

December 2006

# Can Information Systems bring wisdom? Dealing with the primacy of knowledge in an in-patient mental health setting

Ivor Perry  
*de Montfort University*

Follow this and additional works at: <http://aisel.aisnet.org/amcis2006>

---

## Recommended Citation

Perry, Ivor, "Can Information Systems bring wisdom? Dealing with the primacy of knowledge in an in-patient mental health setting" (2006). *AMCIS 2006 Proceedings*. 316.  
<http://aisel.aisnet.org/amcis2006/316>

This material is brought to you by the Americas Conference on Information Systems (AMCIS) at AIS Electronic Library (AISEL). It has been accepted for inclusion in AMCIS 2006 Proceedings by an authorized administrator of AIS Electronic Library (AISEL). For more information, please contact [elibrary@aisnet.org](mailto:elibrary@aisnet.org).

# Can Information Systems bring wisdom? Dealing with the primacy of knowledge in an in-patient mental health setting

Ivor Perry  
de Montfort University  
Leicester, United Kingdom  
iperry@dmu.ac.uk

## ABSTRACT

This paper reviews the varieties of knowledge that have to be used in mental health care, and points out some of the unique features of knowledge management in this area. It focuses on the use of types of tacit knowledge - from 'know-how' to emotion. It acknowledges the role played by mediated knowledge which becomes part of the disposition and interplay of power in both staff-patient and inter-staff relationships. Conventional information systems, based on transaction models (such as databases) do not always answer the needs of practitioners in this environment; consideration is given to Process-Based Systems as a means of both generating knowledge and of forming the 'pivotal point' between technologically-mediated knowledge (largely explicit) and behaviourally- or linguistically- mediated knowledge (mostly tacit). As an exploratory study, primary data was obtained from mental health practitioners using a grounded theory approach and discourse analysis.

## Keywords

Knowledge management, culture, emotional climate, process based systems, PBS, wisdom

## INTRODUCTION

This paper brings together three strands of interest to IS researchers: the problem of managing knowledge, particularly deep, experiential knowledge; the opportunities and limitations of process, and process-based systems (PBS); and the interplay across both, of organisational culture. Similar work has been done in medically oriented departments, such as paediatrics and admissions, where a link between PBS and changes in organisational culture has been observed, (Perry 2003) and where an argument has been developed that PBS actively contribute to the creation of organisational knowledge (Perry 2004).

Healthcare processes can be complex, and often appear to be unique to the patient. (Smith 2000) Although case mix systems and, in the last few years, Electronic Patient Record (EPR) systems, have become common (Smith 2000) the problem of handling highly iterative, possibly idiosyncratic, processes, remains. Although 'care pathways' can be defined and often executed with little change, many treatments are nevertheless largely composed of 'ad-hoc' patient-carer interactions where the carer may be using a large amount of experience and expertise, overlaying their training. (Ward 1992)

A mental health unit was selected as the setting for this particular piece of research, because it displays characteristics that are qualitatively different from those other areas of healthcare. (Altschul 1997) Mental health units, due to the nature of their work, deal with a myriad of variables in terms of physical, behavioural and cognitive disorders, and staff appear at least to use a high degree of tacit knowledge. (Clarke 1999)

The results, it will be argued, point towards the value of PBS rather than the more 'static' use of databases. On the other hand, the problem of interpreting system-generated data, unaccompanied by interpretive 'clues' from other members of the community of practice, still remains.

Kakabadse et al (2003) discuss a continuum of types of knowledge which runs through 'data-information-realization-action-wisdom'. Substantially, they identify a deepening complexity, and usefulness, of knowledge as more and more cognitive and interpretive processes are deployed. At the far end of the continuum, wisdom, therefore, becomes 'a mode of symbolic

processing by a highly developed will.’ (Kakabadse 2003) Importantly, intention and personality, including life experience, are essential to making the most use of knowledge. It is this aspect of knowledge management that forms a key issue to be dealt with in this paper.

## PROCESS BASED SYSTEMS

PBS can be defined broadly as systems that enact business processes. They may be highly prescriptive, like some of the insurance claims applications in large financial institutions, where agents have little choice in the order and number of steps they must follow. They may be ‘ad hoc’ systems, like some groupware applications. They may be what has been described as ‘proto-PBS’ (Perry 2004); systems like Electronic Patient Records, that do not automatically move from one stage to another, but indicate when a new stage may be necessary (e.g. viewing the results of a haematology report).

