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Learning and knowing in organisations: implications for practice from an exploration of public sector experience

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Learning and knowing in organisations: implications for practice from an exploration of public sector experience

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Abstract

This is the final in a series of actKM research forum papers that has followed a PhD research process over the past three years. The research has explored the ways in which organisational members learn in and through their work and the relationship between this learning and the knowledge that the organisation holds.

Participants in small groups used narrative to relate their experiences and then analysed their collected stories using coding strategies developed in grounded theory (Strauss and Corbin 1990). The findings illustrated the complexity of the phenomena, leading to the use of Holland's (1995) complex adaptive systems model as a heuristic device in the analysis of data.

This paper discusses the implications for practice in both workplace learning and knowledge management that emerge from the confluence of learning and knowing in the findings of this study. Recognition of collective knowledge development, the emergence of knowledge through work, its situatedness and activeness, and the role of localised groups in innovation (and their protection of aggregate knowledge) lead to fresh challenges to workplace learning professionals as well as knowledge managers. This paper suggests that the convergence of the functions of learning and knowledge facilitation is core to supporting learning and knowing in contemporary organisations.

Keywords

Knowledge management, complexity

Introduction

The application of complexity theories to organisation provides new insights into a broad range of organisational phenomena. Researchers are using complexity metaphors and modelling to better understand organisational culture (Frank and Fahrback 1999), organisational futures (Smith 2005), parochialism (Bowles and Gintis 2000), and leadership (Wheatley 1999), among a vast array of other issues of interest to organisational science. In this paper, complexity is used as a metaphor set which reframes and integrates organisational learning and knowing experience and practice.

In an exploratory study of the interaction between learning and knowledge in the experience of public sector employees, transcendent themes emerged from collected narratives which suggest a complex adaptive systems framework (Holland 1995). It is argued below (and in depth elsewhere (Kennedy 2005)) that this framework is, in turn, coherent with the three major threads around which learning in organisations and knowledge management literatures converge.

The interdependence of learning and knowledge is illustrated in these central themes. Complexity provides a lens through which learning and knowledge are seen as forming and being formed by one another in the iterative interactivity of organisational members within their work context. The interdependency of the two leads to suggestions for practice that brings together the 'learning' and 'knowledge' specialist areas in organisations. Consideration of organisational members' engagement in learning that contributes to organisational knowledge through their immersion in work highlights opportunities for more holistic

considerations of members and their needs, developmentally, socially, technically and motivationally. The integration of learning and knowledge management theory highlights opportunities for the organisation to benefit from the experience of its members' interaction in the real world, providing knowledge that can contribute to its competitiveness in its fast-changing environment.

The research

Across the literatures increasing attention is paid to:

1. the problematic distinction between the learning individual, collective and organisation and the role of the learning individual in the development of organisational knowledge
2. the situatedness and complexity of knowledge and its emergence through interaction
3. the role of schema in knowledge generation and development.

The converging theoretical discussion prompts consideration of the elusiveness of knowledge, its construction within and between individuals, its emergence through individual and collective engagement with the workplace, the role of sense- or meaning-making, the process (rather than the content) of learning, and the role of the social in knowledge development and its contribution to the organisation. This convergence of themes is enriched by metaphors arising from complexity theories and insights gained through the cross-disciplinary perspectives on organisation.

This paper proceeds from this theoretical context and focuses on research into the relationship between organisational learning and knowing. The research itself emerged from a practice context within which learning and knowledge strategies in organisations remain discrete while the theory that supports them converges in the three main themes.

In the study, the confluent themes and complexity led to the development of a methodological approach that was inspired by grounded theory, but which recognised the value that complexity can provide as a sensitising device to the research. Narrative methods were used in the study to collect data, and participants worked with the researcher in analysing the results.

The emergence of a complex adaptive systems heuristic from the analysis of the collective narratives provided a ground for exploration of organisational members' experience using the grammar of complexity. This exploration led to discussion of the ways in which learning and knowledge might be viewed within a single framework through complexity.

