Professional work and new types of learning

As the nature of work changes through modernisation, the use of IT, different work arrangements, so there is a demand for appropriate theories of work and its organisation and the learning that is required to participate and subsequently learn in these new forms of practice (cf. Victor and Boynton, 1998; Barley and Kunda, 2001). They suggest that detailed studies of work should be reintegrated into organisational science in order to provide a solid empirical basis for post-bureaucratic theories of organising work. Organisational changes geared towards cross-boundary collaboration and client participation require new forms of negotiated professional practice (Nixon *et al*, 1997). Without a substantive understanding of the historically changing character of the work done in a given organisation, theories of organisational and professional learning are likely to remain too general and abstract to capture the emerging possibilities and new forms of learning.

In analysing and developing the capacity of services to learn and work with productive flexibility for social inclusion, we have drawn on recent developments in learning and the transformation of work emanating from the Harvard Business School. Victor and Boynton (1998) identify five types of work in the history of industrial production: craft, mass production, process enhancement, mass customisation, and co-configuration (Figure 1). Each type of work generates and requires a certain type of knowledge and learning. They suggest that progress occurs through learning and the leveraging of the knowledge produced into new and more effective types of work.

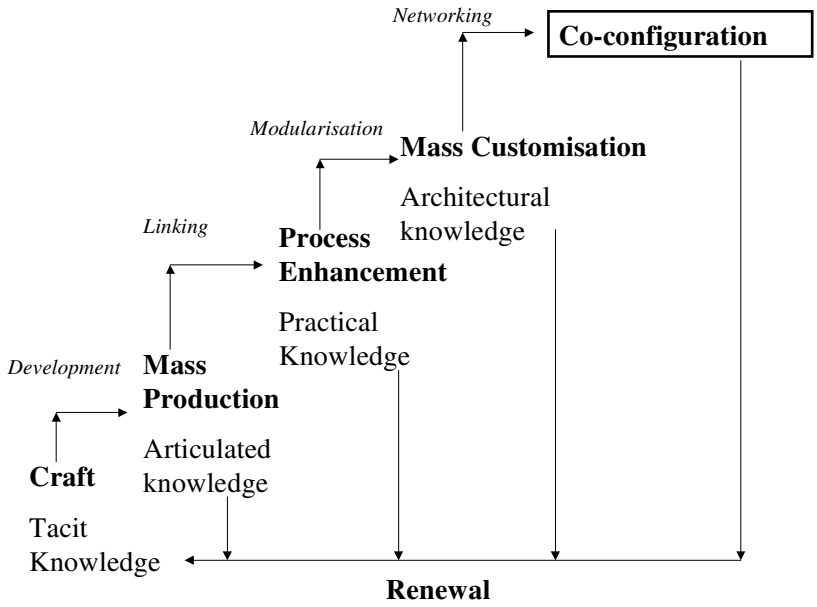

Figure 1: *historical forms of work* (adapted from Victor & Boynton, 1998)

Victor and Boynton (1998) argue that what craft workers know about products and processes rests in their personal intuition and experience about the customer, the product, the process and the use of their tools. When they invent solutions they create tacit knowledge that is tightly coupled with experience, technique and tools. In an educational setting, this is the kind of knowledge that teachers who regard themselves as 'intuitive' would develop and use. Through the articulation of the tacit knowledge of craft work, organisations may develop a machine like system that mass produces on the basis of the knowledge it has 'mined' from craft work and reformulated as the 'best way to work'. Continuing the educational analogy, this has been witnessed in attempts to codify and articulate 'best practice' in forms which are open to mass training and surveillance e.g. aspects of the Literacy Strategy in the UK.

Just as in the shift from craft to mass production, progress beyond mass production is created by learning. Mass production workers follow instructions yet also learn about work through observation, sensing, and feeling the operations. They learn where the instructions are effective and where they are not. This learning leads to a new type of knowledge, practical knowledge. Linking is the transformation that bridges mass production by leveraging practical knowledge and this creates the work that Victor and Boynton (1998) call process enhancement. It involves setting up a team system in which members focus on process improvement, which promotes the sharing of ideas within the team and which fosters collaboration across teams and functions. This has been witnessed when initiatives such as the Literacy Strategy are implemented in schools and across authorities.

The next move within their model involves the incorporation of the concept of precision alongside that of quality. The producer or service provider begins to try to identify precisely what it is that the client requires. This practice of mass customization progresses along a transformation path termed modularization. The new knowledge generated by doing process enhancement work is leveraged and put into action as the organisation transforms its work to mass customisation. This transformation is based on architectural knowledge, the understanding of work required to make the transformation to mass customisation. Recent moves in the development and adaptation of curriculum and pedagogy in the 14-19 sector in the UK witness this kind of work. It should be

noted that processes of mass customisation do not necessarily prompt a shift away from mass, Fordist modes of pedagogy as such (as has been observed in critiques of the 14-19 curriculum by, for instance, Bathmaker, 2005); however, mass customisation does offer a 'menu' of alternative pathway options.

