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Learning and knowing in organisations – an exploration of experience in the public sector

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Learning and knowing in organisations – an exploration of experience in the public sector

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Abstract

The strengthening recognition of the role of sense-making in organisational knowledge provides a context within which workplace learning strategy and knowledge management are linked within a holistic knowledge environment.

This PhD research project seeks to develop a fuller understanding of the ways in which organisational members create, develop, share and institutionalise knowledge in the workplace. The application of complexity theory to the research methodology and grounding of theory offers the potential for the emergence of novel perspectives and outcomes that are generatively different from the theory upon which current practice is built.

This paper outlines the developing themes in knowledge management and organisational learning and their convergence through complexity theory. It describes the methodological approach developed to investigate the relationship between the two. It illustrates a pursuit of workplace learning theory and strategy which recognises the complex and problematic nature of knowledge in organisations and the role of individuals and collectives in its evolution.

Keywords: *Organisational learning; knowledge management; workplace learning; complexity theory*

Introduction

It seems impossible to begin discussion of organisations without making reference to the world as increasingly complex and turbulent, and change as discontinuous. So much literature for so long has begun with opening paragraphs and chapters on the increasing prevalence and rate of change in the global environment that the reference has almost become redundant. It is these conditions, however, that lead to the importance of this research study as they point to the increasingly critical role of learning and knowledge management in organisations.

Advances in information and communication technologies, globalisation (Prusak 2001:1003), ‘technological discontinuities, regulatory upheavals, industry deverticalisation ... abrupt shifts in consumer tastes and hordes of non-traditional competitors’ (Hamel and Valinkangas 2003), changing expectations of work and learning (Burns 2002), clearer understandings of the new sciences in their application to organisations (Stacey 2001; Critten 2003; Firestone and McElroy 2003; Kurtz and Snowden 2003), and an awareness of organisational knowledge as complex, valuable and elusive (Malhotra 2002) are converging to invite new perspectives on organisation, knowledge and learning.

Current problem

Surprisingly, knowledge and learning are commonly dealt with quite separately in organisations - treated as discontinuous constructs and situated within different

organisational systems and structures, supported by separate theoretical frameworks, policies and practices.

Current knowledge management and (to a lesser extent) organisational learning theory focuses on the value of the perspectives contributed by the new sciences, and in particular complexity theory, to the understanding of the way in which knowledge emerges in organisations. This perspective provides new opportunities for the investigation of learning experience and learning strategy.

Workplace learning practice has been predicated on industrial notions of organisation and transmission theories of education. The complex environments and experience of contemporary organisation demands diversity in pedagogical approaches, and the inclusion of approaches based in constructivism in the promotion of organisational and collective competence (ANTA 2003). These approaches allow not only for organisational flexibility within turbulent environments, but also the 'integrative' (Kolb 1984 in Zorga 2002) development of organisational members which provides for fulfilling learning experiences.

The literature from the fields of knowledge management, organisational learning and workplace learning converge around the themes of individual and collective learning, the disruption of mental models (or the equivalent in each discourse), generative change, integrationist perspectives, knowledge as complex, personal and socially constructed, the value of metaphors arising the complexity sciences, and ultimately, richer learning opportunities leading to more valuable organisational knowledge outcomes. Yet this convergence is not reflected in holistic practice frameworks in organisations.

The lack of links from the individual to the organisational limits the experience of the individual as a learner and productive organisational member. The lack of links limits the effectiveness of an organisation's knowledge in a changing world. Without an integrating theory of the relationship between learning experience and knowledge management, the links from the learning individual to organisational knowledge cannot be maximised.

Background

Knowledge

The identification of knowledge as a strategic asset and as a capital value in individuals, corporations and nations, has resulted in the development of structures, practices, policies and national agendas based upon harnessing, exploiting and developing knowledge. In organisations, knowledge is often treated as though it exists as a tangible commodity, independent of the human beings through which it was created and must operate in practice. Some theorists describe knowledge as the 'key competitive sustained resource' (Storey and Barnett 2000: 146) in organisations and nations. This is seen in national knowledge strategies and knowledge management programs and systems within organisations.

