Conceptions of Work and Learning at Work: impressions from older workers

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ABSTRACT
There is substantial literature on new work practices and the associated skills
required of workers in the "new capitalism", but very few consider workers' perspectives on
these issues. The study reported here involved 39 participants aged 40   who were interviewed
to obtain data in relation to their conceptions of work and learning at work. This
was conducted with consideration given to the changing work practices occurring around
them. The participants were from a medical service and an engineering organisation. The
data were analysed qualitatively and results indicated four and five hierarchical conceptions
of work, and learning at work, respectively. It became apparent that a significantly large
number of older workers conceived of work and learning at work in quantitative terms and
as separate entities. The data were further analysed to ascertain how the conceptions
mapped with the participants' Australian Qualification Framework (AQF) levels. This
analysis indicated some dissonance between AQF levels and conceptions. The findings
provide preliminary data to understand older workers' behaviours in light of the current
changes in work practices.

Introduction

The commercial world, immersed in massive global economic, technological, and
social change, now highly values knowledge and the process of acquiring it. This
emerging phenomenon is evinced in concepts such as the learning organisation and
learning factories (Nonaka & Takeuchi, 1995) and the knowledge worker (Drucker,
1985). It is argued that such concepts and expectations have affected how we
produce, consume and service products and necessitate a transformation of how
workers conceive of work. According to popular representation of the change,
workers may now be expected to think critically, reflectively and creatively. This
change has been described as "new capitalism" (Gee et al., 1996). Lankshear (1997)
explains new capitalism as comprising several factors that include: productivity that
is increasingly dependent upon applied science and technology and the quality of
information and management, a shift from material production to informationprocessing
activities, a shift from standardised mass production to flexible specialisation
and increased innovation and adaptability, a global market, and the current
information technology revolution. The extent to which these new work practices
have permeated workplaces is not clear. While there are organisations and workers
who are ready to embrace emerging work practices, there are others who do not see
the need to change.

Some changes associated with the emerging new capitalism have resulted in an expectation that those in the workforce should upgrade and diversify their skills (Cormican & O'Sullivan, 2000). Consequently, there may be a need to provide opportunities for workers to engage in training and learning associated with work (Culley & VandenHeuvel, 2000). The focus of many training opportunities is on developing workers' capacities to acquire knowledge continuously, something which increasingly is becoming an essential part of work practices. Despite the above expectations, there has been little attempt to understand the nature of the relationship between learning and work as perceived by workers. Given the shift in what constitutes competency in the new capitalism (Davenport et al., 1998) it is reasonable to assume that this transition would be particularly difficult for older workers whose work practices and work ethics were developed during a time when skills, manual work and mass production were the driving force in workplace training. Culley and VandenHeuvel report that older workers are less likely to access training than younger workers. The main barriers are employer attitudes, differential learning ability and their attitudes. These factors prompt a need to identify and understand any constraining issues older workers may experience which may hinder their assimilation of the competencies of the emerging new capitalism.

Recent studies in epistemology and conceptions of learning suggest that an individual's beliefs and conceptions about knowledge and learning may influence their approaches to learning (Biggs, 1999; Marton, 1998; Schommer, 1994; Trigwell & Prosser, 1991). On that basis one can argue that if workers do not consider learning as part of their conception of work then the approaches they adopt in their work practice may not include learning. As a result, it may be difficult to convince them to subscribe to the expectations of the new workplace cultures. For example, workers whose conception of work does not include learning, or who see work and learning as two distinctly different entities, would fail to adopt an integrated approach to learning and work (Pillay et al., 1998). Also, workers with such conceptions may not see purpose in integrating knowledge from different sources and constructing personal meaning and, consequently, they may fail to recognise knowledge as a personal attribute that supports self-development. Such workers may depend on an authoritative source for knowledge (Pillay et al., 1998). Similarly, if workers do not appreciate the social nature of knowledge then they may not recognise the opportunities available in the workplace to advance themselves. We argue that the conceptions held by workers will influence how they approach learning at work; therefore, determining workers' conceptions will help us understand and support the transition to the "new capitalism".

Conceptions of Work and Learning

A central tenet of the new capitalism is to achieve a productive alliance between learning and work and to support lifelong learning. To achieve this we need to consider conceptions of both work and learning because this alliance should achieve two outcomes—productivity and continuous education—which traditionally are viewed as separate entities. Applying only learning research to this integration does not seek out the variations between the two concepts; rather, it one-sidedly imposes learning onto work practices. The need to consider all elements of a phenomenon can be seen in social construction of meaning (Vygotsky, 1978) and in distributed-cognition learning models (Pea, 1993), where it is argued that meaning cannot be achieved without considering the interaction of the various elements of a phenomenon in context; in this case the elements are learning and

work.