Further analysis found that while the experience of organisational members in many ways reflected the properties and mechanisms of complex adaptive systems, the theory did not adequately describe the nature of their learning and knowledge development in the organisation. In this organisation, tension between the formal organisation and the emergent organisation led to a disconnect between the local learning of members in interaction and the knowledge of the organisation. The nesting feature of complex adaptive systems, where levels of aggregation build hierarchy, was not apparent in this study and this finding is discussed as having enormous implications for learning and knowledge sharing in the organisation. In addition, the participants of this study did not describe their learning as simply mechanical, involving the building and rebuilding of mental models, as complex adaptive systems would suggest. Learning was described as far more elaborate than the theory of complex adaptive systems immediately implies.

The study supported the integration of organisational learning and knowledge within a single theoretical frame and pointed to more integrated organisational practice. It provided insight into the relationship between learning and knowledge in organisations through complexity and these insights are discussed here with reference to the literature across organisational learning, knowledge management and workplace learning fields. That learning and knowledge management in organisations should remain discrete in practice is at odds with the theory and with the findings of this study.

Implications for practice

The research was not unique in its wish to ‘...find ‘a’ reality of effectiveness and legitimation that [could] be transferred onto other social situations’ (Luhman 2005: 20), indeed, some responsibility for doing so was assumed (see Strauss and Corbin 1998: 177). However, no claims to its ability to do so were made. The research on which these suggestions for practice was based was exploratory, limited in its breadth and situated specifically within a single case. Therefore, no suggestion is made that the findings are generalisable to broader contexts. This study does, however, support theorising about organisation through complexity and prompts some consideration of organisation strategy in terms of complexity as well as the converging themes discussed in the literature.

The findings of this study do suggest that opportunity exists for the blending of learning and knowledge approaches in organisations. Once data and the information management systems that are so often bundled up with knowledge systems are differentiated from the systems of learning and knowing reflected in this study, then approaches which look to develop knowledge inherently place emphasis on workplace learning. Knowledge and learning are entwined and inseparable, each contributing to and being formed in the other.

Within this integrationist perspective and through complexity, implications for practice relate to the three major themes visited above.

1. The focus on the learner as at once individual and collective highlights strategies that promote interactivity and emergence;
2. the recognition that knowledge is complex, situated and active points to expansive environments (Fuller and Unwin 2004), strategies that support autonomy, tolerate risk and provide opportunities for collectives to work on shared problems; and
3. better understanding of the role of internal models and diversity leads to consideration of optimal diversity and encouraging practice and opinion that disrupts stagnant internal models at individual, collective and organisational levels.

Individual/collective learning and knowing

Attention to the relationship between the individual and the collective is central to consideration of complexity. The focus in complexity is on the patterns that emerge from the collectivity of interaction of individual agents – that is, in complexity the individual and the collective are not discrete, rather, the individual and the collective are at once formed and forming, being and becoming. Collective behaviour emerges from the interaction of agents – the learning of the collective not reducible to the learning of any individual agent nor a collection of individually learning agents, rather to the collectivity of the learning that occurs in interactivity. Backstrom’s (2004) definition of collective learning as ‘...rather enduring changes in a collective as a result of interaction between the collective and its context’, while (based on the findings of the study) inappropriately separating collective and context, does capture a notion of collective learning concomitant with complexity.

From a complexity perspective, the individual is irreducible from the collective, the individual and the collective each a single learning entity. The unit of analysis for learning is unclear, individual and collective indistinct, learning emerging from and contributing to their dynamic interaction.

The study highlighted the nature of aggregation as the clustering of interaction between individuals and stresses the ways in which the interaction is imbued with contextuality. Individual, aggregate and context are irreducible from their web of interaction, learning and knowing intricately caught up in the patterns of relationships in which they at once draw on and contribute to each other.

The research adds weight to the current conceptual shift in the literature to a social perspective on learning in organisations (refer Visser 2005). It questions the predominantly formal and individualistic perspectives of workplace learning approaches in the Australian context and strengthens discussion on the definition of 'the learner' (see, for example, Davis and Sumara 2001). The research also refocuses knowledge processes on human and social aspects of organisation, accommodating knowledge as emergent and active.

