) and to meet labour shortages many of these people need to be attracted (back) into the workforce. Mature-aged workers are already beginning to assume greater significance; the greatest growth, among age groups, in the Australian workforce in the first decade of the 21st century was among men and women aged 55-64 (Dawe, 2009). Mature-aged workers forming an increasing proportion of the workforce, while not a 'problem', creates some new challenges. Burke (2002) notes that mature-aged workers have in the past had less access to learning opportunities than other age groups, but improving their access is not unproblematic. Larsen and Istance (2001), for example, suggest that government lifelong learning policies might discriminate further against disadvantaged groups because they are less likely to access later life learning opportunities.

The upskilling of existing workers has been identified in many policy documents promulgated by government and by stakeholder groups and as a key element in competitive success for Australian organisations in the future (eg Business Council of Australia, 2006). Much of the upskilling of existing workers, and therefore of mature-aged workers, is carried out through non-accredited training. However in Australia, as in the UK, there has been a move towards qualification-based training delivered in workplaces. In Australia this is known as 'nationally recognised training' (Smith, Pickersgill, Smith and Rushbrook, 2005) and is often delivered through the form of 'traineeships' which are a form of apprenticeship, involving a particular type of employment contract together with formal training (Smith, Comyn, Brennan Kemmis & Smith, 2009). Nationally-recognised training involves the delivery of nationally-agreed competencies which are available in most industry areas, and there is a heavy emphasis on competency-based assessment and on Recognition of Prior Learning (RPL), which involves the granting of 'credit' for previous demonstrated learning from study or work.

As a group, mature-aged workers are likely to be less educated, and have fewer formal qualifications than younger workers (Cully, 2004). The latter have entered the workforce in times when qualifications were viewed as more important and have been available through a greater number of pathways. Therefore nationally-recognised training has opened up new formal training opportunities for under-qualified mature-aged workers and has been important in redressing the imbalance of training and education opportunities in the workforce. However, the availability of nationally-recognised training through work is not without its challenges. These include the restriction of access to those in work, the possibility of overly firm-specific training, and the over-reliance, particularly by disadvantaged workers, on the good faith of employers navigating the training system on their behalf (Smith & Smith, 2009).

2.2. Types of learning in workplaces

It has been shown exhaustively that there are many different types of learning in workplaces; these are normally classified according to varying degrees of formality, (eg OECD, 1996), including incidental learning (Marsick and Watkins 1990) or as Smith (2003) categorises the types: taught, sought, wrought and caught. It has been argued that mature-aged workers engage more in informal learning than younger workers, particularly in intentional learning activities (ie 'sought') rather than merely learning operational procedures from other staff (Berg and Chyung, 2008). Younger workers by contrast depended more on instruction from supervisors (Coetzer, 2007). Longer-established workers can be utilised by firms to implement training strategies (Sisson, 2001), suggesting a role for mature-aged workers as trainers as well as learners. Companies can make workplaces more conducive to learning, can create 'affordances' in jobs that make them richer in learning potential and can implement a number of strategies to improve their training practices (Billett, 2001), but on the other hand workplaces have limitations as learning sites (Harris and Volet, 1997). It might be surmised that mature aged workers with their greater life experience may be more likely to be aware of these limitations.

2.4. Mature-aged workers' employment and learning

There are some differing views about the employment and training of mature-aged workers. Some research has shown that mature-aged workers often experience discrimination in employment and access to training due to perceptions of diminished abilities and of resistance to change (Zeytinoglu, Cooke and Harry, 2007). Mature-aged workers on the whole, however, are shown to contribute effectively to workplaces (Tikkanen and Nyhan 2006) and, it has been argued, do not actively resist change (Newton, Hurstfield, Miller and Bates, 2005). However, negative stereotypes about mature-aged workers abound (Kossen and Pedersen, 2008) – including among the workers themselves (Maurer, Barbeite, Weiss and Lippstrue, 2008). While much of the literature portrays older people as homogeneous, as Chen, Kim, Moon & Merriam (2008), point out, it is also argued that there is a great diversity among mature-aged people (Ferrier, Burke and Selby Smith, 2008). As McNair (2006: 492) says 'It is only through the lens of ageism that people appear to become more alike with age.' For example, it has been argued that career motivation causes many mature-aged workers to seek training opportunities to the same extent as it does younger workers (Greller, 2006; McNair, 2006). Contextual factors are also very important in creating or magnifying differences among people (Schmidt-Hertha, Tikkanen & Hansen, 2009)

