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PROPOSITION

Learning in socio-spatial context: an individual perspective

Roel Rutten*

School of Social and Behavioural Sciences, Tilburg University, The Netherlands

Roel Rutten is assistant professor at the School of Social and Behavioural Sciences of Tilburg University and has worked as a consultant of regional innovation policy. His research interests include innovation and organization and the geography of innovation and learning. He is a founding member of the Social Dynamics of Innovation Networks research community and an active member of the Regional Studies Association. He frequently engages with practitioners in the field of innovation and regional development.

Introduction

One of the more challenging questions in innovation studies concerns the spatial dimension of learning and innovation. The concept of tacit knowledge plays a key role in this debate, the gist of which is that tacit knowledge is a critical resource for learning and innovation since, contrary to codified knowledge, it is difficult to communicate. Views on the spatial dimension of tacit knowledge revolve around the question of whether or not space impedes the communication of tacit knowledge. This paper argues that the debate on the spatial dimension of learning and innovation falls into two equally unhelpful extremes; the Territorial Innovation Models (TIM) view and the Communities of Practice (CoP) view. This paper develops an explanation of the spatial dimension of learning and innovation where learning is the driver of innovation and where tacit knowledge may not be a very useful concept. The paper elaborates the above points by suggesting that individuals, not firms, are the principal agents of learning and that individuals and their relations are embedded in socio-spatial context.

Knowledge, context and tacitness

Michael Polanyi's observation that 'we know more than we can tell' inspired a whole literature on tacit knowledge and innovation. In a critical paper on tacit knowledge, Gertler (2003) noted that Polanyi's understanding of tacit knowledge pertained to a lack of awareness or consciousness, as in psychomotoric skills, and to the limitations of written and spoken language to communicate knowledge, but that the idea of tacit knowledge being context dependent and collective in nature was far less of an issue for Polanyi. However, the latter became the cornerstone of the contemporary tacit knowledge literature (e.g. Grant, 1996; Lam, 2000; Simmie, 2005; Lorentzen, 2008; Nonaka and von Krogh, 2009). In this view, tacit knowledge is created and transferred through socialization in the form of learning by doing and

*Email: R.P.J.H.Rutten@uvt.nl

collective problem solving (Nonaka and von Krogh, 2009) and cannot be removed from its social context (Morgan, 1997; Lam, 2000). That is, 'tacit knowledge both defines, and is defined by social context' (Gertler, 2003, p.78). This is because much learning by doing and collective problem solving, like other forms of economic behaviour, is governed by conventions, routines, norms and values that are specific to a social context and that themselves are largely tacit in nature (Morgan, 1997; Gertler, 2003; Amin and Cohendet, 2004). While Gertler (2003) identifies tacit knowledge on the one hand, and conventions, norms and values (i.e. social context) on the other hand, as separate, he does not follow up on this notion. In fact, the tacit knowledge literature seems to be based on the idea that distinguishing tacit knowledge from social context is meaningless since the conventions, norms and values affecting the production of tacit knowledge become part of the tacit knowledge itself (Gertler, 2003; Morgan, 2004). Apart from the fact that this seems to stretch Polanyi's original idea, two further objections may be raised.

In the first place, the tacit knowledge literature remains ambiguous about what social context actually is. It varies from teams, to organizations, to industries, to communities of practice, or even societies. However, if social context is defined as narrowly as teams, transfer of tacit knowledge would be extremely difficult, while a broad definition of social context, as in industries, would render even tacit knowledge more or less ubiquitous. Both positions seem ill at ease with the idea that tacit knowledge, materializing in new competencies, technologies and products, forms the basis of competitiveness, after its dissemination and application throughout an organization; although the focus of the knowledge management literature on tacit knowledge dissemination and application seems to recognize the limitations of a narrow definition of social context (Lam, 2000; Nonaka and von Krogh, 2009). Secondly, the tacit knowledge literature is unclear about the agent of learning, suggesting at various points that learning is the capacity of individuals (Grant, 1996; Tsoukas, 2009), only to talk about organizational learning elsewhere (Lam, 2000; Nonaka and von Krogh, 2009). This magnifies the above problem of social context as firms, as part of industries and buyer supplier networks, may be argued to have a relatively stable social context, while individuals seem to shift social contexts fairly easily, moving from one team, department, company or even industry to another.