Whilst studies have examined conceptions of learning (Marton, 1998) and conceptions of teaching (Trigwell & Prosser, 1991), none have considered whether conceptions of work include recognition of the need to learn while working. Others have considered work mainly from a productivity or competence perspective (Furnham, 1997; Sandberg, 2000). The increasing expectation to integrate work and learning takes for granted that workers (who are also learners) understand and accept the assumptions regarding work and learning. Just because workers can perform certain tasks does not mean they understand and accept the changes.

We know from studies in organisational psychology (DuBrin, 1997) and adult learning (Knowles, 1990) that for any successful and sustainable change to human beliefs and conceptions to occur, and in turn to influence practice, a commitment from those involved in the change process is essential. Many of the changes towards workplace-based learning have been driven by philosophical arguments advocated by the experts and government agencies. However, these advocates failed to appreciate that it is not investments in physical resources only that drive change in the workplace. A lack of understanding of how workers perceive the changing context and consequently respond to the changes may also influence work practices and learning at work. Beliefs supporting emerging new work practices assume that workers have knowledge about transformations of their work and that they recognise the significance of learning related to work because through it they may achieve longevity in the workforce. If education and training initiatives are intended to change work practices, then firstly we need to understand how workers perceive their work, assist them in recognising the changes occurring around them, and finally help them to take initiatives to adopt new practices. The consequent benefits are increased economic productivity as well as long-term career benefits to individuals.

In summary, dissonance may exist between what work and learning mean to workers; a dissonance at a fundamental level involving individuals' belief systems about what constitutes knowledge and productivity in the "emerging new capitalism" (Gee et al., 1996). The study reported here attempts to develop a preliminary understanding of older workers' conceptions of work and learning at work and how they perceive the transformation of work. A qualitative approach was adopted and this was guided by a phenomenographic method.

Methodology

Sample

The sample consisted of cohorts of participants from two different work sites. Nineteen were from a private medical service organisation (workplace 1) and 20 were from a public-sector transport organisation (workplace 2). These sites were chosen partly for convenience and partly to capture participants from two very different types of organisations. Both organisations had experienced significant restructuring in recent years that resulted in policy and cultural changes and new management personnel. For example, the transport organisation has moved from being purely government based to a corporation and, with the most recent change, to a total private entity. Associated with this was a move from a rail-only operation, as the new owners also operate shipping and road transport. The restructuring has meant opportunities for a wider range of employment for some workers while at the same time it has resulted in downsizing of staff and the loss of some senior

managers. Many workers reported that their workloads have increased and that they have undertaken new roles that required them to become multi-skilled. Similarly, the medical service company is becoming increasingly commercialised owing to a government push for greater accountability in health services. This has seen the organisation change many of its practices and expand its services in areas more in demand. Some of the changes include increasing use of computers, new management practices, and a need for workers to possess a diverse range of skills; for example, one worker could be the inventory clerk, dispatch officer, events organiser and secretary.

Since the participants were from diverse job types, to ensure some level of comparability between the two sites the participants were stratified and mapped against AQF Levels 3, 5 and 7. The AQF is a framework for qualifications that is based on a quality-assured national system of educational recognition (Australian National Training Authority, 2001) which promotes lifelong learning within a diverse education and training system (Australian Qualifications Framework, 2001).

Qualifications range from certificates to diplomas and degrees. Each AQF level has associated competencies, which reflect the types of jobs that are linked to the respective AQF levels. While this is promoted as an ideal framework, in reality workers may be appointed to positions that do not match their qualifications and/or competencies because many organisations have their own systems for appointing people to positions. Also, there is increasing criticism that the AQF is too simplistic and does not fully take into account some complex competencies that may be involved in certain jobs. When Keating (2002) conducted a study into qualifications frameworks in several countries including England, Wales, Scotland, New Zealand and Australia he concluded that by comparison the AQF was a relatively weak construct. Nevertheless, the framework provides this study with a basis to compare the conceptions of workers in similar job classifications from different work sites.