While a perception persists, grounded in psychological gerontological literature from the 19th and early 20th century (Schmidt-Hertha *et al*, 2009), that older people have lower cognitive capabilities than younger people, recent research has tended to contradict or at least modify this. Mature aged workers may suffer a slight decline in some areas of mental ability but, apart from the category known as the 'oldest old' (over 80), overall their mental abilities are equal to younger adults, and they generally develop compensatory mechanisms for any specific areas of decline (Schaie, 1996, in Berger, 2005: 523). A series of Australian research projects showed that in workplaces mature-aged workers generally learn as well and as quickly as younger workers (Smith, 1999) and also bring significant life experience to work and learning (Paloniemi, 2006). There are, however, differences between mature-aged people and young people that need to be considered. Some mature aged workers have had

previous negative experiences of education, particularly at school, and may be nervous about undertaking formal learning at work (Maclachlan, 2004). This nervousness can be addressed through various strategies including undertaking learning in friendship groups (Maclachlan, 2004), and providing assessment tasks that are closely related to normal work practice (Hoy-Mack, 2005). It is recognised that health issues may impair ability to undertake certain types of work or training (McNair, Flynn and Dutton 2007). Areas of physical and mental decline can be addressed by ‘age-specific’ organisation of work and training (Schmidt-Hertha *et al*, 2009); however employers rarely undertake routine health assessment (McNair *et al*, 2007). Mature-aged workers may have a slightly different and more instrumental or tactical (as opposed to strategic) approach to learning (Bowman and Kearns, 2007) as they begin to be more conscious of ‘time remaining’ in their lives to undertake activities (Cranton, 1992). More generally, Chen *et al* (2008) caution that much literature underestimates challenges associated with ageing.

Thus a consensus seems to be emerging both in the policy and scholarly literature that it is necessary both to retain mature workers in the workforce and to attract back those that have withdrawn; that mature workers are generally good employees and good learners alike, albeit with some issues which need addressing, and that mature aged workers are individuals rather than a homogenous group. There are clear implications for training and this paper seeks to extend our understanding of the training of mature-aged workers. McNair *et al* (2007) identified manufacturing, along with construction, as an industry where the greatest concerns were expressed about mature worker capability; the fact that the study is in this industry adds additional value.

3. Research Method

The research method involved two phases during 2007. Phase 1 consisted of interviews with selected experts in the training of mature-aged workers, and Phase 2 (Table I) involved case studies in three manufacturing companies. The expert interviews in Phase 1 were designed primarily to inform the protocols for the Phase 2 case studies by identifying issues for questioning. Six experts (Moyser, 2006) were interviewed, drawn from employer associations, trade unions, government and specialist employment agencies for mature-aged workers. This paper reports mainly on the results from the Phase 2 case studies although brief reference is made to some of the data from the expert interviews.

Table I: Company case study details

Name of organisation	Location	No of employees at the site visited	Type of manufacturing	Total number of interviews	‘Factory-floor’ interviewees
Austrak	Regional city in New South Wales	60 (and expanding rapidly)	Sleepers and turnout bearers for the rail industry	4	2 (aged 60 and 61)
Precision Parts	Regional city in New South	70	After-parts for the automotive	4	2 (aged 50 and 57)

	Wales		industry		
Sutton Tools	Melbourne, Victoria (metropolitan)	300	Cutting tools	10	6 (age range from 45 to 68)

A qualitative approach was selected as it was considered important to establish reasons for actions and beliefs. Case study method (Yin, 2003) was selected in recognition both of the importance of contextual factors in workplace training and of the need to obtain data that was triangulated from different viewpoints. The case studies were chosen to represent different types of manufacturing, regional and metropolitan locations, and different sizes of organisation. The case studies were accessed through personal approaches from the researchers to companies known to be open to research studies. As is common with case study research, the interviewees were selected by the companies within the parameters of the types of interviewee required. The organisations gave permission for their company names to be used.

