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**Supporting the learning, training and development of other
employees at work**

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This contribution will discuss how organisations formally support arrangements where employees learn from each other while working in groups, with some team members explicitly encouraged to support the learning and development of others. The accountancy case study draws on the work of the Early Career Learning project funded by the Economic and Social Research Council Teaching and Learning Research Programme (TLRP). Alan Brown is Associate Director of TLRP with responsibility for workplace learning.

1. The development of expertise in knowledge-intensive workplaces in aerospace

A focus on competence in the workplace in the sense of outlining what workers did in the recent past is recognised as an insufficient basis for preparation for future performance. Much learning takes place while people are working, rather than in recognisable education or training settings. In knowledge-intensive work settings, it is important to look beyond current competences as a basis for development, and instead take a developmental view of expertise. Such an approach requires that the development of expertise should itself be viewed as a continuing process.

Thus even if employees are able to produce competent performance in a range of more or less challenging work settings, there has to be a facility within teams or the workforce as a whole to go beyond this. From this perspective, it is interesting that some companies are explicitly using a developmental view of expertise that goes well beyond expecting technical proficiency and a commitment to continuing improvement. Those companies are using competence inventories of their staff in order to differentiate between:

- Those who are technically able to perform a task but have very limited practical experience of actually doing so (e.g. the company could use them in an emergency or, if necessary, for a one-off activity);
- Those who have successfully performed the task on a small number of occasions (e.g. the company could use them if the intention was to develop their expertise further; in a support role or if time is not necessarily a key criterion);
- Those who have performed the task many times and under a variety of conditions (i.e. experienced worker standard – completely reliable);
- Those who have substantial experience but are also able to support the learning of others (i.e. they can perform a coaching or mentoring role);
- Those who are world class, that is they are able to think through and, if necessary, bring about changes in the ways that tasks are tackled (e.g. could be chosen as a team leader for performance improvement activities).

This approach to professional development recognises the importance of having a capacity to support the learning of others as well as a capacity to change the way things are done. Workplace-based assessment (WPBA) traditionally focused on the first three levels with a clear focus upon how workers perform the tasks being assessed. If

the assessment is broadened to cover aspects of interaction with others, both on task and at other times, it might also be possible to pick up those who are able to support the learning of others, as in Germany where such assessments have long been part of the *Meister* examinations for skilled workers seeking development and the attainment of higher level qualifications.

2. Early career learning in nursing, engineering and accountancy

Here I will draw on the work Michael Eraut and colleagues from the TLRP [Early Career Learning Project](#). Newly trained graduates often find there is a particular challenge in applying what they have learned during training, but that this is not a simple case of transfer of knowledge to a new setting. Rather the development of expertise is often partly built around recognition of the importance of the integration of different kinds of knowledge. Professionals and other highly skilled workers often find that the most important workplace tasks and problems require the integrated use of several different kinds of knowledge. Eraut (2004) argues that this process typically involves five inter-related stages:

- The extraction of potentially relevant knowledge from the context(s) of its acquisition and previous use;
- Understanding the new situation, a process that often depends on informal social learning;
- Recognising what knowledge and skills are relevant;
- Transforming them to fit the new situation;
- Integrating them with other knowledge and skills in order to think / act / communicate in the new situation.

The whole process is much more complicated than just desituating and resituating particular pieces of knowledge, and support from other workers can be critical in how well individuals are able to complete these processes. Interestingly, in the case of accountancy support from more experienced trainees is built into the very structure of training, with more senior trainees involved in audit teams given explicit responsibility to support the learning and development of more junior (graduate) trainees. Similarly, in both engineering and nursing support from colleagues could be crucial in the learning and development of individuals in the first year or so after they had formally qualified (Eraut *et al.* 2007).

Allied to this notion that supporting the learning and development of others at work can be built into the structure of training and development, is the view that more sophisticated notions of competence that acknowledge that **competence can be viewed as being held collectively** by, for example, a workgroup and that there can be considerable value in competence development being contextualised for particular work environments (Mills *et al.*, 2000; Sandberg, 2001). Such an approach highlights the importance of co-operation and how the competences of a team can be greater than the sum of the competences of the individuals in the team.