The availability of information technology and its effectiveness in capturing, storing, manipulating and disseminating information immediately and cheaply over distance and time, combined with a collective mental model in Western organisations that

assumes a role for information technology in all organisational endeavour, ensure that computing plays a pivotal role in the knowledge cycle within organisations. Perhaps unsurprisingly then, development of knowledge management programs within organisations have most frequently been approached through an IT framework – an ‘information-process paradigm of knowledge management’ (Malhotra 2000: 3).

Storey and Barnett (2000) cite early knowledge management programme failure at 84% and attribute this failure largely to the reductionist treatment of knowledge management in practice. This reductionism is most frequently observed in the implementation of IT/IS led knowledge management approaches (Scarborough, Swan et al. 1999; Storey and Barnett 2000).

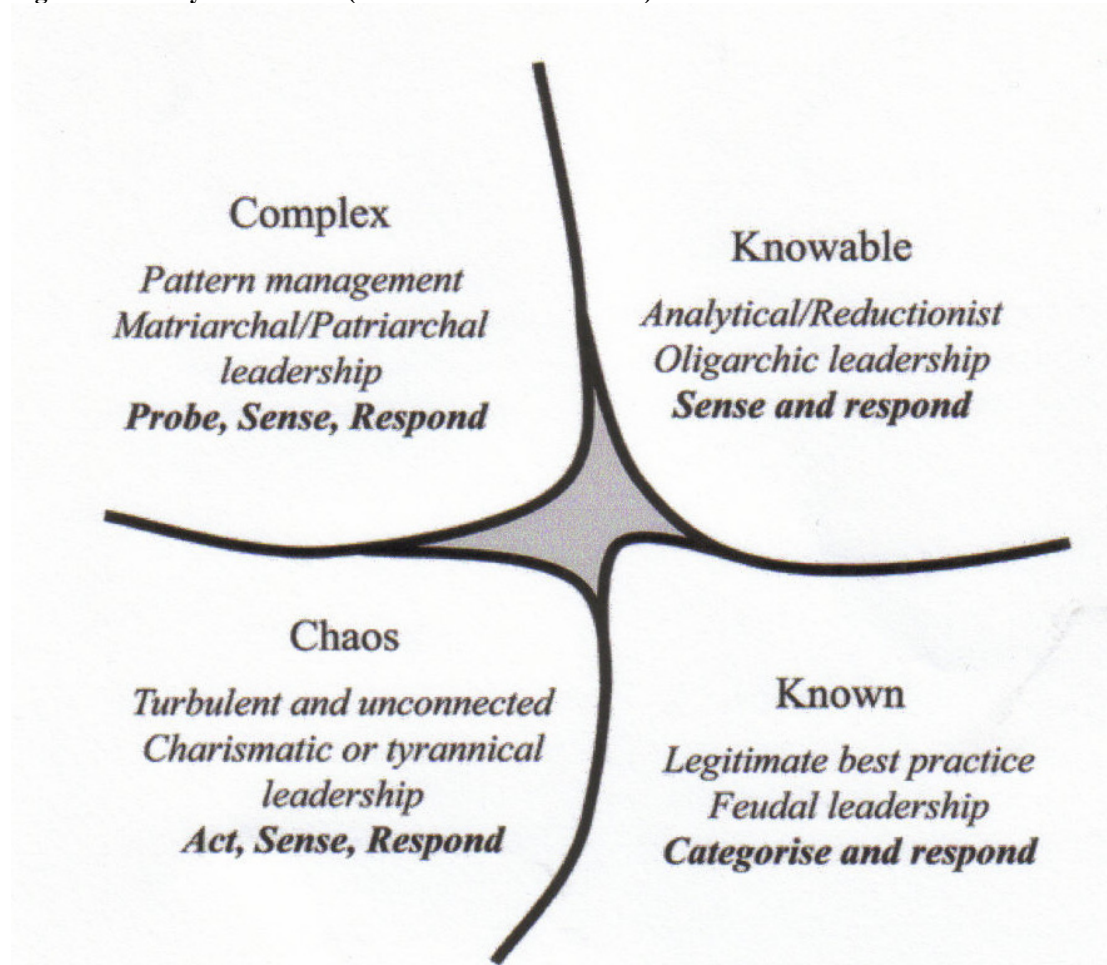
Recent knowledge management literature shows a response to the failure of IT/IS focused knowledge management strategies through a return to the importance of human and social factors, specifically in relation to the sharing of tacit knowledge (Hislop 2003). This amounts to a recent recognition that knowledge management is inextricably linked to learning at individual, group and organisational levels.