The case studies involved interviews with managers (line and human resource), training staff, and mature-aged workers (and in one case, a worker focus group) lasting between 30 and 60 minutes. Lengthy interview protocols were prepared for the different types of interviewees. The questions for managers and training staff included general background questions about the firm and its training, the employment and training arrangements for mature-aged workers, and for training staff, particular questions about pedagogy and assessment. Worker interview protocols included questions on personal histories and their experiences of training and assessment, and their views about other mature-aged workers. Interviews were taped and transcribed.

Data analysis for the overall project was undertaken in several stages. The two phases were firstly written up independently. For Phase 1, themes relating to employer, employee and training perspectives were drawn out. For Phase 2, each company case study was written up individually and then a cross-case thematic analysis (Miles & Huberman, 1994), was undertaken. Finally, the overall findings of the study were analysed and related back to the literature.

A limitation of the study is the relatively small amount of fieldwork that was carried out. However, even with only six expert interviewees and three case studies which comprised 18 interviews, a significant amount of data redundancy (Lincoln and Guba, 1985) was noted, ie the same themes surfaced again and again. Thus, while a larger study would be desirable, the likelihood is that it would not result in significant additional understandings. A further limitation is that only two female mature workers were captured through the case studies. As the study was in the manufacturing industry, which is male-dominated, this gender bias was to be expected, but it does mean that the findings might not apply to other industries particularly those with a large female workforce. A final limitation is that one of the researchers died suddenly before the thematic analysis was carried out, and therefore the other authors were unable to validate the themes with him, or discuss with him the data which he had written up.

4. An Overview of the Case Studies

In this section each case study company is briefly described.

4.1. Austrak

The case study site was one of nine sites in Australia for this internationally-owned company which manufactured railway sleepers and turnout bearers. The manufacturing processes were highly automated, meaning that workers did not need to lift heavy weights. Sixty per cent of the workers were aged over 50 (10% over 60). While there had not been a conscious strategy to employ mature-aged workers, the selection process (carried out through an employment agency) which involved several interviews, rigorous referee checking, medical assessments and physical fitness testing, had produced this age profile. While nationally recognised training was not utilised extensively, external providers were used for regulation-related training, which involved the learners being assessed.

4.2. Precision Parts

This was a medium-sized engineering company which had been growing rapidly in recent years. All production workers were male and the majority not trained through apprenticeships. Of the 70 staff, six were aged 45 plus. The company found it difficult to recruit high calibre staff and the managing director said he would have liked to recruit more mature-aged workers. According to the training officer, younger people tended to stay for less time because of the favourable employment situation, whereas mature-aged people were more likely to wish to stay in the locality. Training in the company was affected by the fact that all job roles now required computer skills and some mature-waged workers found this a little challenging. The training officer mentioned that he found a mix of older and younger people in training groups worked well.

4.2. Sutton Tools

This company was Australia's leading producer of cutting tools such as saw blades, drills and hole cutters. The case study visit took place at the largest factory where the firm's headquarters was located. 300 people worked there; almost all of the production workers were male and 70% were aged over 45 (with five over 65). As with Austrak the company was not a large user of nationally-recognised training but ran a structured training system for production workers, involving rotation to different areas of the plant, company competency standards and training modules, and assessment at the end of each rotation. As at Precision Parts, it was stated that a recent move to computer-operated machinery had created some unease among mature-aged workers. However mature workers had greater understanding of machines, were able to spot problems more quickly and to create modifications to improve machine performance. The Sutton Tools case study added the important dimension of having many workers from a non-English speaking background.

5. Discussion of the major points from the case studies

This section discusses the fieldwork findings under two headings:

1. Nature of mature-aged workers
2. Teaching, learning and assessment issues

Despite variations in the nature of the case study sites, findings varied little among them. There was also a high degree of concurrence with the data from the expert interviews, although it is not possible due to reasons of space to present the data to

support this. The main variance between the expert interviews and the case studies was that the expert interviewees spoke more about the barriers to employment for mature-aged people. Since the case studies were carried out in companies which chose to employ mature-aged people, while the expert interviewees had experience of dealing with a broad range of companies, this difference is not unexpected.

5.1. Nature of mature-aged workers

In interpreting this discussion it needs to be remembered that this research was concerned only with factory floor workers in manufacturing organisations.

