

Relational interdependence as means to examine work, learning and the remaking of cultural practices

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“The learning potential of the workplace”

Twente University, The Netherlands (3-5 March 2005)

Abstract

This paper focuses on dualities in both the process and outcomes of participation in work. The process of participation in work activities and interactions is held to draw on the contributions of both individuals and the social world in ways that are interdependent, yet relational. The affordances of workplaces shape the array of experiences able to be accessed by individuals and, they in turn, elect how they engage, construe and construct what the workplace affords. Both the social and individual contributions are exercisable with different degrees of intensity, focus and intentionality, making the process of participation a relational one. Consistent with these processes, the outcomes of workplace participation also comprise dualities. These are individual learning or change, on one hand, and the remaking or transformation of cultural practice that comprises work, on the other. In illuminating and elaborating these concepts, this paper draws upon the initial findings of a research project that is mapping the working lives of groups of three workers in each of four workplaces. The aim is to understand how these relational interdependences shape the participation, learning and remaking of work practices in these workplaces, their workers and identify the exercise of both affordances and engagement for each participant within the same workplace, and then to make comparisons across the four workplaces. The findings emphasise the distinctive bases by which individuals engage with work and construct meaning and practice as a result of that engagement and in turn their remaking of the work practices.

Learning and work: remaking cultural practices

Understanding further the learning potential of the workplace is important for both practical and conceptual purposes. Practically, at a time when the requirements for work are in constant change and turmoil, there is a need to understand how individuals can best learn these changing requirements through work and throughout their working life. It seems that the most likely and accessible environment to assist this learning will be workplaces themselves. The possibilities and capacities of providing effective and ongoing skill development in vocational education systems or universities seems to be only partial, at best. The evidence suggests that workplaces can be highly generative of much of the knowledge required for work performance (Eraut 2004, Fuller & Unwin, 2002; Rogoff & Gauvain, 1984; Scribner, 1984, 1985a). However, they also have significant limitations in terms of the distribution of opportunities for learning, the prospects of securing effective learning experiences and the issue of recognition of that learning (Bierema, 2001; Eraut 2004, Fuller & Unwin, 2003; Solomon, 1999). Much research has been undertaken to determine whether particular instructional strategies can be adapted to workplaces and through this has come an increasing emphasis on mentoring and guided learning in the workplace (Billett, 2001; Fuller & Unwin, 2003). This is all well and good. At least some evidence suggests that this kind of learning support is particularly helpful in securing knowledge that will not be learnt by discovery alone. Nevertheless, the key premises that appear to underpin both learning through engagement in everyday work activities and interactions, and through intentional learning strategies are those associated with the degree of affordances (e.g. support, opportunities, interactions, guidance) provided by the workplace, and also the degree and bases by which individuals engage in the workplace (Billett, 2004). That is, how both individuals and workplaces exercise their intentions, agency and effort in participating in and learning through work, and how these contributions are negotiated, and then construed and constructed by individuals. So, a related practical concern is that individuals' learning is not an isolated process without consequences for the workplace and work

practice. As individuals engage in interactions and activities they are actively remaking the work practices and activities. So not only is there a legacy in terms of ontogenetic development -- individuals' development across the lifespan -- but also those in terms of situated practice, which in turn shapes the cultural practices (Leontyev, 1981), including those comprising work (Billett, 2005b; Rogoff, 1990).

There are also important conceptual issues being worked through here. Firstly, there is currently considerable interest in the relationship between the social and the individual within the major disciplines of psychology (Rogoff, 1995; Scribner, 1997/1990; Valsiner, 1994), philosophy (Archer, 2000; Bhaskar, 1998) and sociology (Fenwick, 1998; Giddens, 1991). Although different in emphasis, much of the deliberations in these disciplines are focused on the prominence of one or the other of the contributions (e.g. social structures or individual agency) and there are multitudinous positions and preferences in the literature. Such debates address important issues associated with the origins of the knowledge and knowing required for work, and whether and in what ways the individual or the social predominates in the formation and learning of this knowledge. That is, do individuals bring about change or is that change dependent upon social forms and structures (Ratner, 2000; Valsiner, 2000). Workplaces provide a useful test bench to illuminate and discuss these issues because they represent environments in which the social structures are enacted, and knowledge that has historical and cultural geneses is enacted and engaged by individuals, with their own unique social histories. Yet, in workplaces there is a necessary interdependence between the social and the individual, because each is dependent upon the other for their continuity and development (Billett, 2005b). This interdependence is proposed here as being found in the relationship between the social suggestion manifested in the workplace, in terms of norms, practices and concepts: institutional facts (Searle, 1995) with its intentionalities, on one hand, and, individuals' intentionality and agency as shaped through their ontogenetic development on the other.

To explore these propositions, this paper initially outlines and discusses the relational interdependence between the social and individual agency as a means to understand learning through and for work and the role that individual agency and subjectivities play in that learning. Following this, the procedures for, participants in and findings of a study that is examining the working lives of 12 workers, who are employed in four workplaces in distinct forms of work, are described and discussed. The findings are elaborated in sections that discuss the alignments among the changing work of these individuals and their interests and intentionalities. This includes the ways that individuals' goals, preferences and intentionalities are intertwined with their work and working life, the central role of their personal agency in shaping how they work and the interdependence between the changing work and 'sense of self'.