Learning

Recent literature focuses more broadly on personalised knowledge systems and the benefits of approaching knowledge management from an interpersonal, knowledge-sharing perspective. It appears to link more closely to organisational learning literature than to information systems literature. Marianne Gloet and Mike Berrell (2003) go as far as to equate organisational learning with the humanist paradigm in knowledge management. Organisational learning literature is prolific (Wang and Ahmed 2003) and intersects with increasing frequency with that of knowledge management (Scarborough, Swan et al. 1999; Loermans 2002; Roth 2003).

Learning is recognised as ‘the new form of labour’ (Zuboff 1998) and while debate on the relationship between organisational and individual learning continues, much of the discourse (see, for example Nonaka 1994; Argyris and Schon 1996; Lakomski 1998; Schein 1999; Lakomski 2001; Wang and Ahmed 2003) focuses on the role of the individual learner in an organisation’s adaptive and generative learning. The literature stresses the practical imperative of linking individual learning to organizational learning if organisational theory is to be of any use whatsoever to practitioners.

Focus on the individual in organisational effectiveness in a global environment that is increasingly reliant on knowledge and innovation for survival, demands new perspectives on workplace learning. Snowden and Kurtz (2003) have developed a model that illustrates knowledge domains which is useful in the discussion of contemporary workplace learning strategy.

Figure 1 The Cynefin Model (Kurtz and Snowden 2003)

Workplace learning strategy commonly has a strong focus on the dimension of the known. Competency based training, with its roots in behaviourist theory, reinforces current skills in current processes that are explicit and stable (knowledge ‘being’ rather than ‘becoming’ (Bhatt 2000)). Australia’s national training approach through competency based training leads to reinforcement of current practice, stabilisation of knowledge through repetition and reward based on replication. Competency based training derives from ‘... an empirical analytic paradigm, which takes the view that reality is objective and that individuals and the world are separate, knowledge involves objectively proven facts and what cannot be legitimately quantified is not worth knowing’ (Burns 2002: 56).

The ‘knowable’ domain reflects an understanding of knowledge as ‘being’ although some analysis is necessary to find it. Second-generation knowledge management supports this level of knowledge. Within this paradigm, focus is on human strategies for accessing expertise, knowledge retention, sharing and the application of tacit knowledge to organisational problems through recognition of patterns from prior experience. The cognitive-Gestalt (Burns 2002) approach which underpins learning in this domain is seen in the myriad management development and leadership programs available to organisational members in more senior roles.

Latest knowledge management theory points to the critical nature of knowledge in the un-ordered domain of the complex. Traditional workplace learning strategy does not

support knowledge in this domain. Learning in this domain is focused on sense-making and breaking patterns of entrainment. Within this domain no repeatable relationship between cause and effect can be identified other than in retrospect (Snowden 2003).

Learning within the complex domain requires genuine reframing resulting from ‘... both semantic shift and shift in anchor’ (Schein 1999: 167). There are clear parallels between the capacities required for learning within the complex domain and the fields of organisational learning and third generation knowledge management.

The new science

Traditionally, organisational strategy has been based upon Newtonian principles; planning, decision-making, systems development, training, all tailored to support success in a stable environment. It has assumed a clear and linear relationship between cause and effect, where an object or phenomenon gives rise to one unique description through ‘objective reality’, where facts assume ‘absolute truth’ and where there is a clear distinction between phenomenon which may be analysed discretely and where incidences are identified as either one thing or another but never both at once.