The research underlined the contribution of mature-aged workers to companies. One of the great strengths of mature-aged workers to the companies in which we carried out the research was the variety of experience, especially job experience, which they brought with them into the company. Their long experience often allowed mature-aged workers to succeed in training and learning situations better than their younger peers. As the Training Co-coordinator at Austrak remarked:

I've got to give gratitude (sic) to the older fellas because they comprehend things a lot quicker - because most of them have worked in production facilities at sometime in their life, and they have an understanding, or grasp the concept a bit quicker than a young fella will.

Some workers had previously held senior positions in other industries, or in other countries. However, there were significant variations among individuals; some workers, despite lengthy experience, lacked confidence and had low skill levels.

Learning styles and abilities also vary significantly amongst mature-aged workers. As one training co-ordinator said:

It's more of an individual's ability. The way I train people is I assess their individual ability to learn. Now you can have a young guy that's an absolute genius and gets through something very quickly, but you can also have an older guy that's the same. You can have a young guy that's absolutely dumb and has no comprehension of anything, but you can also have an older guy like that.

This co-ordinator suggested that what might be lacking in speed or mental agility was more than compensated for by experience and wisdom.

In all the case study organisations, managers and trainers emphasised the greater maturity and reliability of mature-aged workers. This was a major advantage of hiring mature-aged workers. At Austrak, these qualities had meant that mature-aged workers had been far more successful than younger applicants in the initial, rigorous selection processes at the organisation. The MD at Precision Parts summed up what interviewees meant by personal reliability:

The mature aged worker has got one great advantage, they always turn up to work, they never in my experience sort of knocking on the bundy clock (timekeeping device) to leave right on 4 o'clock. A mature aged worker's definitely sort aware of the other people around him and (has) the ethic (sic) that nothing's too difficult.

Mature-aged workers were reported to adapt to change more readily because they had had more work experience. The Plant Manager at Suttons Tools made the point that mature workers could quickly see the positive aspects of change and its significance:

The beauty of it was that they knew the tool already. All we had to do was teach them about the machine and how to work it...the older workers embraced the change.

Mature-aged workers played a part in the development of younger workers. The experience and reliability of mature-aged workers seemed to be transmitted to younger workers undergoing the training. The mature-aged workers could act as unofficial mentors to the younger workers and help them to cope with training or with broader organisational change. A mature-aged worker at Precision Parts said:

I think you tend to help young people as much as possible, you know, it's like we've had apprentices and things like that, so you've gotta show them.

However it was also stated by others that not all mature-aged workers had the qualities or the motivation to assist younger workers.

Many mature-aged workers showed enthusiasm for learning. Mature-aged workers were very often glad to be given the opportunity to learn again (as some saw it) in later life. For many this was a chance to start something new rather than coast to retirement. Many of the mature-aged workers in the research saw themselves with a new phase of their lives ahead of them. As one mature-aged worker put it, 'I'm prepared to go (on learning) as long as my health holds up'. Another worker said 'Learning can be challenging, but once you get it, it makes you happy.'

However, an issue raised by many participants was that mature-aged workers might lack confidence. The research surfaced some of the concerns that mature-aged workers harboured about training and learning in later life, as well as their enthusiasm for it. Foremost of these concerns was a lack of confidence, perhaps produced by having been outside the formal education system for a long time and having fewer qualifications than younger workers.

Mature aged workers might suffer from some health problems. Minor health issues such as adult-onset diabetes and eyesight issues were described by some mature-aged workers and their trainers, and this could affect training and learning as much as work. The Training Co-ordinator at Austrak explained this:

To be fair, old fellas do have illnesses and things that we do have to take into consideration, you know, like diabetes and things like that. A lot of people get them as they get older. Like the fact that a lot of people wear glasses and we've got to accommodate for that. And it's more of the old people-[but] you can't discriminate.

In all three case studies it was stated that technological advances meant that the work was not nearly so heavy as in previous times, reducing the physical demands on workers.

5.2. Teaching, learning and assessment issues

Mature-aged workers often preferred training to be workplace-based and practical rather than classroom-based and theoretical. In one company the trainer said:

(Modules) are always taught in a classroom situation (but the learners) tend to retain some, but not all of the stuff. The training needs to be complemented by practical applications, especially for older workers.

They also tended to prefer training to be tactical or 'just-in-time': to be provided to assist with particular tasks when they needed it for the job. One mature-aged worker said:

With me anyway, I would never learn something just for the sake of learning it.

