

PA048

Learning in a knowledge economy: What strategies are required?

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The concept of a knowledge economy presupposes that those working within it are able to construct, deconstruct and reconstruct knowledge in order to meet changing conditions of work and global markets. This leads to a fundamental question which needs to be addressed by vocational education and training practitioners and policy makers: How do we best prepare our current and future students to access, maintain and manipulate information within such a climate?

This paper reports on some of the tentative findings of a nearly completed PhD research project. Although the research focused on the perceptions of practitioners of how they adapted their current competence when moving across changing or different contexts, there was also an emphasis on the strategies which would enable such knowledge and skill transfer. The paper discusses these emerging strategies and speculates on how learning might be.

Introduction

The concept of a knowledge economy, knowledge workers and/or knowledge society is based on the premise that the construction and reconstruction of knowledge is a marketable commodity. This necessitates a change in the way in which we view learning. Learning can no longer be seen to reside in the domain of formal education. Instead it becomes an essential and frequently used part of our everyday work and life activities.

What, then, is the role of educational practitioners with respect to knowledge and learning and how is the shape and nature of learning transformed in its role as a marketable commodity? Certainly the idea of the academy as a group of those whose role is the creation, dissemination, validation and protection of knowledge becomes an outmoded concept. Learning becomes an everyday, universal activity by which information and observation is transformed through reflection and experience across different contexts to a greater or lesser extent to create or reshape knowledge.

Knowledge as a marketable commodity also creates new hierarchies by which knowledge is valued. Knowledge may be created by individuals, by groups, by communities, by societies and by globalised systems. Its value to others will depend on such factors as:

- its degree of specificity or universality with respect to contexts and applications;
- the ability for the knowledge to be generalised;
- its range of applications;
- the parameters which have been built around its dissemination (e.g. copyright); and
- its usefulness to others.

All this means that educational practitioners need to rethink their role with respect to learning; both as facilitators of learning and as learners. Barnett (2002) describes the conditions under which we work and learn one of supercomplexity. He argues that, in a world characterised by contestability, challengeability, uncertainty and unpredictability, the frameworks we use for comprehending the world, for acting in it and for relating to each other have become problematic. 'Work has become learning and learning has become work' (p. 7).

Learning through work

Work is not necessarily a site of learning at the individual level. Much work is routine and our absorption in the particular often means that we do not question or reflect on whether the ideological spectacles through which we view our world need adjustment. However, on a societal level, learning is deeply embedded in work. Barnett (2002) argues that there are three dominant factors involved, namely:

- the interconnectedness of economies means that events and actions of those at a distance have effects at a local level
- the rise of the evaluative (or audit) state "spawn(s) more and more complicated internal quality assurance systems which impact on work (at the local level)" (p. 11)
- the information technology revolution, and the forms of communication that the computer makes possible, leads to significant learning within the workplace.

Such embeddedness is structural and manifests itself in the culture, practice and mores of the workplace. Failure to respond to the need for learning to keep pace with change will result in what Barnett calls 'a self-imposed redundancy' (2002, p. 12). Work increasingly provides opportunities for personal change and development, that is, learning opportunities.

In contrast, Lave (1993) argues that, even at the individual level, there is no separation between participation in work and participation in learning through that work. Microgenic development, or moment-by-moment learning, (Rogoff 1990; 1998) occurring through work is shaped by:

- the activities individuals engage in;
- the direct guidance they access; and
- indirect contributions provided by the physical and social environment.

Basically workplace activities act to reinforce, refine and generate new forms of knowledge. This is analogous to what Piaget (1966) referred to as accommodation and assimilation. Consequently, learning through work can be understood in terms of the affordances that support or inhibit individuals' engagement in learning through work. Such factors include:

- opportunities to participate in work activities
- the contested nature of the workplace environment with respect to participation
- the struggle of contingent workers (part-time and contract) to maintain their skill currency relative to full-time workers
- the practice of rewarding competence with invitations to further participate widens existing skill imbalances.

For example, Wertsch(1998) argues that the agency of the individual will determine whether the learning is mastery (as in the cheerful enquiries by staff at McDonalds as to whether you would like some fries with your ice-cream sundae) or appropriation (when the rare staff member from the same chain consistently demonstrates through his/her sales patter that for effective on-selling there must be an obvious link between the product the customer has already purchased and the product being suggested). One of the consistent mistakes within the Australian vocational education and training (VET) system has been to see competency-based approaches as mastery rather than as a transformative educational process based on defined outcomes.

