

Career adaptability, flexible expertise and innovation – learning while working across the life-course

Extended Abstract for Paper for the NIFU workshop on Learning and innovation

Oslo, Norway, 7th – 8th February, 2013.

Alan Brown Institute for Employment Research, University of Warwick, UK
alan.brown@warwick.ac.uk

1. Introduction

In rapidly changing work environments, it is striking that some workers cope much more readily with, or are likely to initiate, change than others. My recent work has focused upon why this is the case, looking both at individual differences in career adaptability and changes to collective routines facilitated by the application of flexible expertise. Combining both strands leads to the question: are there particular ways of thinking that are conducive to supporting innovation in organizations and, if so, how can these ways of thinking be supported, when routine and standardization of approach also offer clear benefits for organizational effectiveness?

In a qualitative study of 64 workers in the UK and Norway an investigation was made of career adaptability: the capability of an individual to make a series of successful transitions where the labour market, organisation of work and underlying occupational and organisational knowledge bases may all be subject to considerable change (Brown *et al.*, 2012). Four key dimensions emerged relating to the role of learning in developing career adapt-abilities at work: learning through challenging work (including mastering the practical, cognitive and communicative demands linked with particular work roles and work processes); updating a substantive knowledge base (or mastering a new additional substantive knowledge base); learning through (and beyond) interactions at work; and being self-directed and self-reflexive.

Earlier work by Nieuwenhuis & Brown (2009) had focused upon the development of flexible expertise where skilled workers adapted their expertise rapidly and smoothly to different tasks, functions and/or environments. Flexible expertise could support innovation in the sustainable change of collective routines (Hoeve and Nieuwenhuis, 2006), but changing collective routines can be challenging as issues of cognition, practice, culture and identity are all at stake, both at the individual and collective level.

Brown (2005) had highlighted how the success of small and medium size companies could partly depend on the way they handled, either explicitly or implicitly, the gradual development of 'skilled incompetence' (Argyris, 1990). 'Skilled incompetence' arises in companies where the current way of doing things, including the constant search for and focus upon technical development, meant they neglected other strategic considerations, including plans for the professional growth of staff and opportunities to reflect systematically on their ways of interacting externally. A drift towards skilled incompetence can be challenged in three ways: by viewing the development of expertise as a continuing process; recognition of the importance of the integration of different kinds of knowledge; and the use of coaching to facilitate mastery of high level vocational practice associated with flexible expertise.

2. Development of expertise should itself be viewed as a continuing process

The development of expertise should be viewed as a continuing process, where there is a facility within teams or the workforce as a whole to go beyond competent performance. Some companies in technologically advanced sectors are using a developmental view of expertise that goes beyond technical proficiency and a commitment to continuing improvement, whereby they build up competence inventories of their staff to differentiate between:

- Those who are technically able to perform a task but have very limited practical experience of actually doing so (e.g. could use in an emergency);
- Those who have successfully performed the task on a small number of occasions (e.g. could use 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) (Brown, 2009a).

This approach to development recognises the importance of having a capacity to support the learning of others as well a capacity to change the way things are done.

3. Development of flexible expertise depends upon the integration of different kinds of knowledge.

The second way the development of flexible expertise could be supported is through the integration of different kinds of knowledge. Highly skilled workers often find that the most important workplace tasks and problems require the integrated use of several different kinds of knowledge. It is the combination, integration and recontextualisation of different types of knowledge that is often a major challenge, especially for early career professionals, and the degree of support an individual receives time can be critical. Eraut *et al.* (2004) highlight how people learn most effectively when a virtuous circle of confidence, support and challenge is created, which facilitates the combination and integration (and development) of different types of knowledge.

While knowledge development linked to challenging work (associated with project work, introduction of new techniques, products, technology or processes) and formal knowledge updating are both important, so are a range of more informal ways of knowledge development and utilisation. Coaching can be particularly important in this respect because it could help address issues associated with the transfer of knowledge between contexts, as this is not a straightforward process, as it depends upon:

- understanding the new situation, a process that often depends on informal social learning;
- recognising which areas of knowledge are relevant to the new situation;
- focusing more precisely on what knowledge is needed for a particular decision or action;
- interpreting and/or transforming that knowledge to suit the new situation and context; and
- integrating the relevant aspects of knowledge prior to or during performance (Eraut, 2009).

A coach can play an important role in helping individuals re-contextualise what they have learned elsewhere to the workplace setting by helping them think both explicitly and implicitly about what constitutes effective performance in a changing context (Evans and Guile, 2012). The search for knowledge by individuals could incorporate aspects of technical:

- know-how (how to apply technologies);
- know-what (where and when technologies and knowledge could be applied);

- know-who (including an active search for people who would be valuable as members of a personal network); and
- know-why (a fuller understanding of work processes including, in some cases in health, a deeper scientific understanding) (Lundvall, 2002).

