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Electronic version

URL: <https://journals.openedition.org/rechercheformation/2768>

DOI: 10.4000/rechercheformation.2768

ISSN: 1968-3936

Publisher

ENS Éditions

Printed version

Date of publication: 30 April 2017

Number of pages: 113-121

ISSN: 0988-1824

Electronic reference

Stephen Billett, Long Pham Quang and Vanessa Rémy, "Learning through work: Interest, perspectives and approaches", *Recherche et formation* [Online], 84 | 2017, Online since 30 April 2017, connection on 08 January 2022. URL: <http://journals.openedition.org/rechercheformation/2768> ; DOI: <https://doi.org/10.4000/rechercheformation.2768>

Entretien

Learning through work: Interest, perspectives and approaches¹

L'apprentissage par le travail : intérêt, perspectives et approches

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RÉSUMÉ : La principale hypothèse de travail exposée par Stephen Billett au cours de cet entretien est fondée sur la constante prise en compte des contributions du monde social et culturel, mais également de celles des individus tout au long de leur histoire de vie. C'est dans sa propre histoire de vie professionnelle que l'auteur puise ses tout premiers questionnements autour desquels il nous invite à cheminer à ses côtés. L'auteur relate ainsi différentes fonctions qu'il a exercées dans l'industrie du vêtement comme celle par exemple qui l'a amené à introduire des dispositifs de formation dans le cadre d'accords industriels. Progressivement, sa préoccupation s'est portée sur les modalités possibles de développement des capacités professionnelles en milieu de travail, préoccupation qui s'est prolongée en 1990 par l'inscription dans un cursus doctoral : en quoi l'apprentissage peut-il prendre sa source dans la participation des individus à des activités professionnelles ; et en quoi ces dernières sont-elles susceptibles de développer des types particuliers de capacités requises pour un rendement de travail efficace ? Rejetant toute perspective basée sur le déterminisme social, il en vient à parler de suggestion sociale, *suggestion from the social world*, prenant appui sur plusieurs théoriciens identifiés dans le mouvement socioculturel émergent. Il s'agit pour l'auteur de pouvoir rendre compte de la dualité des suggestions du monde social et de l'engagement des individus à l'égard desdites suggestions. Il s'agit en somme d'analyser comment les individus parviennent à interpréter ce qu'ils vivent et comment ils construisent les connaissances à partir de ces expériences. La distinction entre le processus d'apprentissage et ce que l'auteur désigne par « résultats d'apprentissage » est établie. Cette distinction permet à Stephen Billett d'approfondir sa pensée en questionnant la certitude d'apprentissage supposé garanti par le fait même de l'immersion dans un milieu de travail dit pratique, « tangible ». Le processus d'apprentissage résulterait ainsi de la qualité du potentiel de l'espace d'apprentissage comme offre mais également des caractéristiques individuelles comme contribuant à l'expérimentation de ce qui est suggéré par le monde social. En outre, est souligné le rôle central de la prise de décision possible par le travailleur lorsqu'il est confronté à des situations

1 Interview with Stephen Billett, conducted by Long Pham Quang and Vanessa Rémerly.

professionnelles problématiques. La latitude dont il pourrait disposer pour résoudre des problèmes constitue, selon l'auteur, un levier essentiel à son apprentissage.

Recherche et formation: How did your background and personal experience lead you to take an interest in the study of learning through work?

Three early experiences directed my interest to research and understand how the capacities required for work performance can be developed in workplace settings. Firstly, I completed my occupational training for the clothing industry in a course that was wholly based in an educational institution in Manchester in the early 1970s and achieved highly in the course and with external examinations. However, on moving into my first job, it was apparent that I had not developed the capacities that allowed me to work effectively in this workplace. The tasks and activities I was expected to perform were very different from those experienced in my course and what I understood and could do. This was quite a difficult experience and led to a sense of inadequacy, not least because people in the workplace had been informed I was a high-performing student. I realised at that time that a wholly institutional-based occupational preparation had failed to provide me with the capacities required to practise the occupation for which my college program was intended to prepare me.

Secondly, in my next job, I was afforded a great workplace learning opportunity that was very helpful for being effective in my work. As an assistant designer, I was required to spend extensive time working in the production line of a large clothing manufacturer. This comprised working through the various processes of the trouser, waistcoat and jacket production lines, undertaking the work in each of these processes as a production machinist or operator would, and progressing through that production line. Although not fully appreciating it at the time, these experiences provided me with a range of capacities (e.g., specific and strategic procedures associated with the use of machines and production; understanding the processes and logic of garment production) that were highly instrumental for the remainder of my career in the clothing industry. The learning derived from these experiences proved invaluable when I became the lead designer in a large manufacturing company where my technical capacities were important for the mass manufacture of garments.