Interdependence between social suggestion and individual agency

Work is a key element of adult life and, for many it is the means through which their identity is shaped and exercised (Noon & Blyton, 1997; Pusey, 2003). So more than engaging in work being the completion of tasks and interactions, there are important outcomes for individuals that arise from engaging in these activities. The centrality of work to individuals' identity appears to be more than reflections upon socially preferred and acknowledged forms of work. Presumably, if this was the case only those employed in the most prestigious and highest-paid work would feel any sense of fulfilment in their work, while the rest would be disillusioned and disempowered by their relative standing on such an externally mediated measure. However, rather than being wholly externally mediated, individuals interests seem to reside in work that against such external measures would be seen to be undesirable and low status. Workers engaged in low status and lowly paid work have been shown to exercise significant agency and pride in their work, and in ways associated with localised recognition and personal satisfaction (Billett, 2003). One way to understand the importance of and links between self and work is to propose that the process of engagement in activities is central to ongoing and moment by moment individual learning (Rogoff, 1990). Therefore, the engagement in work of any kinds leads to particular and possibly significant legacies

in terms of individuals' development that is generative of close links between individuals' sense of self and their work. That is, work and learning are so intertwined as to inevitably link individuals to their work activities (Fenwick, 2002; Somerville, 2002).

As with other forms of conscious thinking, concepts, procedures and values are initially learnt, reinforced and transformed through engagement in work activities. The workplace provides an environment that is rich in its contributions to individuals' learning as they engage in work activities, and in doing so remake the cultural practices that comprise paid work (Hodkinson & Hodkinson, 2003; Somerville & Bernoth, 2001). The privileging of environments in which to learn is not whether they are sites that promote learning as their key purpose, but the degree by which they provide the inter-psychological experiences of activities and interactions through which knowledge is experienced, accessed, engaged with and constructed, and best when supported by the assistance of another who understands that knowledge and can make accessible what is otherwise inaccessible, and support and monitor that learning (Billett, 2005a). These affordances or invitational qualities are fundamental to what constitutes a learning environment. Nevertheless, central to this process of learning and what constitutes a learning environment is also the degree by which individuals act agentially in the process of constructing knowledge (Billett, 2005b; Billett & Somerville, 2004). This epistemological agency (Smith, 2004) comprises individuals' construal of what they experience (e.g. what constitutes welcomed or unwelcomed affordances), the degree of and intentionality in their engagement in those affordances (e.g. activities and interactions) and their construction of meaning, procedures and values. This process is shaped by and premised upon individual's agency, their particular focus and expenditure of conscious thought and action. It comprises their intentionality, the particular focus and direction of that agency which is shaped by individuals' sense of self and their subjectivity, how they view the world. The agentic qualities of this personal epistemology are seen as having two dimensions. Firstly, there is intentionality -- that is the focus of and direction of the engagement by the individual with what is experienced socially. This dimension essentially addresses the 'what' comprising the focus, interests and basis for individual's engagement. Then, there is the degree of energy -- priority and potency of the exercise of individuals' agency and agentic action.

The concept of individuals' gaze can be seen as a metaphor for the enactment of a sense of self and subjectivity. So individuals' learning, albeit the refinement of what is already known or its reinforcement, arises through their engagement in everyday conscious thought through what constitutes their personal epistemology (Bauer, Festner, Gruber, Harteis, & Heid, 2004; Smith, 2004), notwithstanding that epistemology is itself being shaped through a history of relations with the social world, as in ontogeny (Scribner, 1985b). Transformational learning can also arise through engaging in new activities and interactions, such as those in turbulent times of employment, or other experiences that confront individuals with perturbations requiring new insights (Rogoff, 1990), novel procedures or diverse values (Somerville, 2002). These learning processes have parallel and analogous consequences for the cultural practices that comprise paid work. That is, as individuals engage in the most routine form of learning they are participating in the process of remaking cultural practices. Culture and society are remade and transformed as individuals engage with their practices, learn and construct them at particular points in their history and at points in time (Billett & Somerville, 2004; Leontyev, 1981). Central to those individuals' learning and their remaking of culture is the degree by which their agency directs, engages and constructs what they experience: their epistemological agency which is shaped by individuals' sense of self (Billett & Pavlova, 2003; Billett & Somerville, 2004; Somerville, 2002).

Consequently, continuities and transformations in work and individuals learning are linked to how individuals construe, engage in and construct the activities and interaction that comprise the historical, cultural and situation contributions that constitutes the gift of the social (Archer, 2000; Cole, 1998; Scribner, 1985b): the norms, values, practices that are accessible in and projected by the social world. Given that individual agency and intentionality are associated with and, in turn, shape their identities and subjectivities or sense of self, they are central to the relational interdependence between the social (e.g. geneses of subjectivities, cultural demands and situational

requirements) and individual (e.g. intentionality and agentic action) contributions to thinking and acting, and therefore learning (e.g. Valsiner & van der Veer, 2000).