The research of Billet et al. (1998) Indicates the potential of individual agency to offset some of the limitations of an environment whose affordances were weak and to determine what constitutes an individual to participate.

More pertinently, it showed that the readiness and the capability of the individual to participate and to engage in workplace learning is critical.

Realising the potential of learning at these work sites and in particular, the mentoring process is likely to be jeopardised without careful scene setting and thorough preparation. In some ways these findings are commonsensical. That is, the kinds of opportunities provided for learners will be important for the quality of the learning that transpires. Equally, how individuals engage in work practice will determine how and what they learn. Nevertheless, these factors may be overlooked if the links between engaging in thinking and acting at work and learning through these actions is not fully understood. Also, establishing a training system, without understanding the bases of participation, is likely to lead to disappointment for both workers and enterprises.

(Billet (in press), p. 5)

Billet identifies three important conceptual implications which arise from this understanding.

1. Rather than being a mere element of social practice (e.g. Hutchins 1991), individual agency within social practices is both interdependent and independent (Engström & Middleton 1996). Individuals' socially derived personal histories (ontologies), together with their values and ways of knowing, mediate their participation and learning within social settings.
2. Individuals' participation at work is neither passive nor unquestioned. Billett's research showed that even when the workplace is highly invitational, individuals may elect not to participate in learning. This suggests that a range of invitational qualities are required to enable all participants to participate in ways that allow them to contest and/or transform existing values and practices and to find meaning in participation.
3. Workplaces can facilitate the hard-to-learn knowledge of vocational practice. It is therefore important that individuals' have the capacities necessary to take advantages of the affordances offered by workplaces in order to achieve rich learning outcomes.

Motivation for learning

However, if learning is structurally embedded in work, work is similarly embedded in learning. Learning presents both personal and intellectual challenges; it takes us out of our zone of comfort and challenges our identity both as a worker and a learner.

It therefore follows that there must be a strong motivation for learning. The most basic and most effective motivator is the need to do something which is currently outside your capability. Workplace change, both organisational and functional, produces the necessary conditions for learning.

The information technology revolution has demonstrated the quality, and ease, of learning which occurs at the point of need and at the time of need. Most workers have developed their computer skills through a combination of formal learning activities and assistance provided by co-workers in times of need. It is this second strategy which is commonly the most effective as it is immediately followed by the application of what has been demonstrated – often on a repetitive basis.

It can thus be argued that the greater the separation between learning and its application, the more likely that the learning will be superficial and transient. Nor, in the supercomplexity of today's workplaces can we make learning safe or lower the inherent risks in the learning process. The uncertainty inherent in the process of learning can only be overcome through critical engagement.

We combat multiple and conflicting frameworks not by resisting them or giving in to them in any facile way. Instead, we live dangerously with them by bringing to bear yet further possibilities of thought and action, which we in turn subject to critical scrutiny.

(Barnett 2002, p.19).

The nature of learning

Each profession and vocational area has its own mix of factual knowledge, theoretical principles, competencies, understanding of actions, process knowledge, tacit knowledge and communicative competence (Barnett 2002, p.8). Those wishing to participate within a particular profession or vocational area need to engage within the particular community of practice of that area. As Lave and Wenger (1991) argue, participation will initially be peripheral as membership of a community of practice is dependent on learning and perpetuating the explicit and implicit behaviours, understanding and values of that community.

Learning which occurs outside of the context of professional or vocational practice is at best preparatory learning and is peripheral to practice. Such learning provides learners with an image of professional practice and, in many cases, provides the learners with the competence to engage with the practices, culture and mores of the workplace. However, such learning must be enhanced by engagement with the reality if it is not to remain a distorted view of everyday practice within that vocational area. It is the engagement in practice and reflection on the experience of that engagement which adds dimension to

the learning and allows the development of the tacit and implicit knowledge which defines and gives shape to profession (or vocational) practice and organisation.

Workplace learning is grounded in the social relationships, proximities and hierarchies of the workplace. It is the understanding of the infrastructure and the ways people work with and within it which defines practice within a particular workplace.

As Billett wrote, 'we humans are not passive recipients of what we experience. Instead we are active meaning makers' (2003, p. 227). The outcomes of learning will be shaped by the social circumstances within which the learning occurs but will also be mediated by the learner's unique set of cognitive experiences. It is this interplay between individual agency and social contribution which provides the reciprocity between the learner and his/her social world.

References

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