Increasingly, organisation theory and practice is turning to ‘the new science’ for insight into organisation in the global era (Wheatley 1999). Chaos theory, quantum mechanics and complexity theory are applied to national, community and organisational issues in an attempt to resolve the problems unapproachable through industrial perspectives. More organic, holistic and creative approaches are used to facilitate the emergence of innovative practice and flexibility within dynamic environments (Hamel and Valinkangas 2003).

Australia, with the United Kingdom, is at the forefront of development of knowledge management approaches that are built out of complexity theory (Snowden 2003). Complexity theory applied to organisations, knowledge and learning, provides a paradigm within which focus is centred on the emergence of new phenomena in complex adaptive systems. This paradigm allows for the consideration of organisations as self-organising systems where ‘knowledge agents’ interact in ‘aggregates’ through which knowledge emerges. The focus of learning through complexity theory is on exploration of personal ‘internal models’ in order to facilitate ‘lookahead’ (Holland 1995) and on the ‘breaking of pattern entrainment’ (Snowden 2003) that leads to generative change in knowledge. In other words, complexity theory focuses attention on the interaction of organisational members in collectives, and reflection on and disturbance of schematic sets (both individual and collective) in order to provide opportunities for novel knowledge to emerge.

While still in its infancy, management theory is developing quickly through the new sciences. Knowledge management theory and practice based on complexity theory is sophisticated and, while reference is made to learning (Kurtz and Snowden 2003), there is still little theory (Stacey 2001; Englehardt and Simmons 2002; Winch and Ingram 2002; Critten 2003) and no empirical research available on the application of the theory to workplace learning experience.

Significance of the problem

‘Pressure is mounting on all types of organizations to learn faster and to manage their knowledge better’ (Loermans 2002: 285) - it appears that an approach that explores the potential synergies of knowledge management systems and organisational learning cultures would assist in bringing together the hard constraints against learning and the soft constraints against knowledge management.

Trends in the literature across organisational learning and knowledge management illustrate a close relationship between the fields. Recent literature shows convergence of the fields and newly emergent themes which integrate the main themes from both (McElroy 2000).

The realignment of organisational learning and knowledge management through a focus on the creation and social construction of knowledge provides an opportunity for new organisational perspectives and practice. Investigation of experience in learning and sharing knowledge has the potential to reconcile the division of organisational processes and structures into ‘learning’ and ‘knowledge’ and in doing so, lead to more effective practices in relation to organisational learning and knowledge management.

Knowledge management theory, through its recognition of the complexity of knowledge in organisations, has provided a lens through which learning within organisations can be investigated. Current workplace practice supports performance in static environments through standardisation of knowledge and behaviour. Complexity theory suggests that this practice limits the organisation’s ability to adapt to environmental change and the complex nature of the work environment. New theories and practices in workplace learning are required to assist organisations and their members to continually move forward, to develop strategies for dealing with complexity and growing from it.

This research integrates theories of knowledge management, organisational learning and complexity in the exploration of workplace learning experience. It attempts to provide an additional perspective against which current theory might be tested. It aims to offer a novel approach to each of the fields as well as an opportunity to develop new theory on workplace learning as it emerges from their integration.

Knowledge cannot sit apart from learning. This study is designed to lead to new perspectives on organisational learning that will assist organisations to develop more appropriate learning environments.

This study will be significant in integrating learning, knowledge management and complexity theory through empirical investigation. The framework that emerges from the research may be used to support learning strategy that equips organisations and organisational members with knowledge, skills and attitudes appropriate to complex and complicated environments.

Methods

Aim

This research aims to develop theory that integrates workplace learning and knowledge management.

Objectives

The objectives of the research are to:

- describe the themes arising from learning and organisational knowledge development experiences;
- illustrate the relationship between emergent themes;
- develop an integrated theory drawing on complexity theory;
- propose strategies for workplace learning that facilitate organisational knowledge development; and
- apply research methodology aligned with complexity theory.