Interdependence at work

The key premise behind this relational interdependence is that neither the social suggestion nor individuals' agency alone is sufficient to understand learning and the remaking of the cultural practices that constitute work. The social suggestion or press comprising societal norms, practices and values, and their enactment, albeit shaped by local factors in particular ways, in social practices such as workplaces is never complete or comprehensive enough to secure socialisation: the unquestioned and unquestionable transfer of knowledge from the social world to the individual. As Newman, Griffin and Cole (1989) propose, if the social world was able to extend its message unequivocally, there would be no need to communicate. This is because understandings would be implicit, not requiring further communication to be construed and comprehended. However, as Berger and Luckman (1967) and others propose, the social suggestion is not projectable in a way that is likely to lead to socialisation because individuals will engage with the suggestion with greater or lesser reception. Because of this weakness in the social suggestion, individuals necessarily have to be agentic and active in the construction of meaning, if for no other reason than that arising from the social world requires interpreting and construing to understand what is being suggested. Yet, even beyond simply attending to engaging and comprehending what is being suggested, individuals bring a possibly unique base of conceptions, procedures and values to their engagement with social forms and practices.

All of this is particularly salient for learning the cultural practices that constitute paid work. Much of what needs to be learnt for vocational practice, has its origins in cultural practices and historical precedents (Scribner, 1985b). This knowledge is important because it arises from a cultural need and has been refined overtime through its enactments. Consequently, to access this knowledge with its important historical and cultural legacy requires engaging with the social world, because this knowledge does not arise from within the individual. As foreshadowed, when individuals engage with this knowledge and reconstruct it, in addition to their individual development, they are also remaking these cultural practices at a particular point in time and under particular access to the social suggestion. It follows that the remaking of cultural practice and individual learning is not through some faithful enactment of social suggestion that results in its reproduction. Instead, there is a remaking through individual's engagement, construal of and construction of those practices, albeit mediated by the exercise of social and cultural norms and practices whose needs have to be met at particular points in time and individuals' personal history. Moreover, the exercise of this personal agency is essential in transforming cultural practices as new cultural needs arise, such as those brought about by changing times or technologies. Wertsch (1998) distinguishes between compliant learning (i.e. mastery), which is superficial and may well be the product of forceful or compelling social suggestion of the kind which Valsiner (1998) identifies, and learning in which individuals engage willingly (i.e. appropriation) to a concurrence between what is experienced and individuals' values and beliefs. Given that richer or deeper kinds of learning likely requires effortful engagement buoyed by interests and intentionality (Malle, Moses, & Baldwin, 2001) this may most likely arise when individuals' interests and agentic action are engaged. So, the first key premise is that there is an inevitable interdependency between the agency of social world in projecting its suggestion and the agency of individuals in making sense of what is suggested to or afforded them. At the hearts of this interdependency is the agency and intentionality of individuals which is premised upon their identities and subjectivities

Moreover, a second reason to bring individuals' agency to the forefront of considerations about individual learning and the remaking of culture, is that there is a likely to be person-dependence in individuals' engagement with and construction of the sources from which they learn. Individuals' construal of what they encounter is uniquely socially shaped through a lifetime of negotiations with the social suggestion. These are encountered in the myriad form of social practices that individuals engage in throughout their lives that microgenetically (Rogoff, 1990;

Scribner, 1985b)— moment-by-moment --contribute to their processes of thinking and acting ontogenetically throughout their life history. From the earliest age, that which Piaget (1968) referred to as securing equilibrium and more recently von Glasersfeld (1987) refers to as maintaining viability, is an enduring personal epistemological adventure premised on an expectation of the variability and inconsistency in the response from the social world as certainty and consistency (Baldwin, 1894). This elaborates the individualistic and potentially unique set of experiences arising from history of relations with the social world. Here, claims about mastery and appropriation leading to particular and more or less valued kinds of learning need to be treated sceptically. Being confronted by something that is inconsistent with individuals' beliefs may indeed lead to rich learning, because that inconsistency with existing knowledge and/or beliefs may have to be addressed, reconciled or it may in turn transform individuals' existing knowledge. Conversely, appropriation might result in the uncritical acceptance of existing practice (e.g. the marginalisation of certain individuals or groups). So appropriation might be analogous to Piaget's (1968) concept of assimilation -- the social suggestion being integrated with what is already known -- through individuals actively seeking to appropriate new social suggestion, whereas mastery might enact accommodation or change in knowledge. This is because individuals exercise intentionality in making sense of much of the social suggestion, and this occurs constantly in the construction of meaning. So, individuals' ontogenetic development arises through a personally agentic epistemological process that is shaped through ongoing interactions with the social world that, in turn, subsequently influences how they engage with new experiences. Because these experiences are likely to be unique to individuals, they are highly generative of new constructions in ways that Vygotskians described as inter-psychological, and leading to intra-psychological attributes. There will inevitably be personally distinct conceptions as well as areas of commonality or shared understanding with others in their process of knowledge construction and remaking of cultural practices.