Accommodating emergence

Recognising the development of knowledge through organisational members' engagement in work places emphasis on the nature of the work and the opportunities for learning that practice affords the member. As Conlon (2003: 291) states:

With a large percentage of employee knowledge emerging from informal learning, it would appear organisations should seek ways to allow and plan for it while staying on the sidelines to let it work. It is likely that much of the learning that goes on at work is unnoticed by researchers and even employers, who unwittingly depend on their employees learning informally and who could not function without the significant contributions employees make in work organisation and technology.

Accommodating the emergence of knowledge may mean redesigning work so that it maximises opportunity for learning, providing support for experimentation and error in the solution of real workplace problems. Focusing on work as a conduit for knowledge development aligns with Nyhan, Cressey et al.'s research which suggests that 'One of the keys to promoting learning organisations is to organise work in such a way that it promotes human development' (2004: 67).

Making organisation's need for member learning a member problem

Learning is shown in this study to emerge from individual and collective effort to maintain fitness within a specific and changing context. The demands of the context prompt innovation and adaptation without direction or control and lead to important knowledge developments. This finding suggests that where organisational and personal imperatives conflict, the organisation's attempts at teaching organisational members will fail.

In the work of Dovey and White (2005), aligning the personal interest of organisational members with project goals is an important component of developing strong bonds between organisational members. Given that knowledge is shown to emerge from the interactivity of these members, allowing groups to coalesce around problems that impact on their daily life and work appears critical to the development of knowledge in the organisation.

This study illustrates difficulties with forcing the development of work groups that are not focused on immediate and pressing problems. Support of learning communities that do form

organically in the workplace would be a more appropriate strategy for maximising opportunities for learning, knowledge development and sharing.

Letting local aggregates drive

This notion of aggregates coalescing around work issues leads to an important finding about the relevance of centralised knowledge management and training programs. The study highlights the role of aggregates in making sense of and innovating to adjust to their localised environments. These localised groups are in an appropriate position to determine what they describe as their real learning needs as well as the usefulness of their knowledge outcomes.

While this creates a dilemma for traditional management focused on clear direction and control, the opportunities localised learning may contribute to organisational knowledge cannot be ignored. If local aggregates have the opportunity to identify and access additional learning opportunities they require for performance in their work context, then the local aggregate has the opportunity to maximise its own performance.

Tolerating exploration and failure within boundaries

Providing autonomy at the local level, however, may increase discomfort. While the participants in this study stated their need for exploration and control over their decision-making, they also spoke of fear of reprisal if they failed. This concern is one reflected in the literature of Schein and Stacey, who highlight anxiety in learning. Schein (1999: 168) strongly maintains that generative learning ‘...is an inherently anxiety-provoking process that will be resisted’ and Stacey (2003a: 330) states that learning in this frame ‘...will inevitably give rise to anxiety... In a social order that greatly prizes competence, understood as knowing, it is deeply shaming not to know.’

It may be very difficult for learners to experiment, even when fear of reprisal from management for failing in attempts to improve performance has been removed. Schein and Stacey’s work suggests that encouragement of attempts to innovate must be coupled with support to reduce anxiety and discomfort.

Using narrative

This study drew upon collective constructions of reality through group narrative. The process was important in grasping participant versions of reality, and is recognised as important in knowledge development and sharing. Bruner (1991) asserts that narrative is critical to organising human experience, the interpreting it requires leading to important shifts in understanding. The breaching of canonical knowledge, described by participants as critical to improving performance, is central to narrative. Narrative accounts provide organisational members with the tools for validating ‘deviant’ behaviour.

Narrative provides the learning and knowledge facilitator with a role as interpreter. In Fenwick’s (2003: 151) words, ‘Within organisations, story-making is one way that educators listen and interpret a system’s relationships and activities, and mirror it back to itself’. The redefinition of the knowledge manager’s role as one of an interpreter and facilitator accommodates a blended approach to learning and knowing in organisations and an opportunity to integrate practice.

Knowledge is complex, situated and active

The nature of knowledge as an emergent property of the iterative interaction of agents in context is highlighted in learning and knowledge management literatures which are

influenced by, or draw on complexity theories (see, for example, Anderson 1999; Stacey 2001; Fenwick 2003).