Participants in this study within AQF Level 7 from the medical service organisation included project managers and education officers, those from Level 5 included an education co-ordinator and technicians, and those from Level 3 were administrators and security officers. From the engineering organisation, AQF Level 7 workers comprised a regional operations manager and railway terminal manager, from Level 5 there were operations co-ordinators, and Level 3 included train drivers and terminal operators. All workers in this study were older workers who received their education and training prior to "new capitalism" practices and have been working since then (age 40 years).

Procedure

Individual, semi-structured, audio-taped interviews, each lasting approximately an hour were conducted. As phenomenographic interviews are to be carried out as a dialogue (Marton, 1994), predetermined open questions, used to stimulate the dialogue, were used. Also following phenomenographic methodology (Svensson, 1997) the interviews were framed so that the questions related to each other and were contextualised. The workers were asked about their work, their work processes and their perception of the culture of work. Questions included: Tell me about your past work experience including training. Describe your job to me. What does work mean to you? There were similar questions soliciting the workers' understanding of learning and the nexus between the learning and work. For example, workers were asked: What are the important competencies needed to carry out your job? How did you learn these competencies? Has there been a change to what you do in your job?

How have you coped with these changes? The interviewer probed relevant points as they arose throughout the interview to clarify meaning.

Data Analysis

The transcribed data were analysed following a method derived from Marton's (1994) work on phenomenography. This approach was adopted as it seeks to identify the different ways in which people conceive of and understand phenomena. Categories of description that result illustrate peoples' conceptions which are described as relational because peoples' experiences are influenced by their intentions and the context in which phenomena occur (Johansson et al., 1985). As the older workers had experienced many years of work, including recent changes due to restructuring, conducting phenomenographic interviews and analyses allowed the true meaning of work and learning at work as experienced by these workers to become apparent.

Initially the investigators read the transcripts individually to identify and describe categories of work and learning. Although the total number of participants was 39, the size of the sample included in this analysis was guided by Alexanderson's (cited in Sandberg, 2000) argument that after 20 participants the variations reach saturation and no new conceptions emerge. Sandberg (2000) found with engine optimisers that after 15 transcripts the variations in conceptions began to repeat themselves.

The selection of 20 participants from the 39 was done randomly from each cohort. The research team jointly discussed the categories that delineated the conceptions of work and learning at work. The process involves the "reduction of unimportant dissimilarities, for example terminology or other superficial characteristics, and the integration and generalisation of important similarities, that is, a specialisation of the core elements which make up the content and structure of a given category" (Dahlgren, 1984, p. 24). This resulted in the final sets of categories of description, which depicted the conceptions of work and learning at work and were then checked with the remaining transcripts. In explaining phenomenographic research, Marton (1994) maintains that conceptions form a hierarchical system. We believe that the conceptions of work and learning at work form a hierarchy and that each conception builds on and adds greater meaning to the previous one. The 39 participants were assigned to the highest conception that was evident in their transcript. However, this does not exclude workers also holding lower conceptions in the hierarchy. It does mean that a conception may exist to which no one is assigned because it is not their highest conception. A subsequent analysis was undertaken to determine the distribution of the sample at each AQF level against their highest conceptions of work and learning at work.

Findings

Conceptions of Work

The conceptions of work that we identified were: work as a job, work as a challenging experience, work as personally empowering, and work as structuring my life. Table I also includes key terms that indicate the meaning associated with each conception for each workplace, examples from the workers' statements that illustrate each conception and the numbers of workers by AQF level according to their highest conception.

The first conception, work as a job, is the most basic conception of work. Essentially, the workers viewed work as a means to an end with a focus on money, security and survival needs. It was seen as a duty which required following set procedures. Responses that evidenced this conception were short and to the

point. Aspects of work such as developing new technical, socio-cultural or self development skills were not apparent in this conception.

The second conception, work as a challenging experience, extends the previous conception as workers reported that work involved more than simply performing procedures as it often provided challenges. Challenge was viewed as a positive experience even if it caused tension within the worker and required significant effort.

This means that work was seen as more than a task to be performed because workers recognised the challenging aspects of their day-to-day tasks and met the challenges by pursuing solutions. There seemed to be an intrinsic satisfaction encountered in everyday activities as well as an ensuing sense of self-worth. However, while workers acknowledged the inherently challenging aspects of work they did not describe this as an empowering experience. Empowerment forms the basis of the next conception.