More generally, however, are there particular ways of thinking and knowledge development that are conducive to supporting innovation in organizations and, if so, how can these ways of thinking be supported? Imagination is one amplifier of learning and in relation to innovation the use of imagination to solve problems, imagine futures, and see the perspective of others is a valuable asset. More disciplined enquiry is also important: comprising investigation, experimentation and critical reasoning. Another challenge is to combine the rational and empirical with the more emotional and intuitive.

The expertise necessary to underpin innovation requires concentration, practice, organization, focus and discipline, but also an immaterial component connected to feeling, sense and identity as well as requiring critical thinking and self-reflexivity. How far is it possible to develop particular sets of skills, knowledge, understanding and ways of thinking, being and doing, while at the same time developing dispositions which go beyond these particular developments in responding to new challenges: curiosity, resourcefulness (including learning from others), resilience, ability to support the learning of others, taking responsibility for self-development and reflexivity? One way to help achieve this is through adoption of the third way of supporting the development of flexible expertise: through the use of coaching to facilitate mastery of high level vocational practice.

4. The use of coaching to support the development of flexible expertise (in order to facilitate mastery of high level vocational practice)

Some evidence for the role coaching plays in supporting the development of flexible expertise comes from a study of the different patterns of working, learning and support of over 1000 workers in 10 European countries as their careers and identities developed (Brown *et al.*, 2010). For many highly skilled workers support from others could play a critical role in helping them develop, with coaching helping individuals develop the breadth, depth and rich contextualised understanding of their vocational practice which could be recognised as mastery. Coaching at this level is often less directive and more nuanced than in the early stages of skill development so it seems appropriate to describe this process as 'nurturing mastery' in the development of 'flexible expertise'.

Such coaching is also a relatively small component in terms of time but it can act as a multiplier enhancing the effectiveness of other skill development processes. However, flexible expertise also requires a degree of reflexivity which can be inculcated by reflections on experience, action and 'reflection and knowing in action' (Schön, 1983).

Evidence is also drawn from studies on career adaptability (Bimrose *et al.*, 2011) and supporting learning in advanced supply systems in the automotive and aerospace industries (Brown *et al.*, 2004). Interestingly, where employers adopted an expansive view of the development of expertise (as in the example of the comprehensive competency framework mentioned earlier), the highest two levels highlight aspects of the skill sets required of coaches to nurture the development of flexible expertise. The role of coaching in helping integrate different types of knowledge has already been outlined, but coaching can also support the development of high level vocational practice in three further ways, by supporting:

- learning through challenging work (by mastering the practical, cognitive and communicative demands linked with particular work roles and work processes);
- learning through (and beyond) interactions at work; and
- individuals to be self-directed and self-reflexive.

4.1 Role of coaching in supporting the development of mastery through engagement with challenging work

Many highly skilled workers emphasise the value of challenging work in facilitating learning and development, but they were also dependent upon the quality of support they received from other people including through coaching relationships (Bimrose *et al.*, 2011). Learning while working is a powerful driver of developing the challenges of mastering the practical, cognitive and communicative demands linked with particular work roles and processes. Yet this can be difficult to accomplish just through accumulation of experience. The sheer range, complexity and inter-relationship of aspects of highly skilled performance which may be identified as requiring further development means that the support of someone with an explicit coaching role, or of a colleague who performs this role informally, can help an individual improve their performance (Brown *et al.*, 1994). This applies to particular aspects of performance as well as holistic performance. Aspects of performance a coach might focus upon could include: task performance; role performance; situational awareness and understanding; teamwork; personal and group development; decision-making and problem-solving; academic knowledge and skills; judgement (Eraut, 2009).

The following is an example of a coach supporting performance improvement in a small specialist aircraft and submarine engineering company employing 60 people. The '**change agent coach**' had responsibility for implementing continuous process improvement, supported by their supply chain network lead company. He had a deep understanding of work processes in both companies and he had to support others in learning and applying a whole range of techniques which were new to the company. Cascading the approach within the company also meant that other workers were themselves developing and applying their coaching skills in a range of contexts as they too were operating in cross-disciplinary and cross-hierarchical work teams (Brown *et al.*, 2004).

4.2 Role of coaching in supporting learning through (and beyond) interactions at work

Work is a social activity where relationships and interactions, including those with coaches, influence opportunities for the development of skills, knowledge and understanding (Brown, 2009b). Many participants in both countries in the Anglo-Norwegian study seemed well aware of the value of opportunities for 'learning by interacting' with patients, colleagues, customers, clients etc. (Bimrose *et al.*, 2011). However, some types of intensive interactions which made heavy cognitive, communicative and emotional demands, as in care for cancer patients, benefit from formal reviews with a supervisor or colleague acting in a coaching role, which includes learning to cope with the demands of the job. Other cases highlight the importance of interdisciplinary learning, where experts in different fields give each other an insight into alternative or complementary disciplinary perspectives or ways of working: 'in our project teams there are lots of interdisciplinary exchanges and there is a lot of learning going on. For instance, an economist will learn about operations through participation in projects' (Bimrose *et al.*, 2011).