As Spencer (2002: 300) reminds us, ‘Workers have always “learned at work”’. The situated nature of the knowledge emerging from this engagement and its local production in localised activity of organisational members’ non-linear dynamics was important in this study. The tension inherent in members’ experience at the intersection between policy and delivery was particularly clear and led to frustration for members, lack of sharing outside of the aggregate, and protection of the aggregate. The tension led to learning from ontological and political interest (Field 2004) and created a disconnect between emergent and organisational knowledge.

Constructions of knowledge in this study underline its nature as emergent, valued in its relevance and application within a specific time and locale, its social construction and verification through local feedback.

Supporting interactivity

Researchers suggest that providing space and time for interactivity at the local level supports the development of situated knowledge at the place and in the time it is required. For example, Ellstrom (2001: 431) discusses integration of work and learning requiring working conditions which include access to adequate learning resources such as time and space. Englehardt and Simmons (2002: 43) use the complex adaptive systems metaphor set to explore ideas about the emergence of learning and the provision of space outside of formal organisation to accommodate emergence.

The notion that time and space apart from the constraints of formal organisation is beneficial to the organisation’s development of knowledge is reinforced by the findings of this study. Examples of self-organising teams operating outside of formal organisational direction, or loosely bounded by organisational direction, provided illustrations of important learning in the study organisation.

This research, like others cited earlier, illustrated organisational members’ preference for dealing with accessible and trusted others in learning and sharing knowledge. The implication for practice, of course, is to provide opportunities for such interaction and to let go of information systems as the basis for knowledge sharing approaches. A clear distinction between information management and knowledge facilitation is imperative to valid knowledge facilitation practice.

Providing information on underlying philosophy

This is not to say that access to information is not important. These organisational members, however, describe a need for freedom to interpret the information within their local context and in application to local problems. Issues emerging from the disconnection of policy and operational imperatives in this organisation were shown to be related to members’ rejection of canonical scripts in preference for their own construction of the right thing. Providing these members with the philosophy underpinning the rules, terms and policies they are asked to implement may well support members’ knowledge development and decision-making in uncertain environments.

Related to this notion of flexibility underpinned by understanding is recognition that the development, hoarding and verification of knowledge at the local level is both an opportunity for, and a threat to, the organisation’s success. Locally developed knowledge may lead to

negative outcomes for the organisation and learning may be appropriate for local fitness but inappropriate for organisational effectiveness. Recognising the non-linearity of the work experience and providing learning problems which provide underpinning concepts and problem-solving and networking skills, for example, may provide organisational members with the opportunity to still work flexibly while representing the organisational imperative effectively.

Taking learning out of the training room

This and other studies ‘...challenge prevailing orthodoxy that worthwhile knowledge is canonical and that legitimate education is planned and monitored by professionals’ (Fenwick 2003: 142). This study, rather than privileging formal information and training, underlines organisational members’ self-validation of locally produced and shared knowledge and their focus on its value in application within the immediate context. The organisation’s focus on disseminating dislocated information through formal training, internal communication and knowledge management approaches is treated with disdain by participants.

Formal programs are often derided in this study for being unhelpful to the performance needs of organisational members. According to one member, ‘what head office thinks our learning needs are, they aren’t!’. Formal learning programs which are based on linear principles, assuming consistent experience with consistent solutions, do not meet the needs of these organisational members in their non-linear experience.

There is some criticism of formal training in a broad range of literatures. In environmental management, for example, authors are critical of such approaches:

If contextual knowledge is seen as paramount to resolving localized environmental issues, centralized organisations that invest considerable tax dollars into generalizable knowledge-based ‘solutions’... should rethink their focus. (Keen, Brown et al. 2005).

This research supports the questioning of such foci. The participants of this study display little respect for the organisation’s attempts to educate them through formal training initiatives, seeing such approaches as redundant in their ever-changing work contexts.

Rather than being about formalised systems and programs for learning and knowledge sharing, this study supports the insight offered by Fenwick (2001: 8) that, ‘...workplace learning is becoming understood as relational processes of continuous invention and exploration’, placing learning in authentic, community focused contexts is a significant challenge for knowledge in this century (Atkin 2000).

Taking learning out of the training room and repositioning it in practice endorses the legitimacy of emergent knowledge. In doing so, it provides a conduit for openness of such knowledge to other aggregates within the organisation, removing, as it does, local concerns about deviance and protection.