TABLE I. Highest conceptions of work, key terms, and examples according to the AQF levels

Conception	Key terms	Examples	Workplace 1	Workplace 2
			Number of workers by level	
(1) Work as a job	• Focus on money • Sees it as survival • Provides a sense of security • Just something one has to do	"… it means getting paid once a month doesn't it? … you can't do without it … if you don't work you don't get any money" "… it's about surviving I guess … if you don't work you don't eat, I guess that's the fundamental thing in life …"	AQF 2/3–3 AQF 4/5–3 AQF 6/7–1 (n = 7)	AQF 2/3–9 AQF 4/5–1 AQF 6/7–1 (n = 11)
(2) Work as a challenging experience	• Experiencing new things • Finding better processes	"I enjoy the challenge of coming to work, I enjoy the staff I work with … It's something new, a change, and change is a challenge, and people who won't … that is a problem" "Work is thinking outside the box, looking for new paradigms, thinking about new and innovative ways of doing things as opposed to the old techniques"	AQF 6/7–3 (n = 3)	AQF 2/3–1 (n = 1)
(3) Work as personally empowering	• Opportunity for self-development • I can make a difference	"… we had to change it so that rather than every year being over the budget and being pointed at and saying improve … we could actually control our destiny …" "… it is my job and the bottom line is that I want to make it secure and efficient … if efficient makes me redundant I would like to put my head up high and say I have done the job well …"	AQF 2/3–1 AQF 4/5–1 AQF 6/7–4 (n = 6)	AQF 2/3–2 AQF 4/5–3 AQF 6/7–1 (n = 6)
(4) Work as structuring my life	• Part of life experience • Work means everything to me • I define myself by my work	"… I find myself in my personal life certainly living my bounds of the hospital and the duties that I do here have changed absolutely, dramatically, I would say 180 degrees from what it was when I came here first" "Work is satisfaction … … when I come to work and then I go home I have a good day. I got the train out on time … 12/13 hundred meters long and all the wagons were fine … and I can guarantee that the train will get to Melbourne"	AQF 4/5–2 AQF 6/7–1 (n = 3)	AQF 2/3–1 AQF 6/7–1 (n = 2)

The third conception, work as personally empowering, is described in terms of self-development. This included experiences where the worker gained insight into job-related knowledge and skills and at times faced inherent challenges which resulted in building confidence. Individuals who conceived of work as empowerment consequently took on the challenges and through accomplishing them they felt empowered. However, there were situations where individuals may have accomplished the challenge yet did not feel empowered, as was evidenced in the previous conception. The conception of empowerment frees workers from seeing themselves as "slaves" to their job.

The fourth conception was work as structuring my life. Statements such as "I define myself by my work" and "work means everything to me" exemplify this conception. It emerges from the workers' belief that work and their life in general are interconnected. We believe that this is the highest conception of work and only a few workers actually subscribed to it. It appears that the duality of work and life seems

to have been resolved to become one overall purpose. This conception subsumes and builds on all the previous conceptions.

The second issue that was investigated was what workers meant by learning at work. Table II presents a summary of the conceptions, key terms, illustrative examples that indicate meaning associated with each conception, and each worker's highest conception according to their AQF level for each workplace.

The first conception, acquiring skills to survive, is not surprising in light of the uncertainty and continuous change in contemporary workplaces. Workers perceived a need to constantly upgrade and diversify their skills in order to remain employable. This seemed to undermine the recognition of other conceptions of learning at work. Many workers reported that in an attempt to stay employed they used many means, such as trial and error and reading manuals, to learn the bare essentials. There was little recognition of learning as more than simply getting through everyday tasks.

The second conception of learning at work, onsite observing and experiencing, relates to workers seeing learning as occurring through an immersion process. It emphasises the importance of a gradual accumulation of experiences and skills. This conception, unlike the previous one, depicts learning at work as getting through the daily tasks while at the same time building knowledge and developing competence over a prolonged period of time. The conception assumes that learning occurs when workers apply knowledge and skills and in so doing develop understanding. However, it does not make the distinction between accumulation and construction of knowledge, which is a significant shift in mindset and an important imperative for the integrated learning and work phenomenon advocated by current training initiatives.