In general, although not always, mature-aged people liked to undertake training that related directly to their work. This might stem from a perception of diminishing time available. One expert interviewee, from a national employment agency specialising in mature-aged workers, said that it was important that firms were honest about the skills that would be derived from training.

Mature-aged workers might have to be persuaded into training: a mature-aged worker in one case study was persuaded by the general manager at Austrak to undertake re-training as an electrician, and he recognised the role that encouragement by senior managers can play in improving confidence levels:

About a month later Alan called me into the office and we were talking and he said "Where are you with your sparky's [electrician's] licence?" and I said "Oh look Alan ...I'm 60!" Well he called me in ... and he said "Come on, you've got 20% of your working life left - you can't throw the towel in; now get off your bum and get your ticket." So I did the training and I got my ticket last Saturday. But the point I'm trying to make, is that without Alan's encouragement I wouldn't have done it.

Many mature-aged workers in manufacturing were reported to have quite low literacy levels. At the time of their schooling it was unusual, in Australia, to complete school to a high level, and there were fewer learning supports available in schools. While such workers' oral communication might be very good they might struggle with written materials. Trainers said that this meant that training materials should not assume literacy levels beyond that needed to reach the learning outcomes. Training programs needed to make more use of visual as opposed to written materials (eg diagrams and photographs). This also suited workers from non-English speaking backgrounds. Trainers needed to be sensitive to possible literacy problems. One mature-aged worker said, 'Literacy and numeracy are (the) number one (fear)'

Once engaged, mature-aged workers were likely to take training seriously; the trainer at Precision Parts said, of the traineeship that many of his workers undertook:

The mature workers had a bit more common sense and they were probably more intent on learning the topic than say the younger guys were. For the mature aged guys, it was probably something a little bit different to them, they've been around a bit longer and wanted to see it through more and were probably more concentrating on getting the job done.

Mature-aged workers might have particular expectations of their trainer. They might prefer a fairly traditional teacher-student relationship and would accept direction and criticism. But they did expect the trainer to respect their experience and to form a personal relationship with them. One training manager said:

Older people need a more personal approach; they want a relationship in their learning... Lack of empathy stops good teaching; the trainer must care enough for the learner.

Workers tended to feel that some mature-aged workers might prefer a trainer who was also mature-aged, although this view was not universally-shared.

In general there was agreement that mature-aged people were best trained together with younger learners. Although being in a group with younger people who have more recent experience increased anxiety in some mature-aged learners, in general mature-aged learners provided a good influence on the younger learners and enjoyed the opportunity to share their experience. Mature-aged people might also be good trainers and workplace coaches, although again it was not universally agreed that this was a natural attribute of mature-aged people.

Training itself could increase the ability of mature-aged workers to learn. Their experience, which often came from many different workplaces, gave them a broad and deep understanding of workplace processes. Several workers commented that their capacity for learning had increased over the years. Two comments from workers from different case study companies follow:

I think I am more intelligent now than I was twenty years ago when I first joined the company. (This older worker had joined the company at the age of 48). (Sutton Tools)

My mind has been more open to learning and sucking stuff up basically. And I feel within myself that I'm more intelligent, more intellectual than what I was back then. (Precision Parts)

Experienced workers were able to relate what they were learning to many previous experiences, conceptual frameworks and workplace settings.

The most obvious area of challenge for mature-aged workers was assessment. It was universally agreed that mature-aged people were more anxious than younger learners about being assessed, partly because younger workers have more recently been in educational institutions. Mature-aged workers were also more reluctant to respond to questioning especially when being trained in groups. One trainer said:

Some of the younger guys obviously are just coming out of school ... they were used to someone saying and questioning and answering and things like that, but some of the more mature guys kept it a bit more close to their chest. You know they sort of seen it as a bit of ... an interrogation (and were) probably more worried about failure than the younger guys. The younger guys (think) 'if I get it wrong, I get it wrong'; whereas with the older guys they were a bit more responsible and probably failure was more important to them than anything else.

A mature-aged worker in another case study said:

There's only that assessment process (where) I was really under pressure ... I can't afford to fail. ... I've always been sort of successful if you know what I mean. So, it's important for me not to fail.

While RPL, a form of assessment, appears to offer a way of recognising job experience for those without formal qualifications, this response suggests that it brings its own anxieties for mature-aged workers.