The notion of tacit knowledge has been very helpful in pointing out the contextual nature of knowledge. However, to equate tacit knowledge more or less with social context takes the connection a step too far and obscures the role of agency with regard to learning. The ambiguity surrounding social context and agency must be addressed, which is the subject of the next section.

Individuals as principal agents of learning and social context

Over the past 20 years, the conceptualization of knowledge and learning has gradually become more sophisticated (Nonaka and von Krogh, 2009; Tsoukas, 2009). Although the idea of learning as a process of knowledge creation, sense making and interpretation (that is, of knowledge creation as being largely subjective) has been articulated already by Brown and Duguid (1991), today knowledge and learning are recognized as being far more informal and bottom up and far less organized and managed than 20 years ago (Amin and Cohendet, 2004; Muthusamy and White, 2005; Faems *et al.*, 2007; Tsoukas, 2009). In other words, knowledge is seen as a process of social interaction and as such as an act of, and among, individuals.

Contrary to the organizational learning concept of 20 years ago, learning as social interaction involves participants from beyond organizational boundaries as well, which shifts the relevant social context from teams and organizations to more general communities of practice (Amin and Cohendet, 2004; Muthusamy and White, 2005; Faems *et al.,* 2007; Amin and Roberts, 2008). This may have important consequences for the concept of tacit knowledge. If, in a social interaction perspective, all knowledge is contextualized, the distinction between objective codified and subjective tacit knowledge becomes irrelevant. It may not be the case that some knowledge is more contextual than other knowledge; rather some social contexts may be more readily shared or more generally familiar than others (Amin and Cohendet, 2004). So, objective codified knowledge may not exist and subjective tacit knowledge then covers everything, rendering that concept useless too (Muthusamy and White, 2005; Tsoukas, 2009). This means that explanations of knowledge as a source of competitive advantage and the spatial dimension of learning are not connected to the characteristics of knowledge as such, but to the process of learning in social context. However, the discussion of social context falls within the two equally problematic extremes of the TIM and CoP views.

The TIM view argues that tacit knowledge is best shared in face-to-face interactions between partners who engage with one another frequently and who already share similar conventions, norms and values (that is, a social context). This not only enables mutual understanding effectively to exchange tacit knowledge, but also builds trust between them, which is also conducive for learning (Gertler, 2003; Morgan, 2004; Lorentzen, 2008). This whole process is argued to be spatially sticky because building trust and a shared social context requires face-to-face interaction, which is achieved through spatial proximity. Reversely, partners sharing a geographical location are more likely to engage in professional and social interaction thereby building location-specific conventions, norms and the values governing them. In fact, the interconnection of professional and social relations at the regional level reinforces the forging of local conventions, norms and values (Morgan, 2004; Storper and Venables, 2004; Simmie, 2005). Location-specific social context and learning thus become interlocked in a mutually-reinforcing process that may benefit regional competitiveness if one local social context is more conducive for learning than another (Florida, 2002; Storper and Venables, 2004; Simmie, 2005; Lorentzen, 2008).

This TIM view is problematic because of its intra-regional bias. It favours local learning over learning in inter-regional and global relations, although recent TIM contributions recognize the need of regions to be connected to knowledge globally (Lorentzen, 2008; Malecki, 2010). However, since global knowledge is believed to be readily accessible, it still needs to be 'processed' in the local context (Bathelt *et al.*, 2004; Morgan, 2004; Torre, 2008). Therein lies a key problem of the TIM view: its conflation of region and social context. Because of the role the TIM view attributes to face-to-face interaction regarding learning and trust building, social context is fundamentally spatially sticky.