Thirdly, many years later, when I had moved into vocational education, I had a policy role involving introducing training arrangements into industrial agreements. This role provided the opportunity to visit many workplaces to understand how skills were developed across a range of industries. I discovered that for many occupations, including those in which workers were performing demanding and economically important work roles, there was no vocational education provision to prepare them for their occupations (e.g., coal mining, secondary production, sugar production, tea and dairy production). Instead, these workers had learnt their capacities solely within the workplace and their communities. This experience reminded me of what I had experienced earlier and prompted me to consider understanding

more fully how the development of occupational capacities can be developed in workplace settings. Hence, in the early 1990s, I undertook a doctorate to understand how learning arose through engagement in work activities and how these developed the particular kinds of capacities required for effective work performance (Billett, 1995). So, it was these three diverse experiences that initially generated and directed my interest in studying learning through work. Within that program of research over the last two decades, other findings have occurred which have maintained and extended that interest.

Recherche et formation: Which empirical research fields were founders of your conception of learning through work?

My doctoral supervisor was a cognitive psychologist, and that discipline provided a strong foundation for understanding skilled work and how it might be developed. In particular, the studies and concepts of expertise are highly relevant to understanding what constitutes domains of occupational activities and what needs to be learnt to perform them (Glaser, 1989; Ericsson & Smith, 1981). Hence, this discipline was helpful for providing the concepts associated with the kinds of knowledge that need to be learnt for effective occupational practice. However, that discipline was not particularly helpful for understanding what at that time was referred to as situated cognition (Brown, Collins & Duguid, 1989) that is, the contributions to thinking and acting that come from the social and cultural world (i.e., workplaces and occupations). These contributions are important to understand. The knowledge required for occupations arises in the social world and individuals must find a means of engaging with and learning it (Billett, 1996a). How experiences in workplaces contribute to learning occupational capacities, therefore, is important. Consequently, the contributions from the emerging sociocultural movement were particularly helpful. This included the work of Vygotsky, Luria and Leonteyv, as well as contemporary scholars such as Wertsch, Cole and, in particular, Sylvia Scribner, Jean Lave, Jacqueline Goodnow and Barbara Rogoff whose work was helpful in elaborating what constitutes the suggestion from the social world that shapes individuals' learning and development. These theorists provided helpful concepts and also approaches to undertaking research that were highly influential for my work. Yet it is not just engaging with and accepting these ideas that influenced my theorisations and writings.

Sometimes those engagements led to a questioning of precepts. For instance, when engaging with Engstrom's activity systems in 1993 (Engestrom, 1993), I largely rejected his contributions as they reflected social determinism rather than social suggestion. As a consequence, I never gave credence to the fixed relationships that became popular in his theorisations of activity systems, as these systems did not permit a space for the personal: how individuals come to engage with what is suggested to them from the social and cultural world. Much of the theoretical basis to my doctoral research was seeking to reconcile the contributions from the cognitive and the social culture literature that required me to identify commonalities, consonances and also areas of difference and tensions (Billett, 1996b). My publications seeking to achieve that reconciliation are well cited. So, these distinct sets of

concepts from quite different theoretical traditions were helpful in understanding the complex phenomena of the consequences (i.e., learning) from individuals engaging in social practices (i.e., workplaces). It was through understanding their particular contributions, their limits and the reconciliations amongst them, that helpful explanatory principles arose. In all, much of my work has progressed with a consideration of the duality between the contributions of the social and cultural world, and that of individuals' development across their life histories.

Recherche et formation: To what extent is your own perspective distinct or opposed to conceptions of learning through work defined in terms of reproduction, socialization and appropriation of knowledge and practices?

I hold that it is important to account for the duality comprising the suggestions from the social world and individuals' engagement with those suggestions, as just noted (Billett, 2001a). It is not possible to consider learning through work (or any other social practice) from the standpoint and contributions of either the workplace or the individual only. Both have to be accounted for, as do the relations between them (Billett, 2006). It follows then that a concept such as 'reproduction' implies the individual merely reproducing something that already exists. However, more likely the constructive process is of an individual having to try to understand what constitutes a particular performance that is to be reproduced – its requirement of practice – and then rehearse it until they are able to reproduce the observed performance with a degree of fidelity. However, all of this is mediated by what the individual knows, can do and values. This necessitates a consideration of what the unique personal bases for thinking and acting bring to the process of experiencing what is being suggested by the social world (i.e., what is to be reproduced) (Billett, 2009). Even if the intention is faithfully to reproduce observed performance, it does not comprise a standard or uniform process. It can only be understood by accounting for how individuals come to construe what they experience and then construct knowledge from it. So, what is taken as mere reproduction needs to be seen as an active process of meaning making by individuals in seeking to fulfil certain expectations. Wertsch (1998), for instance, makes a distinction between people engaging in mastery (i.e., superficial compliance to some required behaviour) and appropriation (i.e., engagement based on personal commitment). Workers may superficially be seen to reproduce behaviours such as safe working practices or particular approaches when they are being observed and monitored. Yet, outside of that they may well enact what they have appropriated and believe to be what and how they should perform.