6. Conclusions and Analysis

This section should be prefaced with a reminder of the limitations attendant on the small scale of the study. However, as suggested above, the data redundancy that occurred so quickly provides more confidence in the findings. A larger-scale study

would confirm the findings which could also be augmented by case studies in companies which choose not to employ mature-aged workers.

This research has indicated that mature-aged workers are seen as an asset rather than a liability to employers. As the literature has shown, there are many perceptions about the characteristics and abilities of mature-aged workers that are not underpinned by evidence. We found that mature-aged workers were often quicker to learn at work and in training situations than younger workers, and were often more focused at work. In our study, employers were keen to point out that mature-aged workers embraced change more readily than younger employees and were keen to participate in organisational change processes. As previous studies have argued, mature-aged workers will often understand the necessity for change better than younger workers because they have significantly greater work experience and understand that change is often necessary in organisations in order to remain competitive. Employers also pointed out that mature-aged workers were generally more reliable in their work efforts (meaning it was possible to leave a task with them knowing it would be completed) and had a greater work ethic than younger workers.

However, adverse physical factors did play some role in the training and learning of mature-aged workers. Whilst it is clearly the case that many people function effectively until very late in life, this research has shown that minor physical deterioration – problems with eyesight, late on-set diabetes etc – could have an impact on the way mature-aged worker. It is noteworthy that Sutton Tools, with a very high proportion of mature-aged workers, reported a high level of absenteeism which created difficulties in keeping a plant running around the clock, although this was not directly attributed to the age of the workers.

Despite their greater experience of the world and of work and their reliability as employees, some mature-aged workers suffered from a lack of confidence in the training situation. Our research showed that while mature-aged workers did not require special treatment in terms of training, they sometimes needed to be coaxed into undertaking training, especially formal training. Mature-aged workers might have lower levels of literacy and numeracy, they may not have been in a learning situation for many years and they could have a greater fear of failure than younger workers. Therefore mature-aged workers needed to be carefully encouraged by their employers to undertake training. This was particularly true of assessment, where the fear of failure was greatest and where demonstration of competency could be a major source of stress for mature-aged workers.

There is no doubt from this research that, on the whole, mature-aged workers preferred workplace-based learning and took a shorter-term approach to training and learning in the way that the literature suggests (Bowman and Kearns, 2007). Mature aged workers tended to value training and learning for what it would give them in their employment, but nevertheless some enjoyed it for its own sake.

As discussed earlier, some literature on mature-aged workers has discussed the level of discrimination that mature-aged workers feel they encounter in the workplace. This was supported to some extent by our expert interviewees, some of whom felt that some employers did discriminate against mature-aged people. But the case studies appeared to contradict this common assumption. None of the employers (admittedly only three) discriminated against mature-aged workers, and none of the mature-aged

workers interviewed reported having experienced age discrimination directly elsewhere in their working careers. The case study findings confirmed Lundberg and Marshallsay's (2007) findings that mature-aged workers may fear a negative reaction amongst colleagues and employers age but do not report having experienced this negative reaction themselves. In other words, mature-aged workers might fear age discrimination more often than they actually encounter it; this perception needs to be combated to improve the self-efficacy of some mature-aged workers.

In general, this research has confirmed many of the findings of previous work on mature-aged workers. Mature-aged workers are a source of great advantage to employers, especially in times of skills and labour shortages. As the example of Austrak in our research shows, rigorous selection policies will tend objectively to favour the strengths of mature-aged workers.

What are the implications for those working with mature-aged workers, for example in assisting them into employment or encouraging them to remain in employment, or for those in a position to influence companies in their recruitment and development processes? The positive findings of this study provide data that could encourage companies who have previously avoided employing mature-aged workers to do so while not ignoring the possible challenges such as the need to monitor health and adapt work processes where necessary. Mature-aged people could gain confidence in their applications for jobs or promotion from the data in this study. A particularly important finding in this respect is the ability of mature-aged workers to embrace change at work. Managers working within companies could use the data from the study in speaking positively about mature-aged workers.