Participation in and learning through interacting within communities and networks is a fundamental way for (re-)constructing a sense of the whole work process as well as a vehicle to develop expertise, including how to communicate effectively in different contexts. The interactions may be formalised as in master coaching sessions, but coaching may also take place in more informal personal networks and relationships (Brown, 2005). 'Knowing who' in an organisation is useful to enable you to be effective is valuable and help in this area is one of the more subtle aspects of coaching support, which can also help you learn situational awareness about 'organisational cultures and management of change' (Bimrose *et al.*, 2011). A number of interviewees also emphasised how important it was to have someone in the organisation who could help you identify the important processes and channels to use outside the official pathways.

One particular type of interaction stands out as helping in the development of adaptability – supporting the learning of others. Time and again in the career adaptability study, individuals identified others, often acting in a coaching capacity, as being particularly helpful in their learning and development. By the same token, some participants highlighted how much they learned from supporting the learning of others. Some had responsibility for the learning and development of others on a formal basis as coach, mentor, tutor or manager, whereas others performed this role as part of their duties within a team or project (Bimrose *et al.*, 2011).

In knowledge-intensive work and settings involving complex teamwork, organisations could create mechanisms to enhance such coaching support, peer mentoring and knowledge sharing in order to develop a culture of support for learning and development (Bryant & Terborg, 2008). One consequence of this is that those with responsibility for supporting the development of others become more reflexive of their own learning and this strengthens their capability to apply their own skills, knowledge and understanding in a range of contexts.

Overall, the interactions associated with coaching at work can act as a driver of the development of high level vocational practice in four ways, through:

- formal or informal coaching directly associated with work, either during or after a particular performance.
- reviews of performance, such as weekly case reviews, which provide support expressly concerned with helping people think about learning, development and effective performance by reflecting upon their experience.
- participation in broader communities and networks, which can help individuals situate their work processes in a wider context and develop a sense of their place in occupational, organisational and broader communities – an individual may coach others in one aspect and be coached by others on another within the community.
- supporting the learning and development of others at work can help the coaches to become more reflexive of their own learning and development.

4.3 Role of coaching in learning to develop mastery through self-directed learning and self-reflexiveness

Challenging work, knowledge development and interactions at work are all key aspects of an individual developing mastery at work, but so is becoming self-directed and self-reflexive about their own learning and development and this too can be facilitated by coaching.

However, here coaching may be oriented to progressively removing support as the individual becomes more independent. Learning and development at work depends partly on whether work offers an expansive learning environment and employers can play an enabling role in this respect (Fuller & Unwin, 2006; Felstead *et al.*, 2011). However, it is also dependent upon individual actions. People vary in their self-awareness about their goals, aspirations, motivation, personality, inter-personal skills and resilience. They also differ in their appreciation of learning opportunities and contextual understanding, and their ability to develop relationships and networks to support their learning and development. Capabilities for critical analysis, critical reflection, visualisation and organisation and the ability to switch between context and generalisation all help individuals to make the most of their learning opportunities (Brown, 2009b). In this respect, the role of a coach can itself be challenging as she or he seeks to empower individuals to take positive decisions and actions regarding their own skills development.

At work, being self-directed in terms of taking advantage of learning opportunities is helpful for individual development. Eraut (2009) argues it can involve willingness to engage in a wide range of activities such as asking questions; getting information; finding key people to support you; listening and observing; learning from mistakes; giving and receiving feedback; trying things out; independent study; and working for a qualification. The plural aspect of 'finding key people to support you' emphasises that support does not have to be limited to a single coach. Indeed drawing advice and support from a range of people could itself help lessen dependence on a coach – it could help the individual decide about the relative weight to be given to different forms of advice, as when an individual seeks feedback about his or her performance from a range of people.

One special aspect of being self-directed relates to being self-reflexive, whereby you are able to identify your current skill set and how this might be enhanced and extended. Those individuals who see that their skills can be transferred to other contexts have significant advantages in developing a deep mastery of their tasks and roles at work over those who define themselves almost exclusively by their occupational and organisational attachments (Bimrose *et al.*, 2008). This advantage stems from the former having a dynamic sense of themselves as actively developing their own skills, whereas the latter are dependent upon the pathways linked to a particular organisation. Being self-reflexive and self-directed in relation to learning and development can underpin a mastery of performance of high level vocational tasks and roles at work which has breadth as well as depth. However, being self-directed does not mean working alone, and as mastery develops the value of the person taking on coaching responsibilities for supporting the learning of others becomes greater,

although the coach too can still benefit from coaching. The processes of self-reflexiveness and supporting the reflexiveness of others are inter-dependent in the development of high level vocational practice, with coaching support able to facilitate both processes.