So thirdly, because of the ontogenetic legacy and personal epistemology, consideration needs to be given to a consideration of individuals' pre-mediate experiences—those that come earlier. It is these that are held to shape their conceptions and subjectivities – gaze, if you like – and, consequently, how they construe subsequent experiences. It is these conceptions and subjectivities that shape individuals' intentionality and agency in the processes of their learning and the remaking and transformation of cultural practices. Because these pre-mediate experiences are themselves shaped by, yet contribute to unique patterns of personal epistemology, even the most apparently uniform social experience which affords its contributions seemingly equally to all parties will be the subject of interpretation, construal and construction leads of a personal kinds, albeit socially shaped. So life histories comprising individuals' prior social experiences stand as an important premise to how they engage with the world, including their sense of self.

Finally, the relationship between individual and social agency is not mutual or reciprocal, it is relational. Just as the social suggestion can be either weaker or stronger, so too can be individuals engagement with a particular social suggestion (e.g. situated practice, cultural norm, cultural practice). The prospects for the coming together and contributions of the individual and social being enacted in equal parts or ways that are equally shared is quite remote. The very interactive processes arising will be individually unique in some ways. And individuals may be selective in their reading of a particular social suggestion or simply be unaware of it (Billett, 2005b). So central to issues of the interdependence between social and individual is that it is rendered relational as individuals encounter social experiences projected in multitudinous and diverse forms and construct meaning from ontogenetically diverse bases.

So this relational interdependence is continually being negotiated as both social and individual intentions, and their relations are transformed. Within these ongoing negotiations a key role is exercise agentially by individuals sense of self or identity. Rose's (1990) concept of the 'enterprising self', the individual entrepreneur whose focus and direction is towards self-regulation and individualisation aimed at securing the employers' economic goals and, therefore, securing their relations as an employee, provides an instance of this kind of agency. Yet, inherently

individually constructed sets of intentions may also be characterised by resistance to or the clever manipulation of the regulatory practices of the workplace, as much as either unquestioning compliance to them or their expedient reproduction in the self. That is, the exercise of agency may not always be directed towards securing further social subjugation or faithfully reproducing existing subjectivities. Instead, it may focus sharply on securing more personal goals.

Procedures

In order to understand more clearly the relations that underpin the interdependencies at work and their consequences, we decided to investigate the working lives of groups of three workers in each of four different kinds of occupations and workplaces. The reason for selecting three workers was to gain insights into differences in the ways that the affordances or invitational qualities were exercised towards workers in the same workplace, how these workers then construed and constructed what was afforded them, and how they engaged in their work and learned as result of these processes. Previously, we investigated individual workers in three workplaces to understand the continuities of both the workplace and individuals (Billett, Barker, & Herson-Tinning, 2004). That study revealed instances of the negotiated bases for participation in the workplace and how both individuals and the workplace development was premised upon factors that were both internal and external to the workplaces. This study provides an account of how different workplaces afforded opportunities for workers and workers, in turn, engaged with what was afforded them. Here, the goal was to examine what, if any, differences arose in terms of workplace affordances and individuals' engagement, and to draw comparisons or contrasts across four different kinds of work and workplaces. In selecting the work sites, we wanted to gather data from sites that have different purposes, organisational structures and patterns of employment. Earlier research (e.g. Grey, 1994) indicated the way that institutional rules and practices can have a significant impact upon the kinds of workplace participatory practices that we were seeking to identify and understand. Therefore, we wanted to engage with workplaces with different kinds of participatory practices. We also wanted to engage in different kinds of work, including some utilising technology and also teamwork, in order to gain insights in diverse work situations. Another consideration was to capture data about workers, whose employment standing and status were diverse in terms of employment, standing of work and connectivity. The four workplaces that were identified, contacted and agreed to participate are: (i) a gymnasium; (ii) a restaurant; (iii) an IT help area within a university --; and (iv) a fire station. In each of these four workplaces three individuals agreed to participate. In gymnasium -- Trim and Healthy -- they comprised a receptionist, a trainer and a manager. In the restaurant -- Platinum -- they comprised a chef, who is also a part owner, a waitress and a manager. In the IT help area the participants comprised three desktop consultants, one of whom is a manager. In the fire station, the participants comprised a station manager, and two fire officers, one of who is a specialist officer.

The procedures adopted comprised a series of interviews that will proceed over an 18-month period. The data gathering commenced with two lengthy semi-structured interviews, the first primarily focusing on the workplaces, their requirements for continuity and the norms and practices. The second interview primarily focused on the workers' history and personal preferences. These lengthy interviews were initial attempts to understand the affordances of the workplace and its practices: what constitutes their institutional facts (Searle, 1995) and also the bases for workers' participation in their work and learning for their work. Beyond these two initial interviews there will be progress interviews occurring over a 12-month period. These progress interviews are used to map development overtime but also to provide the opportunity for the participants to comment on the initial analysis of the data from earlier interviews. In this paper, the focus is on the first two interviews for each of the 12 participants and is used to establish some bases to understand, firstly, the processes of workplace affordances and individual engagement which occurred in these four workplaces: and secondly how individual learning and the remaking of the cultural practices within these workplaces progressed. Accordingly, the findings are organised under sections that focus on the dualities of the process of workplace affordances and engagement, and then outcomes in terms of individual development and the remaking of the work practices.