Assumptions

The following assumptions are made in addressing the research aim:

- Learning and knowledge management are treated as separate human/technical systems in organisations.
- Organisations recognise the value of a knowledgeable and skilled workforce and of the value of an organisation's knowledge as an organisational asset.
- The literature shows a convergence of theory on knowledge management and organisational learning.
- Organisational practice lags behind theory.
- Complexity theory is an appropriate lens through which to consider organisational issues.
- Grounded theory methodology provides the research with properties aligned with complexity theory.

Research question

Complexity theory suggests, and grounded theory allows for, the iterative development of a research question based on emerging data. This research will follow emergent themes from investigation. As the narrative develops and new insights and understandings are shared, new perspectives will emerge to inform the research question. It will develop through exploration and will be bounded by the core terms learning, knowledge, organisation and complexity.

The guiding question for this study is one that Snowden (2002) would call an attractant: *What workplace learning experiences support organisational knowledge?*

The research question reflects a convergence of themes across research strands in knowledge management, organisational learning and workplace learning. Through extensive reading it became evident that while each field had its own corpus of literature, integrating research was unavailable. No research to date has examined the relationship between the separate areas in a holistic way.

The theoretical and methodological approach chosen for this study will allow issues to emerge that will provide the framework for a new theory that integrates the fields and demonstrates the relationships between them.

The following table shows the questioning of the literature led to the research question.

Table 1 Research question development

| | |
|---|---|
| <ul style="list-style-type: none"> • Does the literature on knowledge management from 1998 – 2003 show a trend away from information systems and information technology toward personalised and learning/social knowledge systems? <ul style="list-style-type: none"> ○ How is this trend explained? ○ What is the significance of the realignment of OL and KM | ↓ |
| <ul style="list-style-type: none"> • What are the inherent limitations of early conceptualisations of knowledge management? <ul style="list-style-type: none"> ○ How have these changed over time? ○ What challenges to current practice did early conceptions contribute? | ↓ |
| <ul style="list-style-type: none"> • How does current practice reflect the shift in understanding over time? | ↓ |
| <ul style="list-style-type: none"> • What perceptions of knowledge and learning exist to support current practice? | ↓ |
| <ul style="list-style-type: none"> • How does learning practice relate to knowledge management <ul style="list-style-type: none"> ○ What understandings of the role of workplace learning currently exist to support workplace learning strategy? ○ What limits the organisation's ability to implement learning strategies to support OL and KM? ○ In what ways can traditional workplace learning strategy influence KM and OL? ○ What understandings of the role of knowledge in organisations currently supports KM strategy? | ↓ |
| <ul style="list-style-type: none"> • What is the relationship between knowledge and learning systems? | ↓ |
| <ul style="list-style-type: none"> • What learning strategies and policies can facilitate knowledge creation and transfer to promote organisational effectiveness? | ↓ |
| <ul style="list-style-type: none"> • In what ways do individuals and collectives develop and share knowledge? | ↓ |
| <ul style="list-style-type: none"> • What workplace learning experiences support organisational knowledge? | |

Data collection and data analysis

In a grounded theory approach the data collection and analysis phases of the research are integrated (Strauss and Corbin 1990).

This research is designed to maximise emergence of new theory from interactions between participants. For this reason, narrative is used extensively in this research, following the work of Clandinin and Connelly (2000) and the strategy of knowledge management practitioners (Snowden 2002; Kurtz and Snowden 2003). Narratives, according to Stacey (2001: 124), rather than facts, '... make experience meaningful and are the privileged mode of sense-making'. This study is designed to draw on that sense-making in order to better understand knowledge and learning.

Similarly, methods draw on collectives of individuals in order to draw on the social construction of meaning in the organisational context. Weick (1995 in Stacey 2001) regards sense-making as both individual and social and affects the way in which text is constructed and interpreted. 'When we describe something we are ... reporting how something is seen and reacted to, and thereby meaningfully constructed, within a given community or set of communities' (Crotty 1998: 64).

This study will draw on interactions of collectives in both the development and analysis of narratives. While individual stories will be told, they will be told within a social context and will be subject to sense-making at the collective level.