The concept of socialisation also suggests that the social world is deterministic, rather than offering suggestions. Valsiner makes the point that humans have to mediate the range of social suggestions to which we are subjected in everyday life otherwise we would be continually directed in different ways through the suggestions of advertising, suggestions of others, prescriptions for progressing with one's life, et cetera (Valsiner, 1998). Instead, we actively mediate what the social world suggests to us and in ways founded in what we know, can do and value, which in turn contributes to, and can transform, those forms of knowing

and knowledge. Even theorists who propose the social suggestion (Berger & Luckman, 1967) concede that there can be no guarantee that what is suggested will be taken up or learnt by individuals. Socialisation efforts are exactly that: suggestions intended to achieve some kind of engagement and compliance. However, socialisation efforts, as Valsiner notes, are often quite easy to rebuff (Valsiner, 1998). Even those that are forced upon individuals through social norms, forms and practices may well be engaged with superficially to secure mastery, but not appropriation (Wertsch, 1998).

Appropriation is, as Luria (1976) suggests, the process by which individuals engages with and concur with what is being suggested from the social world. That is, there is a close alignment between what is being suggested and individuals' acceptance, association with and use of that knowledge.

Recherche et formation: How does your model based on the interdependence between “affordances” and “individual engagement” bring you to distinguish the “learning space” from the “professional space”?

Although my model identifies and categorises performances and engagements for analytical purposes, it does not seek to separate these two spaces. That is, it articulates the view that as we engage in our everyday work activities (i.e., the professional space) we are also learning (i.e., the learning space) and so there is no need to distinguish between these two spaces. When we encounter tasks, problems, or challenges we have not experienced before, most likely new learning arises. Yet much of what we do in our professional space is building upon and enacting things we have done previously. This is also an important form of learning and learning space because it generates refinements and creates linkages and associations. For instance, developing deep conceptual knowledge is not about having a lot of knowledge, but about causal links and associations amongst concepts (Pea, 1993; Groen & Patel, 1988). This arises through engaging in repertoires of practice and through those activities coming to identify links and associations amongst concepts. Hence, what is afforded by the professional space in terms of activities and interactions shapes its learning potential in ways that go beyond the mere acquisition of knowledge and emphasises the linkages and associations amongst different kinds and forms of occupational knowledge.

The learning space is, however, very much shaped by how individuals take up that invitation through their engagement in those activities and interactions. What for one individual may well be a rich and affording workplace experience, for others is restrictive and generative of poor outcomes (Hodges, 1998). Rather than these two spaces being separate and distinct, therefore, the quality of the learning potential or space is shaped by what is afforded, and how individuals engage with those performances.

Recherche et formation: According to you, what are the characteristics of a professional environment that would be likely to be favourable or supportive to learning through work?

A professional space or environment that provides workers opportunities to engage in new activities, but also the opportunities to rehearse and practise those activities is likely to be

conducive of learning through work, as is some guidance. If the experiences are constantly presenting new activities, this can be overwhelming and may not always lead to effective learning outcomes. It may lead instead to dissonance and not afford opportunities for honing and refinement of what is known. On the other hand, if workers only engage with familiar or routine activities and interactions, they may not develop further their capacities beyond what can be learnt through those experiences (Billett, 2001b). However, more than everyday work experiences, an effective professional environment would also need to provide particular kinds of experiences to develop further and hone capacities that may not be able to be secured through everyday work activities. The requirements of contemporary work and occupational performance are increasingly associated with conceptual and symbolic knowledge. Whilst there has always been a requirement for these forms of knowledge, it is being accentuated through the use of electronic technology and so on. Consequently, these forms of knowledge need to be made accessible and learnt, and that requires particular kinds of strategies, going beyond what can be learnt through discovery-like activities during everyday work.

Hence, beyond providing a sequence of experiences (i.e., the learning curriculum) (Billett, 1996c) there is also the need for particular practice pedagogies that assist the development of specific kinds of knowledge. Importantly, these pedagogies need to be of a kind that can be enacted through and are a part of work, as it is often the engagement in work activities which provides the contextual contributions which make this learning so rich, as I have argued in recent publications. They emphasise the importance of the practice curriculum and pedagogies (Billett, 2014). Added to these two is the importance of the workers' personal epistemologies which direct how they engage with their work and learning and that also mediate what they experience. However, not all of the knowledge required for effective work practice can be developed in workplace settings. Some forms of knowledge need to be learnt in circumstances away from the workplace, because of risks, dangers or threats to others. In this way, it is important to identify what needs to be learnt and how best that learning can be progressed within work settings and, when it cannot, find the means for learners to access that knowledge and be supported in its development.