TABLE II. Highest conceptions of learning at work, key terms, and examples according to the AQF levels

Conception	Key terms	Examples	Workplace 1	Workplace 2
			Number of workers by level	
(1) Acquiring skills to survive	• Learn on a need-to-know basis • Follow manual to get the job done • Trial and error • Following set guidelines	"Once you leave the depot, there's no one out there to help you, you've got to be able to do it yourself" "I like to have a little bit of a play. So a lot of it, you learn as you get new jobs presented to you"		
(2) Onsite observing and experiencing	• Experiencing the different levels within an organisation • Nothing beats experience … I started as a cleaner • Get someone to show me one to one how to do it • See others and learn	"Learning is best achieved by working up from the factory floor … experiencing the various aspects of the organisation" "… to learn I'm a hands on person, I learn as I'm doing it, or I learn as I'm watching someone else, you know as I'm helping someone else do it and that's how I learn"	AQF 2/3–1 AQF 4/5–2 AQF 6/7–1 (n = 4)	AQF 2/3–7 (n = 7)
(3) Taking formal courses	• Values formal training such as the Cert IV trainer course • The nexus between theoretical and practical education • Casual introduction to computer made me enrol in formal courses	"I'm looking for ways of being more efficient that's why I did the computer courses" "I learnt a lot when we had the [Company X] Rail Assessors' course"	AQF 2/3–1 AQF 4/5–2 AQF 6/7–7 (n = 10)	AQF 2/3–5 AQF 4/5–1 AQF 6/7–3 (n = 9)
(4) A continuous lifelong process	• Continuously searching for new information—on and off the job • Take opportunity of slow periods to learn about new equipment • Learning never stops	"I read a lot, and um I go to lectures and things on the subjects that interest me" "I am always reading magazines, newspaper articles, always keep up. I am on the web looking up what's new … [manufacturers] love showing off their products … so you are always learning what's new"	AQF 2/3–1 AQF 4/5–2 AQF 6/7–1 (n = 4)	AQF 2/3–1 AQF 4/5–3 (n = 4)
(5) Changing as a person	• Made me an entirely different person • Feeling satisfied and content with the work	"I think much, much more now … I find now that I have changed. I have got to understand what technologies are, political correctness is. I came here, I've been taught computers. I bought my own computer. I know from what's been given to me here and what I've done myself it's made me an entirely different human being. I quite like the person that I am"	AQF 2/3–1 (n = 1)	

The third conception, taking formal courses, focused on formal instruction whether it was delivered in the workplace or at educational institutions. Such learning can include onsite observing and experiencing but it requires more than an immersion as suggested in the previous conception; learning does not happen just by being in the workplace. In this conception attention and effort were directed, and the outcome was intentional. Although workplace-based education is valued here it is not considered as sufficient and as an integral part of work.

The fourth conception of learning at work as a continuous lifelong process was interesting as it reflected awareness from a narrow survival focus to an open-ended commitment to learning. The need to learn from all experiences, whether they are informal, formal, vicarious, intentional, and all through one's life, is described in this conception. However, it does not encapsulate the total transformation of a person from learning at work, as is evidenced in the next conception.

The fifth conception of learning at work, changing as person, is similar to the highest level in Marton et al.'s (1993) conceptions of learning. The workers reported that through learning at work and personal education they came to appreciate situations, concepts and other issues differently. The rigid demarcation between work, learning at work and learning in everyday activities was blurred, and individuals experienced how changes in one aspect can influence attitudes and behaviour in the other two. Thus workers reported experiencing satisfaction through learning and work.

Distribution of Workers for Each Conception

The distribution of workers by their highest conception of work and AQF levels are recorded in the last two columns in Table I. For the distribution of the total sample there is a general pattern, which shows that there were more workers who held the lower conceptions and fewer workers who reported higher conceptions of work. Despite the different cultures of the two organisations there is not much variation in the distribution of workers across the four conceptions. However, the distribution according to AQF levels is of interest as there is dissonance between the AQF levels of some workers and their conception of work. Some AQF 6/7 workers subscribe to lower conceptions whereas some AQF 2/3 workers have higher conceptions. In particular, workplace 1 has several AQF 6/7 workers who hold lower conceptions of work. This has implications for both the AQF classifications as well as the outcomes of recent training initiatives.

The distribution of workers by their highest conception of learning at work and AQF levels are recorded in the last two columns in Table II. Generally, it is apparent that more workers reported the lower rather than higher conceptions of learning at work. In fact only four workers from each workplace stated that learning at work was a continuous, lifelong process, and only one worker from workplace 1 stated that learning at work had led to his changing as a person. There is little difference between the workplaces when considering the distribution of levels of conception of workers; however, there are interesting patterns when workers' AQF levels are mapped against the conceptions. It is disconcerting to see that a large number of AQF 6/7 workers held lower level conceptions (11). Furthermore, there are more AQF Level 6/7 workers in workplace 1 with the conception of learning at work as taking formal courses, suggesting a possible effect of organisational values.