Grounded theory techniques developed and tested by Strauss and Corbin (1990) will be used as a base for this research. Strauss and Corbin (1990: 59) stress that the methods described in their grounded theory process need not be applied rigidly. This research deviates from the process described only in its use of collectives of research participants in the coding of data. Other than this, the research progresses through a standard grounded theory approach (Bartlett and Payne 1997: 183):

1. Collect data
2. Transcribe data
3. Develop categories
4. Saturate categories
5. Abstract definition
6. Theoretical sampling
7. Axial coding
8. Theoretical integration
9. Grounding the theory
10. Filling the gaps.

In this study, many of the steps in the process are combined within phases. The research framework below describes the phases and their integration of grounded theory process.

Table 2: Research Strategy

| Activity | Phase 1 Group narrative workshop. | Phase 2 Group sense-making and category development. | Phase 3 Category saturation and theoretical sampling. | Phase 4 Group connection-making. | Phase 5 Theoretical integration and grounding the theory. |
|-------------------------|--|---|--|---|--|
| Participant involvement | Three groups of eight individuals share narratives relating to experience of learning and knowing in the organisation. | Group of eight volunteers from the original three groups uses metanarrative to make sense of experience elicited through the narrative workshop. Researcher facilitates discussion to draw out main themes in group and develop categories. | Researcher explores further examples through transcripts until no new categories emerge. Researcher develops formal definition of properties and dimensions of categories. Researcher selects narratives to test and further develop categories for phase 4. | Group of eight uses metanarrative and emergent categories to investigate relationships using a coding paradigm. | Researcher compares emergent theoretical framework to existing theoretical models. Researcher grounds emergent theory through validation against text. |
| Researcher tasks | Researcher audio-tapes interaction for further analysis and summary. Researcher selectively transcribes narratives for analysis and from these records metanarrative for group use in phase 2. | Researcher audio-tapes interaction for further analysis and summary. Researcher selectively transcribes group discussion for analysis in phase 3. | | Researcher adds group developed theoretical memos to those accumulated through open coding. Researcher further develops connections through axial coding. | |
| Activity date | August/September 2004 | October/November 2004 | December-April 2005 | April - June 2005 | June – December 2005 |

Data collection and analysis through phases

1. Group narrative workshop
 - a. Individuals within each group will share their experiences about critical incidents they have had that have led to new knowledge for themselves and their organisation or others in their organisation. Participants will be encouraged to question and discuss each others' experiences and build ideas generated in their own stories.
 - b. Narrative workshop will be audio-taped.
 - c. Researcher will develop metanarrative from audio-tape for use in group sense-making activity
2. Group sense-making and category development
 - a. Group will work with narrative to discuss and develop emerging themes and categories through questioning and comparison of the stories. Facilitator will follow Strauss and Corbin (1990) in asking questions like, 'what is this?', 'what does it represent?', 'which incidents are related?' in finding categories and their properties and dimensions. The researcher will encourage use of participants' own words in order to develop *in vivo* codes.
 - b. Sense-making workshop will be audio-taped.
 - c. Researcher will develop code notes from the categorisation activity.
3. Category saturation and theoretical sampling
 - a. Researcher will further develop code notes from transcribed narratives and interactions.
4. Group connection-making
 - a. Using Strauss and Corbin's (1990) coding paradigm, participants will work as a group to ask questions and identify relationships and hypotheses about the relationships between emergent themes identified in phases 2 and 3.
 - b. Researcher will interrogate stories and transcripts to further develop relationships between categories and their subcategories.
 - c. Researcher will further develop memos and diagrams from code notes.
5. Theoretical integration and grounding the theory
 - a. Researcher will develop a story line from the data, identifying central phenomenon and its categories.
 - b. Researcher returns to the data to test and fill in gaps.
 - c. Researcher lays out the theory and validates it with supporting data.

Population

Organisation

The population for the research will be drawn from a large Federal government department with its head office in Canberra. This government department is in a unique position in the Australian public sector in that while it enjoys the stability of the national public sector framework, it competes with non-government organisations for work and subsequent funding. As a service delivery department, it is very close to the environment within which it operates. Changes in the social, political and physical environment in Australia impact immediately and forcefully upon the organisation and its business.