5. Conclusion

Overall, focusing on the need for a developmental approach to expertise, highlighting the importance of processes of learning, including the role of coaching in supporting the learning and development of others, and the need to support the development of expansive learning environments in education, training and employment, may be a promising way forward. Nurturing mastery of high level vocational practice through coaching could be emblematic of the importance of a more general shift towards a more expansive approach to developing flexible expertise in support of innovation at work.

References

- Argyris, C. (1990), *Overcoming Organizational Defensive Routines*, Needham, MA, Allyn-Bacon.
- Bimrose, J., S-A. Barnes, A. Brown and D. Hughes (2011). *The role of career adaptability in skills supply. Evidence Report 35. Technical Report*. Wath-upon-Deane: UKCES.
- Bimrose, J., S-A. Barnes and D. Hughes (2008). *Adult career progression and advancement: A five year study of the effectiveness of guidance*. Coventry: Warwick Institute for Employment Research.
- Brown, A., Bimrose, J., Barnes, S-A. and Hughes, D. (2012) The role of career adaptabilities for mid-career changers, *Journal of Vocational Behavior. Journal of Vocational Behavior*, 80(3): 754–761.
- Brown, A. (2009a). *Developing expertise – moving beyond a focus on workplace competence, assessment and qualifications – Beyond Current Horizons report*. London: DCSF/Futurelab.
- Brown, A. (2009b). *Higher skills development at work: A Commentary by the Teaching and Learning Research Programme*. London: ESRC, TLRP.
- Brown, A. (Ed) (2005) *Learning while working in small companies: comparative analysis of experiences drawn from England, Germany, Greece, Italy, Portugal and Spain*, Oxford: SKOPE.
- Brown, A., J. Bimrose, S-A. Barnes, S. Kirpal, T. Grønning and M. Dæhlen (2010). *Changing patterns of working, learning and career development across Europe*. Coventry: IER, University of Warwick.

- Brown, A., E. Rhodes and R. Carter (2004). Supporting learning in advanced supply systems in the automotive and aerospace industries. In Rainbird, H., A. Fuller and A. Munro (eds.) *Workplace Learning in Context*. London: Routledge.
- Brown, A., Evans, K., Blackman, S. and Germon, S. (1994). *Key workers: technical and training mastery in the workplace*, Poole: Hyde Publications.
- Bryant, S. and J. Terborg (2008). Impact of Peer Mentor Training on Creating and Sharing Organizational Knowledge. *Journal of Managerial Issues* 20(1): 11-29.
- Eraut, M. (2009). *Learning at Work during placements and after graduation: what needs re-contextualisation and what is completely new?* Paper presented at TLRP workshop on Careers and Learning: Higher Skills Development in a Life Course Perspective, University of Warwick, March 2009.
- Eraut, M., Maillardet, F., Miller, C., Steadman, S., Ali, A., Blackman, C., Furner, J. (2004) *Learning in the Professional Workplace: Relationships between Learning Factors and Contextual Factors*, AERA Conference Paper, San Diego.
- Evans, K. and Guile, D. (2012) Putting different forms of knowledge to work in practice. In Higgs, J. et al. (eds.), *Practice-Based Education: Perspectives and Strategies*. Rotterdam: Sense Publishers.
- Felstead, A., A. Fuller, N. Jewson and L. Unwin (2011). *Working to learn, learning to work, Praxis 7*. Wath-upon-Deane: UKCES.
- Fuller, A. and L. Unwin (2006). Expansive and Restrictive Learning Environments. In Evans, K. et al. (eds.) *Improving Workplace Learning*. London: Routledge.
- Hoeve, A. & L.F.M. Nieuwenhuis (2006) Learning routines in innovation processes. In: *Journal of Workplace Learning*, 18(3): 171-185.
- Lundvall, B.-Å. (2002). *Growth, Innovation and Social Cohesion: The Danish mode*. Cheltenham: Elgar.
- Nieuwenhuis, L. & Brown, A. (2009) 'In Search for Flexible Expertise as a Source for Firm Viability.' In F. Oser, U. Renold, E. John, E. Winther and S. Weber (Eds.) *VET boost: towards a theory of professional competencies* - Essays in Honor of Frank Achtenhagen. Dordrecht: Sense Publishers, pp 409 - 422.
- Schön D (1983) *The reflective practitioner*. Basic Books: New York