3. Collaborative learning in networks in ICT and engineering

In earlier work, I argued how in aerospace and vehicle manufacture supply chain networks a focus on the core problems of practice (and projected performance improvements in quality, cost and delivery) could act as a strong catalyst to galvanise the interest of companies and individuals, but a mechanism was also needed to broaden the interest of companies and participants in both learning and organisational effectiveness (Brown *et al.*, 2004). The approach to learning through networking could be seen as an example of an active model of learning whereby learners are engaged in processes of self and peer assessment and reflection leading to the creation of 'new contextualised' knowledge, not recipients of a largely passive process of knowledge transmission (compare the processes of organisational knowledge creation outlined by Nonaka and Takeuchi, 1995).

This approach makes use of a social model of knowledge creation and transformation, where for genuine knowledge transformation to occur knowledge has to move from the individual level into wider communities of interaction that cross organisational boundaries. This approach, when it works well, possesses the dynamism continually to create new knowledge, fuelled by processes of assessment, reflection and development. The processes used to power the knowledge development cycle include critical reflection, with a focus on adaptability and forward thinking, and learning portfolios allowing individual and collaborative reflection on learning and knowledge transformation processes. Portfolios can help employees pull employees' learning together; provide supporting evidence for use in company appraisal processes; help learning become more shareable, portable and transferable; and act as a stimulus to innovation and the development of adaptability of the team as a whole, evidenced by the ability to perform effectively in a range of contexts (Brown *et al.*, 2004).

From this perspective processes of formative assessment and critical reflection in the workplace could play a key role in the immediate post-qualifying period by recognising that this is a time in which a great deal of learning takes place and support offered to individuals for their learning and development could have significance for establishing themselves in their career (Williams, 2001). People early in their careers learn a great deal from challenges at work, and provided that they receive support as required to facilitate processes of formative assessment and critical reflection, then a virtuous circle of confidence, support and challenge can be created (Eraut *et al.*, 2004).

There is also value in building a stronger dialogical element into the assessment of work-related competences, especially where there is a focus of work-related learning upon the 'core problems' of practice (Onstenk and Brown, 2002). Learning from their own experience is important for the newly qualified, but so is learning from the experience of others. Newly qualified staff need opportunities to discuss and practise thinking about complex cases handled by their more experienced colleagues. The approach to seeking to tackle complexity through processes of formative assessment and critical reflection puts interpretation and a shared search for understanding as the heart of "the discursive nature of professional practice" (Webb, 1996, p.111).

Assessment of workplace learning also needs to help meet the challenge of coping with the demands for flexibility, adaptability and the ability to transfer skills,

knowledge and understanding between contexts in the workplace, particularly for those operating in highly skilled or professional contexts. The hallmark of successful occupational practice is the ability to draw on knowledge, abilities, skills and attitudes used in an integrated, holistic way (Gonczi, 1994). This approach to the performance of professional practice draws attention to three important features.

Much learning and development takes place while working. Additionally, it may be that it is social capital, developed through participation in work-related networks, which also plays a role in helping individuals sustain their employability (Brown, 2005). In a range of contexts those individuals whose work regularly took them to other workplaces, or changed jobs frequently early in their career, developed strong networks as well as experiencing challenging work in a variety of contexts, a process which honed their skills in a number of respects, including the development of tacit skills. In such circumstances the informal learning of technical, social and networking skills could be very helpful for an individual's skill development at work. In other cases technical and professional workers starting their career had high level qualifications, and what they often needed to become more effective at work was practical experience gained while working rather than formal skills or knowledge updating through formal training programmes, so again informal learning could be very important.

The informal learning associated with personal networks was often important in many contexts over a career, from hearing about job opportunities and gaining initial entry to work through to many aspects of continuing career development, including choices about different ways of updating professional skills, knowledge and experience. (Brown, 2005). These networks often had a pragmatic and informal nature and the functioning of these informal social networks re-emphasised the point Granovetter (1973) made about the 'strength of weak ties', with the network spreading out to include help of relatives, friends, colleagues or even through spontaneous relationships embedded in other social environments. Progress in work is often supported by spontaneous forms of learning in which informal work-based learning and self-managed competence development converge and both are often at least partly dependent upon the quality of support from personal networks (Brown, 2005).

The cases outlined above illustrated how in contexts where (technical and professional) work itself is challenging, then much continuing vocational learning takes place through a mixture of formal and informal learning outside formal training programmes. Additionally, there is a need for employees not only to update their technical skills but also to develop further a range of more generic skills, including planning, problem solving, communication, IT and management skills and much skill development in these areas can come through informal learning while working coupled with short periods of explicit formal learning and reflection upon experience.