The analysis of the findings of this early work commences by presenting what attempts to be an objective analysis of the four workplace's participatory practices. This analysis attempts a summary of what might be described as the institutional facts (Searle, 1995) that constitute the affordances of each of these workplaces. That is, the objective basis of what they experience, those things that individuals cannot wish away. However, the affordances are subject to individual construal and construction (Billett, 2005b). Therefore, even in attempting to articulate the institutional facts, in the form of workplace affordances, and begin to make some judgements about those affordances it is necessary to engage with individuals' intentionalities.

Processes of affordances and engagement

The four workplaces provide quite different bases of participatory practices. That is, their bases of affordances and engagement are quite distinct. The fire service offers secure employment that comprises long shifts during which the fire officers live in (eat and sleep) at the fire station. Their work can include exciting and demanding tasks that carry high public praise and afford a public status that the fire officers report as being important to their identity. There are other less exciting tasks, yet which see officers out in the community or working on improving their capacities to perform during emergency incidents. So, as part of their engagement in emergency duties there are ample opportunities for developing further their skills through practice and also engagement in courses whose successful completion is a pre-requisite for promotion. Living and working together in shift rosters also affords the opportunity for these officers to develop the capacities to work effectively in teams, particularly in emergency situations. Team culture is importantly grounded, among other things, in responsiveness to the command and control authority that prioritises member safety, care and responsibility in emergency situations. There is evidence of a high level of intersubjectivity or shared understanding among the informants about their work and its conduct that appears to arise from the extensive and close working relationships among the shift. Moreover, many of the fire officers have second jobs that they pursue in the extended periods of non-duty time on a shift roster. In this way, they are afforded options that are not widely afforded to other workers. Working for a large organisation, that has emergency services as its sole function affords opportunities for specific promotion and advancement, and options for less physically demanding work later in fire officers' working life. Furthermore, within the workers interviewed, it permits one fire officer to work from home as he cares for his sick wife. However, such a large public sector organisation also, it was claimed, allowed some officers to abrogate their responsibilities to their co-workers. Sometimes, it is claimed, this is because they were too focussed on a second form of employment. Yet, while the workplace afforded this circumstance and could do little to correct it, the work practices also permitted individuals to be labelled as lazy or incompetent. Such labels, once attached to individuals, were reported very difficult to remove. Significantly perhaps, none of the interviewees expressed significant concerns about their working lives or indicated any intention to seek employment outside the fire service. Quite the contrary, in fact. Employment in the fire service is seen as a strong foundation on which to build a financially secure and personally rewarding future. Their goals for engagement in their work was generally about improving their performance or prospects for promotion yet in ways that permits them to remain active fire fighters. So there seem to be considerable consonance between these individuals working life goals and what was afforded by the workplace. However these affordances are only available after a long recruitment process that until recently does not discriminate between raw recruits and those with fire fighting experience.

The IT helpdesk also represents a working situation that had many of the work life qualities of working in a large organisation and as a member of a team. The IT support staff rotate through tasks associated with responding to requests for technical assistance from university employees and students. They also have individual project work and specialist tasks. They are all physically located in a rather cramped working space, except when they are in the call centre room. Like the fire officers, there is also a reliance on each other because problems arising often have solutions that others may know about or need to know about. There are opportunities for training and

development in technology available to these workers, as are opportunities for promotion. Yet, like the fire fighters, there are concerns about being promoted outside of active IT work. On the surface, there seems to be a significant level camaraderie among the workers in their shared space, often manifesting itself in banter. There are also socially events that occur outside of work time in which staff members participate. In contrast to the fire offices, the unifying bases for their work derives less from personally shared practices and values, and more on a standard operating environment (SOE) under which the computing work of the University operates. This SOE acts to homogenise the tasks of client problem solving to a narrow range of applying systemised acceptable solutions. These solutions are prepared and shared through the rotation of so called mundane duties associated with client PC support. There are also electronic monitoring devices that capture elements of these workers' performance in a public and (perhaps too) quantifiable way. However, unlike the three fire officers, the sense is that shared understanding, beyond the mechanics of the standard operating environment, is less robust and grounded in the individuals' values and beliefs. Their sense of engagement differed. One, the senior worker, reported being fully engaged in the workplace environment and out of work social events. Although the subject of significant workplace affordances (i.e. employment support, training, patronage), another desktop worker was actively seeking employment in a different work area, within the university and reported avoiding unnecessary social interactions. The third, while engaging in his work effortfully, reported being disengaged from the working group and disillusioned by the affordances of the workplace and their distribution. Certainly, in different ways, the electronically generated information about work performance was seen as being a negative affordance that led to inevitable comparisons and criticisms of colleagues. It was suggested that the workplace supported individuals who were poor performers and the promotional opportunities favoured those who were self-promoters. Gaining employment as a desktop help person appears to arise from quite diverse experience and employment practices. One worker who had previous experience in information technology support was offered casual work that then was converted to a full-time position. One, with an electronics training and background has had a long career in the university within the evolving information technology area. The third was previously a builder whose engagement with the university was funded by a government program to retrain him as an information technology technician. So there were backgrounds and means of providing their current work that were far from uniform.