Discussion

This study provides preliminary data concerning the meaning that older workers attribute to work, learning at work and the integrated nature of these, by examining their conceptions of work and learning at work. Such understanding is considered critical for any training or support that may be developed to assist workers in coping with emerging changes in the work environment. The change in focus from skills and knowledge to conceptions and dispositions is described by Sandberg (2000), who argues that human competence is not primarily a specific set of knowledge and skill attributes; rather, it is based upon workers' conceptions of work. The results lend understanding to older workers' beliefs about work in light of changes and restructuring occurring in their workplaces and they examine the existence of learning as a concept and process as it relates to work.

There was very little literature that could corroborate our findings with regard to conceptions of work. However, other studies into conceptions evidence similar structural results. For example, the hierarchical nature of conceptions of health (Boulton-Lewis et al., 2000), conceptions of learning (Marton, 1994) and conceptions of competence (Sandberg, 2000) were consistent with the hierarchical structure of the conceptions of work. A cumulative progression from quantitative to qualitative conceptions was evident across the studies. In this study for the conception work as a job, the key terms and examples showed a focus on gathering information about procedures to accomplish daily tasks, which indicates a quantitative approach whereas the conception work as structuring my life indicates an awareness of relational elements of life and work and, as such, is qualitative.

This first conception, work as a job, undermines many of the assumptions associated with emerging new work practices. It is contrary to Cormican and O'Sullivan's (2000) assertion that successful companies today are concerned with the ability to generate new knowledge. However, the fact that some workers held such a low-level conception is not unreasonable, considering the rate and range of changes occurring in the two workplaces. There may be uncertainty associated with changes, particularly those that challenge the understanding of work held by older workers whose beliefs about work are grounded in an industrial era (Casey, 1999).

Such changes may cause older workers to feel insecure and consequently focus on survival aspects associated with working, such as earning money. Older workers are more likely to possess skills of an earlier work era and are less likely to participate in training (Culley & VandenHeuvel, 2000); therefore, it is not surprising to find that many older workers in this study perceived work as a job and nothing more. In the conception work as a challenging experience it seems that the challenge is associated largely with the task and the work at hand. It assumes a separation between tasks and individuals in that it does not recognise the reciprocal benefit in resolving challenging tasks and experiences. Consequently, this conception is considered to be quantitative as it focuses on the number of different challenging tasks workers engage with rather than the different ways a challenging task can assist self-development of the worker. For instance, the key term in Table I, finding better processes, was stated in the context where workers spoke about accomplishing a task.

Conceptions that focus on tasks often undermine learning which requires one to focus on principles underpinning the procedures taken to accomplish a task (see cognitive load theory associated with learning; Sweller & Chandler, 1994). Workers need to focus on the new things they do in the process of accomplishing the task and assimilate them to their repertoire. However, one worker who held this conception

also stated that work involved looking for new paradigms and innovative ways of doing things, which reflects aspects of the new capitalism (Lankshear, 1997) and suggests the possibility of new ways of thinking about work for this worker.

The other two conceptions of work, work as personally empowering and work as structuring my life, are qualitative as they describe variations that build on the previous two conceptions but extend beyond the specifics of job-related activities to self-development and recognising the changes in society which in turn influence how individuals engage with their work. Such conceptions may have potential to support the practices of the emerging new capitalism such as self-development and lifelong and continuous learning. Workers who subscribed to work as empowering were focusing on the opportunity to make decisions about their jobs and take more control of what they do. Associated with this conception are characteristics of lifelong learners (de la Harpe & Radloff, 2000) which include possessing self confidence, persistence, a positive view of the value of learning, good self management skills and knowing how to collaborate with peers. Hence, those who subscribe to this conception should possess some of these characteristics. These attributes should be commensurate with new capitalism thinking. The highest conception presumably illustrates workers' recognition of the influence of changes in society and events outside of work on changing their current work practices.

The discourse in the new capitalism literature suggests organisational culture as being a significant factor in influencing workers' beliefs about practices. However, despite the different nature of the business of the two organisations, which presumably would foster different cultures, there was little difference between the two workplaces in the numbers of workers who subscribed to each conception of work.