What are the implications for teaching and assessment? While the issue of lack of confidence to undertake training has been discussed in the literature, it is less common for actual language and literacy deficiencies to be discussed in the context of mature-aged workers, although it is discussed in other literature. This study highlighted the, perhaps particularly Australian, issue of the likelihood of lower literacy and language levels among mature-aged workers (which is, in effect, a generational or cohort issue arising from lower educational levels in Australia in previous decades, rather than the result of mature age itself) and the ways in which the issue can be addressed. Similarly, although assessment has been mentioned as a source of anxiety in the literature, it assumes particular importance in Australia because of the large-scale use of nationally-recognised training. Even in the two case studies where the latter was not heavily utilised, the firms had their own formal training systems which were similarly structured and involved assessment, as did training associated with regulatory requirements. To encourage more mature-aged workers to take advantage of training opportunities it is thus important to reduce workers' anxiety about assessment. Finally the finding that generally mature-aged workers can be usefully trained alongside younger workers, for mutual benefit, has some significance for teachers and trainers, but must be weighed carefully against some mature-aged workers' 'performance anxiety'.

There are some policy implications for national VET systems. It seems that companies may need more assistance in navigating the VET system, to identify the best nationally-recognised training and delivery methods for their mature-aged workers. Training providers tend to focus on selling complete qualifications, while mature-aged workers, often seeking smaller and immediately-relevant 'segments' of learning, might prefer sub-sets of qualifications. This finding has some significance

because of the strong Australian policy preference for qualifications-based training where learning can be transferred between contexts. In this context there is a balancing act for providers and teachers between providing mature-aged learners with training they prefer while maintaining the integrity of more broadly based national qualifications or sub-sets. Recognition of Prior Learning is currently being foregrounded in Australian VET policy, as discussed earlier, but mature-aged workers might find RPL, with its emphasis on assessment rather than learning, threatening as well as alien. Finally, teachers and trainers need more nuanced professional development to understand and better service mature-aged workers, particularly in avoiding stereotyping such workers. This need can be addressed at national as well as local level, for example by inclusion of these skills and understandings in the content of the qualifications for VET teachers and national professional development initiatives.

References

- Australian Bureau of Statistics (ABS) (2009), *Labour Force Survey, January*, Canberra: ABS
- Australian Industry Group (2006), *The Australian Skills Fund. An Australian Industry Group initiative to support Australia's development as a more skillful global competitor*, AIG, Melbourne.
- Berg, A. S. and Chyung, Y. (2008), "Factors that influence informal learning in the workplace", *Journal of Workplace Learning*, Vol. 20 No. 4, pp. 229-244.
- Berger, K. S. (2005), *The developing person: Through the lifespan*, (6th ed.), Worth: New York.
- Billett, S. (2001), "Learning throughout working life: Interdependencies at work", *Studies in Continuing Education*, Vol. 23, No. 1, pp. 19-35.
- Bowman, K. and Kearns, P. (2007), *E-learning for the mature aged worker*, Department of Education, Science and Training: Canberra.
- Burke, G. (2002), *Financing lifelong learning for all: An international perspective*, CEET Working Paper No. 46, Monash University, November.
- Business Council of Australia (BCA) (2006), *New pathways to prosperity*, BCA, Melbourne.
- Chen, L., Kim, Y.S., Moon, P. and Merriam, S.B. (2008), "A Review and Critique of the Portrayal of Older Adult Learners in Adult Education Journals, 1980-2006", *Adult Education Quarterly*, Vol. 59, No. 3, pp. 3-21.

- Coetzer, A. (2007), "Employee perceptions of their workplaces as learning Environments", *Journal of Workplace Learning*, Vol.19 No. 7, pp. 417-434.
- Cranton, P. (1992), *Working with adult learners*, Wall and Emerson, Toronto, Ont.
- Cully, M. (2004), "Older workers", in *Equity in Vocational Education and Training Research Readings*, K. Bowman (ed), National Centre for Vocational Education Research (NCVER), Adelaide.
- Dawe, S. (2009), *Older workers and VET*. NCVER, Adelaide.
- Ferrier, F., Burke, G. and Selby Smith, C. (2008), *Skills development for a diverse older workforce*, NCVER, Adelaide.
- Greller, M. (2006), "Hours invested in professional development during late career as a function of career motivation and satisfaction", *Career Development International*, Vol. 11 No. 6, pp. 544-559.
- Harris, L. and Volet, S. (1997), *Developing a learning culture in the workplace*, Western Australia, Murdoch University.
- Hoy-Mack, P. (2005), "Workplace assessment in New Zealand: Stated intentions and Realisations", *International Journal of Training Research*, Vol. 3 No. 1, pp. 79-95.
- Kossen, C. and Pedersen, C. (2008), "Older workers in Australia: The myths, the realities and the battle over workforce 'flexibility'", *Journal of Management and Organization*, Vol.14 No. 1, pp.73-84.
- Larsen, K., and Istance, D. (2001), "Lifelong learning for all", *OECD Observer*, 225, 1-3.
- Lincoln, Y. and Guba, E. (1985), *Naturalistic Inquiry*. Sage, Beverly Hills, CA.
- Lundberg, D. and Marsallsay, Z. (2007), *Older workers' perspectives on training and retention of older workers*. NCVER, Adelaide.
- Maclachlan, K (2004), "We can giggle about being thick together: Utilising the social dimensions of learning in the workplace", *Research in Post-Compulsory Education*, Vol. 9 No. 3, pp. 337-351.
- Marsick, V. and Watkins, K. (1990), *Informal and incidental learning in the workplace*. London: Routledge.