The CoP view counters this argument by claiming that geography is all but irrelevant for building social context (Amin and Cohendet, 2004). The CoP view shares with the TIM view the crucial role of social context for learning but, contrary to the TIM view, argues that organizational and relational proximity are more important than geographical proximity in facilitating learning (Gertler, 2003; Amin and Cohendet, 2004). Communities of practice are groups of workers who share a

concern or passion as well as experience and expertise with regard to their tasks, and learn how to do them better through frequent interaction (Brown and Duguid, 1991; Wenger, 1998; Gertler, 2003). In other words, the conventions, norms and values and the trust that are essential for the exchange of tacit knowledge are built up in communities of practice. CoPs reach across the boundaries of individual organizations to include vertical and horizontal business partners, thus enabling learning on a much wider, in principle global, geographical scale (Gertler, 2003; Amin and Cohendet, 2004). CoPs have even extended into virtual space (Morgan, 2004; Amin and Roberts, 2008). However more realistic the CoP view may be regarding the spatial dimension of learning, it has important shortcomings too. It leaves unanswered critical questions regarding the forces shaping relational proximity, enabling it to transcend geographical, institutional and cultural boundaries (Gertler, 2003; Morgan, 2004; Amin and Roberts, 2008). While the strength of the TIM argument rests in large part on its connecting professional and social contexts, the CoP view explicitly limits itself to professional relations (Wenger, 1998; Amin and Roberts, 2008). However, as Florida (2002) argues, it is difficult to separate professional and social networks with regard to learning as individuals are members of both and the overlap between them can actually be a source of creativity and learning (Bathelt *et al.*, 2004; Storper and Venables, 2004). Clearly, the conceptualization of learning and its relation to social context and spatial dimension need some more thought.

Learning in social context

To be clear, learning is defined here as a process of social interaction in relations of individuals and the creation and diffusion of knowledge in these relations (Grant, 1996; Gertler, 2003). Individuals thus are the principal agents of learning and the relations between them build the social context of learning, which may be either conducive or detrimental to learning (Tsoukas, 2009). Learning will often take place in professional networks but is not confined to them. The line between social and professional networks is thin and research suggests that social networks may be relevant social contexts for learning in their own right (Granovetter, 1985; Uzzi, 1997; Florida, 2002; Bathelt *et al.,* 2004; Storper and Venables, 2004). Consequently, social context pertains to both professional and social networks. In both the TIM and CoP literatures, the role of social context has been explained in terms of social capital (Amin and Cohendet, 2004; Morgan, 2004), such as bridging and bonding social capital, where the former connects individuals so as to access new knowledge while the latter produces trust among them to facilitate learning. Alternatively, social capital is seen as both a glue and a lubricant for relations and interactions among individuals (Field, 2003; Morgan, 2004; Simmie, 2005). However, the concept of social capital is not unproblematic as opinions differ on whether social capital is individual or collective in nature, and to the extent that it is capital in the monetary sense (Field, 2003). In the TIM literature, social capital is often argued to pertain to regions (Morgan, 2004; Simmie, 2005), which is particularly unhelpful from the perspective of the present paper as it argues against equating social context and space. Hence, the paper borrows from the networks and innovation literature the concepts of ability and willingness (Reagans and McEvily, 2003; Faems *et al.,* 2007) to explain the role of social context with regard to learning. In the words of Reagans and McEvily (2003, p.40), 'network range, ties to different knowledge pools, increases a person's *ability* to convey complex ideas, … [and] social cohesion

around relationships affects the *willingness* of individuals to invest … in sharing knowledge' (emphasis added).

Social and professional networks differ in the extent to which they equip individuals with ability and willingness to learn. Moreover, the degree to which individuals benefit – or suffer – from their social context depends on their membership of different, partially overlapping, social and professional networks. This perspective of individuals as principal agents of learning within a context of social and professional networks is important because it draws attention to the fact that individuals shift between multiple social contexts. It allows for conceptualizing how social contexts shape, and are shaped by learning. For example, social contexts (i.e. social and professional networks) that are inclusive and that emphasize openness will more generously equip individuals with the ability and willingness to learn than exclusive and closed social contexts. In a similar vein, this perspective offers an explanation for how socio-cultural diversity may encourage creativity and learning if the social and professional networks of individuals with different socio-cultural backgrounds sufficiently overlap (Florida, 2002; Gambaedella *et al.,* 2009). The perspective suggested here essentially follows Granovetter (1985) notion of embeddedness, where individuals are the agents of economic action (learning), but where their action takes place within the boundaries of ongoing social relations (i.e. social context).