Disrupting mental models, adaptation and generative learning

The emergent themes in this study of diversity and internal models are coherent with important debates in theories of workplace and organisational learning, and those of knowledge management. In Holland’s (1995) work, internal models are central to notions of learning, ‘All complex, adaptive systems – economies, minds, organisms, build models that allow them to anticipate the world’ (Waldrop 1994: 177).

In this study, there was a problematic relationship between learning and expanding cognitive models. Learning was illustrated as emerging from myriad influences and linked to the whole, interactive learner (whether this be individual or collective) within a context and time.

The study illustrates internal models as connections, composed in the individual and collective patterns of networks emerging from immersion and engagement in the work context. It highlights the role of feedback as influencing connections and interactions, and impacting on the emergence of collective properties.

Although they could not be represented as simplistic, the study did however reveal fixed mental models in individuals, and internal models in collectives and organisations, as contributing to difficulties with innovation and knowledge development. Participant narratives illustrate the opportunities afforded collectives through importing naivety and disrupting the status quo.

Moving people around

While the participants in this study stressed the parochialism inherent in the formation and survival of aggregates, some authors in complexity suggest that there is a level of 'optimal parochialism' (Bowles and Gintis 2000) beyond which survival is better served by importing diversity.

Requisite diversity has long been proposed as critical to creative social interaction (Nonaka and Takeuchi 1995) and innovation. As Kauffman (1995: 296) succinctly states, 'diversity begets diversity'. Exposure to contextual change opens new niches within which diversity can emerge through opportunities for new interactions. In a continuous way diversity provides opportunities that can result in increased diversity to respond to new environmental opportunities. Diversity, then, leads to the development of new knowledge through the interaction and relationships between individuals in diverse collectives.

Other authors in organisational theory who draw on complexity add weight to the appropriateness of the strategy of 'mixing it up'. Stacey (2003b: 375) for example asserts that:

Transformation is possible only when the entities, their interactions with each other and their interaction with entities in the system's environment are sufficiently heterogeneous, that is sufficiently diverse' so that 'new themes emerge as people struggle to understand each other and as their conversations are cross-fertilised through conversations with people in other communities and disciplines (Stacey 2003a: 417).

Workplaces, therefore, which limit diversity in experience or 'inter-subjective encounters' (Dovey and White 2005: 246) constrain opportunities for learning and development of new workplace knowledge.

Encouraging challenge to status quo

Uncomfortable as it may be, challenging what participants described as the normal confines, is apparent in this study as critical to knowledge development. Fenwick (2003) uses the verb 'disturb' in her references to strategies for development of new insights in organisation. For her, challenge is designed to '...interrupt the normative, decentre it, and invert the terms of reference' (Fenwick 2003: 151) in order for new knowledge to emerge.

Of course this notion of challenge is inherent in the earliest work in organisational learning (Argyris and Schon 1978; Argyris 1995; Argyris and Schon 1996; Argyris 1999) and

continues to be important in contemporary theory building (see, for example, Calhoun and Starbuck 2003).

Rewarding innovation

Evans and Kersh's (2004) work illustrates that '...for adult learners the expansive or stimulating workplace environment is associated with recognition and development of tacit skills and opportunities to engage in learning'. Reward features in its absence in narratives in this study, with participants conveying their disappointment that their innovations are not recognised (or worse, are credited to others). This disappointment is often linked in their narratives to issues of aggregate ownership, hoarding and protection of knowledge.

In order to facilitate knowledge development beyond the collective it appears critical to reward innovation where it occurs, thereby removing any sense of deviance in the activity that leads to the new knowledge.

Conclusion

The findings of a research study in which complexity emerged as an important organising heuristic are used here to stimulate discussion about the ways in which learning and knowing might be better facilitated by their recognition within a single frame. They lead to suggestions for practice developed alongside the complexity metaphor set and challenge traditional notions of formal learning and knowledge management practice.

The complex adaptive system metaphor set provides a new and active grammar which accommodates focus on connection and self-organisation. It provides for discussion of learning and knowledge practice within organisations that promotes integration rather than segregation of critical workplace functions and offers fresh perspectives on the entwinement of learning and knowing in effective organisational practice.

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