The restaurant informants comprise individuals who were two of the three part owners (in different proportions) and a part-time waitress. Whereas there were relatively uniform bases for affordances for the fire officers and IT workers, in the restaurant there were clearly distinct affordances for the three participants engagement in their work. Two were enacting their desires to be managers of businesses in the catering area. The workplace afforded them the opportunity to exercise their vocation. The third participant was a part-time waitress whose employment was focused on supporting herself through university. The exacting requirements and high standard of work and engagement with customers that were key workplace goals provided quite different affordances for these three participants. For one of the part owners it represented the kind of work that he was well suited to and personally and professionally enjoyed. For the other part owner, this experience was useful for developing further his workplace capacities that would later be deployed in other personal aspirations. However, while conscientious and hard working, the exacting demands and level of commitment was seen as less invitational by the waitress. Her vocation resided elsewhere. Engagement in this workplace is also premised quite differently. For one, the original part owner, it had been about establishing a business of which he could be in control. For the other part owner, engagement and participation in this workplace was a product of buying a share of the restaurant. For the waitress, it was a question of trading time for remuneration to sustain activities outside the workplace that were more close to her sense of self.

The gymnasium offered some of the benefits of working in a large organisation, because it was one of the chain of the gymnasiums, yet also had a more familial basis for participation. This extended to part-time workers. For instance, the part-time receptionist, although under 20, has had a long association with the gymnasium as a client and a part-time worker. Moreover, she had a

personal relationship with the manager. As part of her employment conditions, this part-time worker was afforded full gym membership. In addition, because she was studying physiotherapy at university there was a degree of consonance between her studies and ultimate career objective of becoming a physiotherapist, and her part-time work in the gymnasium. This part-time worker was also afforded the opportunity to increase her hours of employment if she so desired and was promised security of employment throughout her years of study. In this way, the workplace affordances do much to support this worker's needs and goals. The manager of the gym had also had a long association with the gymnasium and had retained her position as manager when its ownership was transferred to a chain of gymnasiums. Her career goals and vocational interests were sustained by this takeover as it offered her the prospect of promotion to a more senior position within the gym chain. Part of her work was to come in contact with the regional manager and owner that provided her with opportunities to learn more about administration and management. The third participant at the gymnasium acknowledged a different kind of affordance and its change over time. He was both a self-employed personal trainer conducting one on one sessions with his clients and a Gym employee trainer assisting Gym members with their training programs. He was also a part-time student. For his personal clients he was afforded access to the gym and its facilities on the basis of payment he made to the gym. Yet, there was significant reciprocity in the relationship. That is, the better service he provided the greater retention of membership within the gym. This retention and expansion of membership is the key basis for the gym's survival and development. Consequently, the gym provided him with potential clients in the form of members, and the quality of his work with those members contributed to them maintaining gym membership and their seeking his services privately. He has established a level of clients he wishes to secure and develop as the foundation for his personal training business. This arrangement will remain in place until such time as his personal client base is sufficiently large enough to warrant his ceasing to work as an employee. This will be most likely achieved through a positive relationship with the gym. Moreover, the takeover of the gym has also led to him being requested and supported to upgrade his qualifications that again links him closely to the gymnasium.

From this description of these workplaces' affordances can be seen that there are quite different premises that shape these affordances and their construal by individuals. That is the institutional facts (Searle 1995) played out in quite different ways. These differences were identifiable in individuals' intentionalities and interests, thereby underlining the significance of the individual in this process. There are shades of Gey (1994) here, except that it seems that the goals of the works place were more germane to these fire officers than were more his accountants. The fire service offers its officers a form of work which is seen as being exciting, high profile and enjoys, apparently, unprecedented high standing in the community. Hugh, one of the fire officers, referred to the transformation of his standing in the community upon becoming a fire officer: being invited to engage in conversation by those who had previously ignored him in the pub. Others commented that their work enjoys a higher status than that of police and ambulance workers. Bruce referred to being frequently waved to by members of the public when in a fire engine. Moreover, the work conditions and hours and extended periods of non-work time means they can have a significant life outside of work.

As noted, all three informants were seeking to embed themselves further in their workplace, its culture and its affordances. The interview transcripts revealed considerable levels of intersubjectivity in their conceptions of their work and work-related values. This may well be a product of the intensity, duration and shared nature of their working lives. This is to be explored in later interviews. However, although engaged in shared work and a shared work environment underpinned by a standard operating system, there were distinct dissonances and differences in perspectives arising from the information technology workers. Their personal and professional trajectories were also quite distinct. Two of the three articulated concerns about and exercise distance from the allegedly shared values and interactions of the workplace. So, unlike the fire fighters, whose trajectories were more centri-petal, these workers' trajectories were towards more peripheral participation, in so far as the team functioning was concerned. Then, the gymnasium,

albeit without the range of institutional affordances of the fire station or the university also presented an environment where there was shared interests and concerns. Here, there were both consonances and a coalescing of work-related practices and values associated with individual trajectories. The manager's, part-time receptionist's and personal trainer's goals were intertwined with those of the workplace. In particular the personal trainer characterises what is referred to as a contingent worker -- not formally tenured within the workplace. Yet, he and the other part-time worker enjoyed engagement in and reciprocity with the workplace. Similarly, for the part owners of the restaurant work afforded them important opportunities associated with their personal and professional trajectories. However, for the waitress, there were only personal goals to be secured.