- Maurer, T., Barbeite, F., Weiss, E. and Lippstreu, M. (2008), "New measures of stereotypical beliefs about older workers' ability and desire for development", *Journal of Managerial Psychology*, Vol. 23 No. 4, pp. 395-418.
- McNair, S. (2006), How different is the older labour market? Attitudes to work and retirement among older people in Britain. *Social Policy & Society*, 5:4, 485-494.
- McNair, S., Flynn, M., and Dutton, N. (2007), *Employer responses to an ageing workforce: a qualitative study*, Research Report No. 455, Department of Work and Pensions, London, available at: <http://research.dwp.gov.uk/asd/asd5/rports2007-2008/rrep455.pdf> .
- Miles, B.M. and Huberman, A.M. (1994), *Qualitative data analysis: An expanded sourcebook* (2nd edn.). Thousand Oaks: Sage.
- Moyser, G. (2006), "Elite interviewing", in V. Jupp (Ed). *The Sage Dictionary of Social Research Methods*, Sage: London, pp 85-86.
- Newton, B., Hurstfield, J., Miller, L and Bates, P (2005), *Training a mixed age workforce: Practical tips and guidance*, Department for Work and Pensions, London.
- Organisation for Economic Cooperation and Development (OECD) (1996), *The Knowledge based economy*, OECD, Paris.
- Paltoniemi, S. (2006), "Experience, competence and workplace learning", *Journal of Workplace Learning*, Vol. 18 No. 7/8, pp. 439-450.
- Schmidt-Hertha, B., Tikkanen, T. & Hansen, L. (2009), Education & learning of older adults. Discussion paper prepared for the ESREA electronic network.
- Shah, C. and Burke, G. (2006), *Qualifications and the future labour market in Australia*, CEET, November.
- Sisson, G. (2001), *Hands- on training: A simple and effective method for on the job Training*, Berrett-Koehler, San Francisco.
- Smith, A. (1999), *Creating a future: Training, learning and the older person*, NCVER, Adelaide.
- Smith, E. (2003), The scope for state intervention in young people's learning and training. *Journal of Education and Work*, 16(4), 385-406.
- Smith, E., Comyn, P., Brennan Kemmis, R. & Smith, A. (2009), *High quality traineeships: identifying what works*. Adelaide: NCVER.

- Smith, E., Pickersgill, R., Smith, A. and Rushbrook, P. (2005), *Enterprises' commitment to nationally recognised training for existing workers*, NCVER, Adelaide.
- Smith, E. & Smith, A. (2009), "What are the pros and cons of gaining qualifications through work?" *Lifelong learning revisited: What next? 5th international conference*, Centre for Lifelong Learning, Stirling, UK, 23-26 June.
- Tikkanen, T. and Nyhan, B. (2006), "Introduction: promoting age-friendly work and learning policies", *Promoting lifelong learning for older workers: An international overview*. Thessaloniki: CEDEFOP, 9-16.
- Yin, R. (2003), *Case study research: Design and methods*. Thousand Oaks, Ca: Sage.
- Zeytonoglu, I., Cooke, G. and Harry, K. (2007), *Older workers and on-the-job training in Canada: Evidence from the WES (Workplace and Employee Survey) data*. SEDAP Research Paper no. 179, Hamilton, Ont.: McMaster University.