Practices of mass customisation may be renewed when the available variety of options is exhausted. There may be the need to return to craft work in order to lever out new information recognising that no universal formula can meet all client demands for precision. The crucial difference between this work and the move to co-configuration is that mass customisation tends to produce finished products or services whereas the emphasis of the next form of work is on the continual development of the product or service. In the area of local authority children's services provision in which we have researched, 'mass customisation' is apparent in provider-service user relationships wherein a 'menu' of options for engaging with children and families is made available. However, once case work is begun and service pathways are selected there are few options for redesigning provision. Our research on the *Learning in and for Interagency Working* Project suggests that in some instances professional practices have shifted beyond mass customisation to what might be termed co-configuration: an attempt to adapt practices in order to respond to the changing needs of clients and to involve clients in co-designing the services they receive.

This is witnessed in attempts that have been made to personalise services for children and young people. There is a well rehearsed account of the importance of dialogue as a means of improving performance in learning and decision making. It is also clear that when young people are involved in the decisions about the education and social care which is made available for them that they become more highly motivated and that the provision is more likely to be effective. A crucial part of this involvement would seem to be self assessment. Practices of self -assessment are not only important during the years of schooling. The personalisation of public services, promoted as the next step in the modernisation of the welfare state (Leadbeater 2004), positions clients as co-producers of services with a central role in their design. Personalization requires citizens who are capable of participating in dialogues about their needs and desires as well as their own interpretations of their current situation. Just as Black and Wiliam (1998) argued that teachers and pupils should be prepared for self assessment in schools, so the personalization agenda brings questions about the ways in which the most vulnerable are to be prepared for participating in dialogues about their futures. The principles of participation, personalization and capability pose

challenges to our knowledge base when we consider their application to those who experience difficulty in learning and in communication.

Co-configuration is identified as the form of work which is currently emerging in complex multi professional settings.

> The work of co-configuration involves building and sustaining a fully integrated system that can sense, respond, and adapt to the individual experience of the customer. When a firm does co-configuration work, it creates a product that can learn and adapt, but it also builds an ongoing relationship between each customer-product pair and the company. Doing mass customization requires designing a product at least once for each customer. This design process requires the company to sense and respond to the individual customer's needs. But co-configuration work takes this relationship up one level – it brings the value of an intelligent and 'adapting' product. The company then continues to work with this customer-product pair to make the product more responsive to each user. In this way, the customization work becomes continuous. (…) Unlike previous work, co-configuration work never results in a 'finished' product. Instead, a living, growing network develops between customer, product, and company. (Victor and Boynton, 1998, p.195)

In practices of co-configuration there is a need to go beyond conventional team work or networking to the practice of 'knotworking' (Engeström *et al*, 1999). They argue that knotworking is a rapidly changing, distributed and partially improvised orchestration of collaborative performance which takes place between otherwise loosely connected actors and their work systems to support clients. In knotworking various forms of tying and untying of otherwise separate threads of activity takes place. Co-configuration in responsive and collaborating services requires flexible knotworking in which no single actor has the sole, fixed responsibility and control. It requires participants to have a disposition to recognise and engage with the expertise distributed across rapidly changing work places. As Engeström and Middleton (1996) suggest expertise in such contexts is best understood as the collaborative and discursive construction of tasks, solutions, visions, breakdowns and innovations. A precondition of successful co-configuration work is dialogue in which the parties rely on real-time feedback information on their activity. The interpretation, negotiation and synthesising of such information between the parties requires new, dialogical and reflective knowledge tools as well as new, collaboratively constructed functional rules and infrastructures (Engeström and Ahonen, 2001).

Co-configuration presents a twofold learning challenge to work organisations. First, co-configuration itself needs to be learned (learning for co-configuration). In divided multi-activity fields (e.g. health, education, social services, youth offending teams), expansive learning takes shape as renegotiation and reorganisation of collaborative relations and practices, and as creation and implementation of corresponding concepts, tools, rules, and entire infrastructures. This occurs within and between agencies. Secondly, organisations and their members need to learn constantly from interactions with the user or client (learning in co-configuration). Even after the infrastructures are in place, the very nature of ongoing co-configuration work is expansive; the product/service is never finished. Professional learning in the new era is crucially dependent on the contribution of the clients or users. It occurs over time, in actions and interactions, in reflections on transformations and disruptions and is evident in interpretations of and responses to the objects of the activity which act as stabilising foci where the individual sense making of diverse professionals is brought to bear. Here there is a tension between the need for certainty for immediate purposes and the need to remain uncertain for future purposes.

These two aspects – learning for and learning in - merge in practice. The learning that is taking place is therefore both personal and organisational. These two aspects of learning are evident in organisational, interactional and discursive practice in knotworking in inter-professional working. Learning in co-configuration settings is typically distributed over long, discontinuous periods of time. It is accomplished in and between multiple loosely interconnected activity systems and organisations and representing different traditions, domains of expertise, and social languages. In short, we see learning as being able to interpret our worlds in increasingly complex ways and being able to respond to those interpretations. How we respond as professionals very much depends on whether the workplace allows the responses that are necessary. We therefore argue that individual learning cannot be separated from organisational learning. The LIW project builds on this view in two ways. Firstly, we look at learning across traditional organisational and professional boundaries and not simply within one organisation or team. Secondly we examine professional learning by following the object of professional actions.

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