The main difference lay between the numbers of workers from each workplace who explained work as a job, with 11 workers reporting this conception in workplace 2 compared with only seven in workplace 1. This could perhaps be attributed to the nature of work in each workplace. Workplace 2 was the public-sector transport organisation, which originally had a strong union culture, and most of the workers had jobs at AQF Level 2/3. Such an environment presumably fosters certain types of disposition that may be contradictory to the expectations of the new capitalism. Reviewing workers' conceptions of work and the AQF levels, AQF Level 6/7 is usually achieved by workers with leadership positions and higher qualifications. If these workers hold low conceptions of work then it is likely that they may influence their subordinates in developing a similar conception. This may serve to perpetuate skills of an earlier work era, which Culley and VandenHeuvel (2000) report older workers are more likely to possess, rather than new workplace thinking. The results of this study also indicated that the distinction between challenge intrinsic to a task and personal challenge is not fully appreciated. This was evidenced by the three AQF 6/7 workers who saw work as a challenging experience. Perhaps this is perpetuated by the narrow description of productivity as being the number of units of job tasks accomplished.

In summary, it is apparent that in each workplace there were fewer workers who held the higher, qualitative conceptions of work. This has implications for performance, productivity and changing work practices in the workplace today, particularly as several workers reported that work was just a job. This could also be due to the fact that these were older workers who are more resistant to changed work practices and/or hold the belief that task-dependent skills are most important to succeed in the new capitalism, even though the world has moved on from the industrial age.

The second focus of this study delineated learning as it related to work, and five

conceptions of learning at work were found. As described above, a hierarchy was evident in these conceptions. While these conceptions are of learning at work they bear some similarities to other conceptions of learning. The first three are similar to Marton et al.'s (1993) quantitative conceptions of learning whereas the last two hold similarities with Marton et al.'s qualitative conceptions. The first two conceptions of learning at work are described as a means to an end. They focus on acquiring technical skills by following set procedures, which reflects a surface approach to learning and not learning as expected in the advocacy of the new work practices.

The new work practices assume innovativeness (Lankshear, 1997) which cannot be achieved by following set procedures.

The second conception of learning at work, onsite observing and experiencing, is quantitative in that it focuses on learning specific details of a large number of performance requirements and recalling when necessary. However, what is required in new work practices is developing a mindset which promotes continuous learning and self-development (Casey, 1999). Learning at work as onsite observing and experiencing is similar to a conception of learning at work found by Collin (2001) for product designers and developmental engineers. These workers stated that they learnt from doing the work itself which involved observing and modelling oneself on other people and colleagues at work. However, workers from both studies failed to see the connection between learning and self-development, which is one of the fundamental shifts advocated in the new work practices. Workers spoke of onsite observing and experiencing in terms of application of skills, which is task focused rather than grounded in understanding; that is, it is about physically performing a task. Parallels can be drawn between this and Marton et al.'s (1993) second conception of learning, using information, as this was described in terms of using what had been learned without understanding. Work skills that are used without understanding mitigate against new work practices that require learning, understanding and the creation of knowledge.

Taking formal courses is an interesting conception in the sense that workers perceived learning as depending on a formal, structured course and one that has certification (that is accreditation against the AQF). Collin (2001) also found a conception of learning at work that involved learning through formal education. The value attached to formal certification is increasingly influencing recruitment, training and job opportunities. The majority of these formal courses are delivered on the work site, which allows workers to see a nexus between theory and practice. We believe that this may provide opportunity for workers to integrate the knowledge they are developing with the skills they possess and to see learning as a part of their work and themselves. However, only one worker recognised the need to take formal courses and connected it with learning as a lifelong process and changing himself as a person. While the general perception of the new capitalism seems to discount credentialing and formal courses in favour of informal learning and demonstrated work performance, the above conception was mentioned by the largest number of workers from both sites. This presents a dilemma for workers when the advocacy and the practice are not aligned in a simple and clear manner.

The qualitative conception of learning as a continuous lifelong process has not been mentioned in any previous work on conceptions of learning. However, Collin (2001) found that the engineers and designers in her study stated that they learned from contexts outside work, which bears similarities to learning as a continuous lifelong process. In both cases workers described the need to constantly search for new information, as the processes and the technology they use, and services they provide, keep changing. Related to this is the need for individuals to be self-directed and be able

to learn through self-paced materials. It is assumed that through this search for knowledge a worker may recognise a need to change fundamental perspectives of life in a move from the industrial to the knowledge age. This is reflected in the last conception of learning at work, changing as a person, where workers can see the mutual interaction of learning, work and their individual lives. This is perhaps the ideal; however, only one worker evidenced this conception.