Sitting within this analysis is evidence of interdependence between what is afforded the individual and individual engagement with it. For instance, even in the fire service there were quite distinct constructions of the purposes and practices of the command and control ethos that underpins emergency service provisions. These were seen as being helpful when they ordered the activities of fire officers in emergency incidents. Yet, the officers themselves identified distinct construal in their responses to these requirements. For instance, Bruce station manager and by rank the automatically appointed incident controller in an emergency response, lauded the command and control ethos for its operational efficacy, yet he derided its operation upon him from administrators senior to his position. Similarly, Ian a ladder specialist referred to having considerable autonomy in emergency situations because of his specialist expertise. So, although he might be given a general direction by the incident controller, he claimed to practise considerable autonomy in the actual conduct of his work. More than that, he referred to enjoying the capacity to direct his own work and not be constrained by the decisions of others. Hugh referred to the long process it had taken for him to be employed as a fire officer, despite the fact that he was already a trained officer from the United Kingdom. There is also an apparent contradiction in the values of these individuals and the institutional practices of their workplace that must underpin participation in other forms of service, such as the military. Each of these fire officers referred to wanting to be a leader, and wanting to enjoy more freedom. Individually, each of their personal histories has included being self-employed or running a small business in which they had considerable autonomy. Yet, they were engaged in, and seemingly embedded in, work practices that sought to relegate individual autonomy to a series of practices that had to be appropriated and enacted uncritically. Perhaps it is within the situational discretion provided for these individuals to exercise their self and their autonomy when engaging in dangerous and confronting work where this autonomy and desire for leadership can be expressed. Similarly, another preference contrast is at play in the IT help desk area. At least some of these workers preferences to work alone are being contravened by requirements both physical and organisationally to work in teams. Yet, unlike the fire officers, they are not compensated by conducting high status work. Instead, they are subject to an electronic monitoring device that may be a poor substitute to public acclaim. This is not fanciful speculation, as they report enjoying specific feedback from people who value their work. This also is an issue that will be examined further within the project.

Within the information technology work there were clear differences in how affordances were interpreted and engaged. What for one worker was an openly social working environment that welcomed and embraced workers and extended to out of work social activities, was seen quite differently by the two others. One expressed a preference for keeping separate work and social life, and therefore would not engage in social exchanges other than those required to conduct his work. Another, elected to participate more peripherally. This may have been because of a previous workplace incident. However, what was clear in these different kinds of participation was that it was underpinned by distinct goals and intentions that were found in previous or premediate experiences. The earlier experiences of one worker was to separate work and personal life, another was to avoid unnecessary social interaction, where as the third saw working collegiately and in ways which extended beyond the workplace as a desirable form of work practice. In a distinctly different way, it was how the workplace offered particular affordances to the workers in the gym that was central to their engagement and participation. It offered them quite different invitations to

engage and work. Yet, because of the consonance between these affordances and their personal trajectories they were seen to be welcoming and highly invitational. So in these ways, there is a clear interdependence between the institutional facts (Searle 1995) of the workplace and the bases of engagement by individuals, premised on their agentic action (Billett and Somerville 2004). The bases for the interdependence were found in the degree of the social press and relationally individuals' engagement with that. While the institutional press and practices of the Fire Service was potent, it was important for and generally valued by the fire officers. In a different ways the press of the IT and restaurant workplace were also strong in different ways (i.e. shared environments), but the bases for engagement were more diverse as was their enactment. Then again, a different kind of press was enacted in the gym that was less premised on strong institutional practices than alignments between individuals' interests and trajectories. Again this emphasises the relational nature of interactions between social and individual agency.

Individual learning and the remaking of work practice

As individuals' participate in their workplaces they are also engaging in learning work. This learning work, has two dimensions: (i) individual learning and, (ii) the remaking of cultural practices that comprise their work. Much of the fireman's work is explicitly about learning, learning to improve their practice, learning to be more knowledgeable about the likely sources and prevention methods of fire. They are engaged in a cycle of technical preparation and maintaining readiness to act that is all about learning the practice of responding to emergency incidents. Moreover, the workplace provides an environment in which this learning is supported and engaged with by the fire fighters through their individual and shared activities. It is through their collective experiences and actions that they conduct their work in ways that are likely to be quite distinct from earlier and other fire fighters. For instance, the decline in the number of fires to be extinguished arises from more safely construct buildings, fire prevention strategies, and fire and smoke alarms. Consequently, the sure fire fighting aspect of their work has declined, yet new applications for their skills have emerged in responding to motor vehicle accident scenes. Much of their new training is directed towards such scenarios. Also, as Hugh reports, the work of the fire fighters in this station in Queensland Australia, is quite different from his earlier experiences in Wales. In a similar way, the IT workers in the university are engaged in a similar process of learning. Because their work has a highly dynamic quality in addressing emerging problems, establishing systems, refining those systems and engaging in the implementation of new systems, much of their work is inherently about learning and maintaining their competence in their work. Analogous to the fire fighters' circumstances, the improved and more reliable performance of computers means that hardware failures are becoming less and less frequent. At the same time, software applications, their maintenance and updating are becoming more and more frequent. Given the decline in hardware failures, increasingly remote desktop help work is able to address the majority of computer based problems. So, these changes mean that like the fire fighters, these information technology workers are actively engaged in the process of remaking the practice of what constitutes an information technology technician.