This organisation is at the forefront of Federal public sector organisations in its development of knowledge management strategies that integrate latest knowledge management theory. Diverse knowledge management initiatives can be observed throughout the organisation, and knowledge management is formally recognised as a strategic business issue.

Learning is a primary focus for this organisation. It has set up an award winning Registered Training Organisation within its boundaries and the organisational structure is supported by a learning and qualification structure. The organisation's leadership group is committed to the learning of its members, and the value of learning is overtly discussed at all levels of the organisation.

The organisation is geographically dispersed and diverse in its membership in terms of educational background, cultural background, age and role. Varying workplace cultures exist providing breadth in organisational understandings, practices, and values. Access to diversity is critical to the emergence of novel phenomena in complex adaptive systems, and as such, critical to the emergence of themes through the research methodology.

The researcher as a past employee has a close relationship with the learning and development section of the organisation which presents her with a preunderstanding from which to begin investigation.

Participants

The study will draw on the experience of 24 selected volunteer participants from three different communities of practice within the study site. The three communities of practice operate within three discrete parts of the organisation; the learning and development centre, the information and communication technology centre and a client service centre.

These 24 participants will contribute to the narrative workshops and from these participants, volunteers will be asked to contribute to the open and axial coding activities.

The participants will be diverse in age and gender as well as in occupational specialisation.

Form of participation

- Narrative workshop
- Open coding through group interaction
- Axial coding through group interaction

Ethical considerations

This research places a researcher within a human organisational context and allows her the opportunity to observe and engage with trusting individuals and groups. This opportunity carries with it responsibilities to protect the rights of organisational members, especially in relation to the confidentiality with which their experience is observed and reported. It is the researcher's responsibility to ensure that the trust organisational members place in the researcher's confidence is protected at all times. This research does not attempt to critique the experience of organisational members as it endeavours to understand it. It is the responsibility of the researcher to ensure that the experience of organisational members is accurately represented and that these members have access to all records that pertain to their experience.

Ethical considerations are highlighted in any study that may enable recognition of its participants (Sturman 1999). According to Charles and Mertler (2002: 13) the researcher's

ethical responsibility relates to beneficence, honesty and accurate disclosure. This researcher will adhere to these principles throughout the research process through a clear and focused intention to contribute to the body of knowledge of organisational knowledge and learning, maintaining integrity in data collection and interpretation and through familiarising each research participant with the intention and design of the research.

Confidentiality and protection of individuals must not at any time be threatened by this research. The participants must be reassured that no harm will come to them as a result of the research and sensitive areas of discussion that may result in discomfort will not be breached.

Delimitations and limitations

Clandinin and Connelly (2000: 179) ponder on the role of fact and fiction in narrative research:

In narrative inquiry, the distinction between fact and fiction is muddled. It is confronted as an issue most often in questions over research texts when we puzzle about, or are asked to puzzle about, the factuality and truthfulness of what we have written...Did the events described actually happen? How do we know? How does the teller know? ... Writing a story or recording an event is conditional. It is conditional on our interests and surrounding circumstances.

Their ponderings are answered in Blaise's (1993 in Clandinin and Connelly 2000: 180) argument that 'Everyone's fiction is almost completely autobiographical. What makes it fiction, usually, is its degree of disguise.'. This researcher will assume the value of the themes emerging from narrative on this basis and will attempt understanding of the narrative as if it were true. Like Clandinin and Connelly (2000) this researcher will take the view that every narrative contributes some important consideration to the field.

This research does not attempt to provide an objective description of the processes of knowledge creation, development and dissemination in a generalisable context. This research limits itself to understanding the experience of individual members within a specific organisation, interpreted through the researcher's own mental model and constructed with the organisational members.

Conclusion

This research project aims to provide a integrated approach to knowledge and learning in organisations through an investigation of experience and drawing on metaphors derived from complexity theory. It emerges from an environment of increasing prevalence and pace of change and within which knowledge is recognised as problematic.

The outcomes of this research may provide some new perspectives on knowledge and learning which inform organisational practice in knowledge management and in workplace learning.

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