Recherche et formation: How is guidance by experienced workers manifested within work practices? Under what conditions and through what tangible practices can these forms of guidance be supported at a management and organizational level?

What is referred to as guidance can occur at a number of different levels and this suggests quite different roles and engagement for management and workplaces. At one level, there is strategic guidance across individuals' working lives, about the kinds of opportunities individuals should take and the means of progressing their careers. That guidance might provide advice about opportunities, and position individuals to advance their career, develop new knowledge and so on that will be helpful in working life. Then, there is a form of guidance which provides particular kinds of opportunities and makes available to workers

the ability to act, shadow, or engage in parallel activities from which important learning will arise. There is also close guidance provided by a more expert or experienced worker in supporting directly individuals' skill development as they engage in their working lives. This can comprise what I have implemented, evaluated and researched as guided learning in the workplace (Billett, 2000). This guidance involves the close encounter between more and less experienced workers where the more experienced counterpart uses strategies such as demonstration, modelling, provision of practice and monitoring the development of procedural skills (i.e., how to achieve tasks). It also includes the use of strategies such as explanations, analogies, diagrams or models to assist understanding (i.e., conceptual development) and also, through their demeanour and approach to their work, guides the development of appropriate dispositions. For instance, these dispositions are important for working safely and effectively, consideration of clients, patients' needs, and directing individuals' ongoing learning through their work.

So guidance, or what is often referred to as mentoring, can occur at a number of levels and ways across working life. These include organising access to work activities from which individuals can learn, and working closely with workers to develop what they know (conceptual knowledge), can do (procedural knowledge) and value (dispositional knowledge) to address particular needs for workplace performance (Billett, 2001c).

Recherche et formation: In what terms and to what extent is learning through work impacted by changes in the organisation of work and new management practices? What difficulties may arise in such evolutions? What are the resulting challenges for research on Workplace Learning?

Much of what happens in workplaces is shaped by the actions and attitudes of others, including managers and management decision-making practices. Part of these practices are their views about how learning might best progress. In some workplaces, the view is held that training programs offer certainty in process and guarantee outcomes, which is far from the truth. More likely, learning through what individuals do, and how their learning can be supported through their everyday work activities, holds a stronger promise. Yet the latter view is far from universally held. Training is seen to be something tangible. Of course, when there are changes in workplace management and management practices, depending upon the view of the managers, significant differences can arise. For instance, in one workplace in which I undertook a 2-year longitudinal project to develop its workplace learning environment, the management changed and dismantled all of the processes supporting workers' development through their work and undercut commitment to skill development. All of this leads to the need for management as well as workers to understand the learning potential of workplaces and how that potential can be realised. The idea that learning through work as individuals are engaging in it can offer an approach to skill development that is efficacious and potentially cost effective, while not coming without cost, should perhaps be more attractive than it is currently taken to be. Of course, there can be significant workplace costs. It might require some non-productive time and some moments when a task will not be undertaken at the

highest level of efficiency, but the long-term potential should overcome that limitation. Not the least is that an engaged and skilful workforce that wants to contribute to the workplace, and derives positive outcomes from it, is the one that is most likely to be interested in and willing to bring about productive changes of the kind required to sustain it. It is this kind of workforce that has been shown to be most likely to sustain the activities of the enterprise. So, the challenge for researchers is to demonstrate benefits of learning through everyday work activity to management and also to workers, and to indicate how management personnel work practices can realise these outcomes.

Recherche et formation: How and why do changes in work organization or new forms of management impact learning through work? What challenges do these evolutions pose for research in the field of Workplace Learning?

Perhaps the key issue here is the degree by which workers are able to exercise discretion. Some forms of work, rather than offering workers more discretion, are actually limiting it. Decision-making is quite central to the processes of ongoing learning throughout working life. The degree and scope of problem solving that is permitted for workers is central to their learning. Highly prescribed work activities may limit the interest, problem solving, and abilities to trial, monitor and evaluate the processes in which workers are engaged. Yes, again, some forms of work are risk prone and need to be undertaken in ways which are highly standardised and monitored. Yet, even in these situations, engaging workers is necessary for them to understand how what is being prescribed operates in practice and progresses effectively. Inevitably, even the most prescribed forms of work require workers to exercise discretion to achieve outcomes, not the least when non-routine circumstances arise and problem-solving responses are necessary.

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