However, there are some distinct differences between the learning work of the fire fighters and those of the information technology workers. The fire fighters work for an organisation whose purposes are inherently about emergency services and their promotion and well being is vested in their perfect performance of their work. There is also an essential quality about working with others in moments of extreme emergency and a requirement for effective performance that in some ways transgresses the requirements of individual preferences for the conduct of work. So being and working together is important. Such quality was found in earlier study with underground miners. These miners work in teams and relied heavily upon each other for their work and also their collective safety. Yet, the IT workers are not so pressed towards potent and collective goals. Much of their learning appears to be underpinned by them being as much disengaged from the shared practice as engaged with the shared practice. They also work in an environment, that although it relies upon information technology, this work is third or fourth in the tiers of importance. So the

levels of engagement across the two workplaces that have strong team qualities are quite distinct. Moreover, perhaps most sharply marked in the IT workplace are differences in affordances and engagement. Yet, there are significant differences within the fire fighting workplace. One worker is committed to work from home, another worker is required to undertake training and recognition of prior learning processes to have his fire fighting skills recognised. But, the learning and working of the fire fighters is directed towards centri-petal participation. This is less true of the help desk workers, whose modes of participation and engagement are directed variously towards being peripheral, to find a new practice to participate in as well as centri-petal participation.

Learning work of the other two workplaces is also shaped by interaction between individual's personal goals and workplace affordances. The learning work in the restaurant for John is all about developing further his business as both a restaurateur and an outsider caterer. In the exercise of his work he's learning to improve and extend his vocation. This emphasis on management is even taking him to consider shifting from hospitality work which has been the key source of his employment and sense of identity to date. Moreover, Robert is engaged in learning work as developing capacities associated with dealing with the members of the public and others that comprise a personal short-term goal in terms of his improved workplace efficacy, but also a more long-term goal about fully owning his own restaurant. However, the learning work of the waitress is more about fulfilling the demands of her employer to the degree that she can maintain employment thereby sustaining her other activities. The learning work of those in the gym is also varied. In different ways they are afforded particular opportunities, including those explicitly about learning. The manager is able to extend her skills and prospects through interacting with managers in other gymnasiums and the owner of the business. The personal trainer is also able to extend his knowledge through building up a diverse clientele and through engaging in an educational program about health and fitness coaching. The part-time receptionist also learns through her work how to maintain that employment. Yet, unlike Rosie the waitress, she is able to apply her growing knowledge of physiotherapy through her paid part-time work. In these ways, learning and work are explicitly linked. However, the bases for, process of and outcomes of these experiences are different and in some ways quite distinct. These differences are not simply a product of immediate social factors, they are product also of the individuals interests and agency. So here, epistemological agency (Smith 2004) was evident in the enactment of individual learning and what could be identified as the remaking of cultural practices.

Conclusion

In sum and conclusion, this initial analysis of these four groups of workers' work and work practices indicate that there are distinct bases through which the workplace provides affordances and, in turn, how those affordances are engaged with, construed and constructed by the individuals. The dualisms here are not simple. They are richly interconnected and intertwined. The societal value and standing granted to fire fighters is something generated outside of their workplace but manifested in their practice and public execution of their work. The apparently contradictory mix of adherence to command and control protocols, yet afforded freedom to have second kinds of employment are other nuanced and relational bases for these workers to be highly integrated with their work practices and its culture. In some ways, the work demands it. Yet, clearly some contravene that by being seen not to be competent or committed to their work. The personal histories of the help desk workers are exercised in different ways within work that is hidden from many of those who benefit from it. Instead of public adulation and support, some of these workers rely on electronic feedback from client surveys as a means to demonstrate their worth. Equally, the workers in the gymnasium and the restaurant are seeking quite different bases for their continuity and confirmation of their being effective through that work. For some, this comes from within the workplace, but others from outside of it. In all, this early work and tentative findings demonstrates how work and learning work are integrated in different ways and different purposes across these four workplaces. It emphasises the relational nature of the interdependencies between the social and individual contributions, yet articulates strongly how the confluence of social and individual is

exercised perhaps most strongly by individuals through their construal and construction (learning if you like) and that the social practice is as much dependent on these individuals as individuals upon it. Hence, even from the perspective of the remaking of cultural practices, such as those skills required for workplaces, the individual appears to stand an important component and one that needs to be considered by pragmatic agenda is associated with learning and learning throughout working life.

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