The spatial dimension

This leaves the question of the spatial dimension of social context and of the learning that takes place within it. It is important to understand social context itself as a spatial concept. Although the spatial scale of social context may range from local to global, depending on the spatial distribution of network members, it is important not to see social context as separate from space; social relations exist in space. Furthermore, from the perspective of individuals and their social and professional networks, two important questions may be answered. The first question concerns the spatial scale of learning, which must be seen as a trade off by individuals in which they consider at least the following factors: (1) the friction of geographical distance (the TIM argument); (2) the extent to which this friction is overcome by relational and institutional proximity (the CoP argument); and (3) the necessity of connecting to individuals with specific knowledge and their spatial distribution (that is, some important knowledge may be available only from geographically distant individuals). Put differently, from the perspective of individuals, the spatial reach of learning may be seen as the outcome of a cost–benefit analysis, albeit one embedded in social and professional networks, not market relations (Granovetter, 1985; Uzzi, 1997). On the other hand, since learning is an informal and bottom up process, its spatial reach also depends on serendipity, on the spatial distribution of the individuals one happens to meet. Consequently, the spatial dynamics of learning from the perspective of individuals may be quite different for deliberate learning, which involves some conscious decision-making on with whom to engage, and for learning that results from routine interactions. Both forms of learning are important for innovation (Grant, 1996; Nonaka and von Krogh, 2009), but neither the TIM nor the CoP literature gives this distinction much attention.

The second question concerns how social contexts can be spatially sticky; some clearly are while others are not. Since individuals themselves are spatially sticky to the place where they live, work and spend their leisure time (that is, to the place they

call home), the TIM argument of spatially sticky social context applies to the social contexts that individuals build around their home. This raises the question why individuals are spatially sticky in the first place. Obviously the learning and innovation literature is not concerned with all individuals, but only with those who produce value by creating, disseminating and applying knowledge. Traditionally, these individuals are known as knowledge workers, but more recently Florida (2002) has referred to them as the creative class. Understanding the lifestyles of these individuals gives an insight into what they find attractive about places. Since knowledge workers are often professionally part of trans-regional (global) networks, infrastructure is of crucial importance. It enables temporary proximity to maintain these networks as well as long-distance learning (Torre, 2008; Malecki, 2010). To maintain their lifestyles, knowledge workers require a variety of environmental and cultural amenities, such as attractive architecture, green spaces and podiums for all kinds of performing arts, as well as a socio-culturally diverse population to satisfy their taste for world cuisine, world music, etc. (Florida, 2002; Gambaedella *et al.*, 2009). Spatially sticky social and professional networks emerge in places that meet these needs. The overlapping of such spatially sticky social contexts with the global social contexts of which knowledge workers are also part, equips them with further ability and willingness to learn, which explains why cosmopolitan places are also the learning hubs in twenty-first century capitalism.

Conclusion

While an individuals-first perspective certainly is no answer to all conceptual problems surrounding learning and innovation, and while it raises some important questions regarding the role of firms and regions, it is the logical consequence of a development in the learning literature towards a social interactionist understanding of learning, where individuals are the principal agents of learning. Moreover, conceptualizing the social context of learning as social and professional networks of individuals that exist in space offers a coherent explanation of the spatial dimension of learning. Learning in socio-spatial context builds on the CoP notion that learning is a network phenomenon and as such is unconnected to space. It also builds on the TIM argument explaining how social networks (i.e. social contexts) may be spatially sticky. Learning as an interactive process between individuals has been noticed in the TIM and CoP literatures, but neither literature has systematically conceptualized it as such. The learning in socio-spatial context perspective therefore importantly augments existing views. It contributes to improving research on learning in the following ways:

- It rejects the idea that individuals learn in only one social context at any time. Individuals are part of multiple social contexts and shift between them to access and transfer knowledge. In fact, learning may benefit from involving multiple social and professional social contexts.
- Social contexts differ with regard to their ability to equip individuals with ability and willingness to learn. Talking about the function of social contexts in terms of ability and willingness highlights the interaction between individuals and social context rather than presenting it as stylized social capital.
- Different types of learning, such as deliberate learning and learning that results from routine interactions, may have very different socio-spatial dynamics, an

assertion often implied but never systematically followed up on in the TIM, CoP and learning and innovation literatures.
- To a substantial degree, individuals' stickiness to places follows from the physical, environmental and socio-cultural characteristics of these places. This holds important implications for the TIM literature, which has thus far largely ignored the interaction among learning, knowledge workers and their urban environment.

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