Another valuable skill to be developed relates to learning to become more self-directed in your approach to learning at work and this can lead to significant work-related learning. Use of personal networks can be an effective way to critically reflect upon work and hence can be an important source of work-related learning. Learning how to support the learning of others (especially for those with management and supervision responsibilities) is vital to improve the likelihood of significant learning while working, but can help in the development of your own skill set as well as those

of others. Learning how to organise knowledge effectively and apply it appropriately are vital for technical and professional workers' development and these skills are, par excellence, those that can be developed effectively through informal learning coupled with more formal reflective and deliberative learning.

It is also clear that innovation and learning within and across organisations are essentially social processes and both personal networks and cross-company networks need to pay attention to building relationships to support development as well as focusing upon substantive issues. There is also a need to consider the interaction between formal and informal approaches to learning, skill development and knowledge creation as a particularly effective way forward not only for enhancing personal professional development but also as a means to improve organisational effectiveness.

4. Final thoughts

One particularly important way informal learning plays a role in skill development for employees working in learning-rich jobs is by 'learning by interacting' – that is learning through interacting within communities and networks is a fundamental way for constantly re-building personal cognitive approaches both to specific issues and re-constructing the sense of the whole work experience. Technical and professional workers were often engaged in a wide range of networks that helped with different aspects of their work-related learning and development, only some of which were explicitly linked to the organisation for which they worked. On the other hand, in some settings access to a broad set of interactions was restricted to a particular group of technically qualified employees, whose opportunities for learning as part of their everyday work were consequently much richer than those whose work and contacts were more restricted.

It was also noticeable that in work activities allied to collaborative learning individuals were often influenced by a search for knowledge not just an interest in how to do the work in hand. The search could incorporate aspects of technical know-how (how to apply technologies), but also involved know-what (where and when technologies and knowledge could be applied), know-who (not just in relation to customers but also an active search for people who would be valuable as members of a personal network), and know-why (a fuller understanding of phenomena and processes, including in some cases a deeper scientific understanding). This desire for sense-making could be driven by one, or a combination, of an individual search for understanding, be embedded in occupational identities (thereby influencing attitudes and behaviour) or a function of participation in networks with an explicit learning dimension (Brown, 2005).

While acknowledging the value of informal learning, technical and professional workers also realised such learning was an insufficient basis for personal professional development. They seemed to be well aware that learning does not grow only 'by doing' (accumulating experience through performing work processes) or 'by using' (particular tools and techniques), but there were also advantages to a more systematic approach to learning and development, whether this utilised some or all of the following: the systematic exploitation of the web, participation in specialist networks, relationships with technologically advanced customers or colleagues, more general

participation in innovation activities, or using opportunities for formal education and training. Learning from others with acknowledged expertise is sometimes facilitated through particular activities (e.g. work shadowing), sometimes through explicit knowledge development and sharing activities and at other times is built into the organisation of work activities (e.g. in the construction of project teams).

Collaboration was deemed to be a support in a wide range of situations, a natural environment for informal exchanges of information and knowledge, and a stimulus to enrich personal competencies and knowledge (Brown, 2005). Supporting the learning of others at work can therefore act as a powerful driver of learning and development at work at a number of levels, including 'sense making' (both in relation to technical processes and work process knowledge more generally). That is, developing a 'vision' of how work process knowledge fits in their work activities and those of the company more generally is an important driver of learning. Technical and professional workers often want to make sense of their experience of work as a whole and in order to achieve this goal they draw upon a range of approaches to learning that comprise both formal and informal learning. The overall approach could be interpreted as representing a desire for learning through working and interacting and self-directed learning leading to contextual understanding interspersed with periods of more formal learning and development that allow for more considered reflection, a linking (and integration) of what has been learned by experience and informal means, and more rounded professional and personal development.

Bearing in mind the famous quote by William Gibson that 'the future is already here, it's just unevenly distributed' it is hard not to believe that belief in a developmental view of expertise in the workplace will not become much more prevalent in future. Current obsessions with focusing on issues concerned with personal competence, assessment and qualifications as proxies for work-related skill development may come to be recognised as unhelpful and greater impetus given to promoting more collaborative approaches to learning and development.

5. References

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