As with the conceptions of work, most workers held conceptions of learning at work that were lower level and related to gaining information by means such as observing and experiencing and taking on the job courses. Fewer workers expressed the higher level conceptions of learning at work. In fact, only one worker made the connection that learning at work was not only about acquiring skills but involved a continuous lifelong process that contributed to his changing as a person. While the emerging work practices expect workers to have conceptions that support lifelong learning, these results suggest the contrary. Maybe the emerging new practices have not yet been influential in the sites used in the study.

As with the conceptions of work, despite the different cultures of the two workplaces, there was very little difference regarding conceptions of learning at work. Workplace 2 was a transport maintenance type of organisation and most of the workers were at AQF Levels 2–4, which are the levels for trade apprentices.

Whereas in workplace 1, despite the perception that a private-sector medical organisation may be more in tune with the work practices of the new capitalism, the workers were not very different from those in workplace 2. Similar to the conceptions of work, the results show that many AQF Level 6/7 workers subscribed to the conception taking formal courses (10). It is not surprising that workers focus on certification, as the AQF is based mainly on formal certification. It may be due to the current push for credentialing which may unintentionally legitimatise formal courses and credentialing as higher conceptions of learning at work (see Handy's, 1995, portfolio workers). However, it does not foster a need for workers to become continuous learners who recognise that learning at work contributes to their selfgrowth which, in the new capitalism ensures continuous employability. The type of training these older workers have had in the past further confounds this finding.

Many of these workers may not have the necessary background to engage in learning by themselves. They need formal courses to equip them with the basics so that they can then engage and learn from new initiatives embodied in the new work practices.

Conclusion

The study reported here is part of a longitudinal study that involves a group of older workers (40 years) from two different types of organisations. The findings indicate the variations in how workers perceive their work and the notion of learning within their daily work activities. This provides preliminary data to contrast against the advocacies of new work practices to develop a grounded understanding of issues that underpin successful migration to new work practices.

In both workplaces most workers reported that learning at work was about acquiring skills to survive or observing and experiencing work practices. These conceptions parallel the first two conceptions of work, work as a job and work as a challenging experience. They are mainly quantitative and relate to completing tasks. They reflect the practices of the industrial age where skills to produce more of the same but at a lower cost were valued. However, these conceptions are not conducive to changing work practices and values where innovation and creative and autonomous thinking

are valued. The last two conceptions of work, work as personally empowering and work as structuring my life, and learning at work, a continuous lifelong process and changing as a person, complement each other in that they relate to working and learning for personal gain or satisfaction that will lead to empowerment in work situations.

Workers who hold these conceptions are more likely to think critically, reflectively and creatively and to have a vested interest in their work. However, fewer workers held these conceptions; most workers held the lower conceptions of work and learning at work. We suggest this is because the workers in this sample were older and consequently more resistant to change in their working lives.

In light of the existing literature and our findings, workers most suited to succeed in conditions corresponding to the emerging new capitalism are those who hold the higher level conceptions of work and learning at work. It is important in such a context for workers to see work as empowering and structuring their life and learning at work as a lifelong commitment that may lead to changes in them both as a person and as a worker. While many of the workers in this study were open to the idea of learning at work and spoke of acquiring skills through observing, experiencing and taking formal courses, very few of them connected this with learning as an ongoing workplace activity. Workplace training and formal courses continue to flourish. If workers are encouraged to see this as a part of their lives, more workers, and particularly older workers, may develop higher conceptions of work and learning at work and as a consequence integrate learning and new knowledge into work practices.

The analysis of AQF against the conceptions suggests that there is dissonance between the AQF levels and workers' conceptions of work and learning at work. This is particularly interesting as many high-AQF-level workers tend to assume leadership roles, which raises concerns about the message they may be passing on to their subordinates. This also warrants revisiting the assumptions that underpin training initiatives and the structure of the AQF levels.

We note that our study is limited in context as only two workplaces were investigated. We stated previously that there are no other studies that have examined conceptions of work as well as conceptions of learning at work. Therefore, we believe that further similar investigations with different cross-sections of the workforce need to be undertaken. We intend investigating and comparing older and younger workers from the two different organisations regarding their conceptions of work and learning at work. This will complement the findings of this study and give greater insight into the ways in which workers can develop critical, reflective and creative thinking in the workplace in order to adapt to the new capitalism.

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