Additionally the EPR records themselves constitute the content of a number of organisational processes, particularly in the area of patient care. Systems that *address processes, rather than transactions*, have been an area of research focus for some time. (Doherty 1999) The argument has been that these systems ‘accrete’ organisational knowledge as they move through their process; in this way they help to create and expand organisational knowledge, by bringing existing and new data together and prompting staff to look afresh at the available information. (Perry 2004)

An example of a ‘proto-PBS’ in a mental health setting is discussed by Bloomfield (2005) who describes the ‘electronic whiteboard’ used by a number of District Health Boards (DHBs) in New Zealand. This system – officially termed the ‘Current Customer View’ (CCV) acts as a meta-layer for existing mental health systems. It permits staff at a DHB to view important patient data that may be held on the systems of other DHBs. This is significant, as mental health patients may well move abruptly and without informing their doctor; in such situations, clinicians in a new area need current information about the patient’s history, recent problems, behaviour and medication. (Bloomfield 2005)

## MANAGING KNOWLEDGE IN HEALTHCARE

A general problem in the discussion of knowledge management in any complex social setting is to understand the nature of the knowledge being created, manipulated or communicated. Polanyi was among the first to identify the significance of tacit knowledge, (Polanyi 1958) while Nonaka re-interpreted the concept, asserting that tacit knowledge could be made explicit. (Nonaka 1990) Hitt and Tyler (1991), studying the behaviour of business executives, concluded that they use automatic and nonconscious processes. Further, they believed that these processes drew upon ‘experientially established cognitive structures’. (Hitt 1991) We can see how significant tacit knowledge can be; these processes and structures were being used in making *strategic business decisions*. Later, Nonaka noted how people used stories, metaphors and analogies in order to share and communicate tacit knowledge. (Nonaka 1994) This sharing of oblique, or interpreted knowledge is central to the problem of complex knowledge management, since healthcare includes not only medical ‘evidence’, but also opinion and experience, particularly in relation to patient care. (Priebe 2002)

## CULTURE AND CLIMATE

Organisational culture is most often revealed in how it, and the organisation, is perceived by organisation members. (Schein 1999) In large healthcare organisations, and even within hospitals, it is to be expected that a variety of cultures will exist. (Helms 2001), (Hofstede 1990) Additionally, research seems to show that, whatever the type of culture, it will affect the perceptions of the staff. Similarly, major organisational changes will affect staff attitudes and practices, and this will affect culture. (Schein 1999) In the NHS (the UK’s National Health Service), a study during intense change was carried out by Litwinenko and Cooper (1994). They found not only that the proposed changes ‘cut across traditional beliefs and expectations held by the health-care worker’, but that all types of culture present in the organisation were changing. (Litwinenko 1994)

A critical element of nursing practice and knowledge transfer is ‘organisational climate’. (Brown 2002) This is associated with, but different from, organisational culture, which is the broad set of commonly held attitudes, beliefs and assumptions that characterise an organization. (Smircich 1983; Sathe 1985; Brown 1998; Schein 1999) Organisational climate refers to the ‘atmosphere’ that employees perceive in their organizations. It is created by practices, procedures and rewards, and may differ markedly from one hospital department to another. Organisational climate is also associated with shared emotion or feelings. This emotional dimension has been shown to be both a social influence on the behaviour of individual staff members and on their collective actions. (Brown 2002) As a result, Brooks and Brown identify ‘emotional climate’ as an important social construct in the interaction between staff. While their study does not specifically address knowledge

management or creation, it does make it very clear that individual and group self-identification both stem largely from stories and from shared experience. For students of knowledge transfer, this observation is highly significant. In a nursing environment, we have to consider not just the transfer of explicit knowledge, nor the passing-on of 'know-how' as defined by Nonaka (Nonaka 1991). We are also dealing with feelings and emotions which are sometimes very deep-seated and which contribute to the identity of the unit.

### MANAGING KNOWLEDGE IN MENTAL HEALTH

Scott (2005) in an informative paper on knowledge workers as part of a social network, makes some initial points: "Their daily work may be unpredictable, multidisciplinary, and non-repetitive. The jobs assigned to them have long term goals and, due to the relatively standard ambiguity and complexity of the task, require knowledge workers to routinely collaborate with co-workers to utilize multiple viewpoints to solve problems". (Scott 2005) This accords well with the observed pattern of work in mental health care; standard mental health nursing texts refer frequently to the need to act as a team, to discuss findings with colleagues, to prepare handovers for other team members as they come on shift, and to discuss issues with patients both within and outside of formal interviews. (Ward 1992)

This raises the question, not only of inter-staff knowledge transfer, but also of staff-patient knowledge transfer in a mental health setting. Traditional, authority based approaches to psychiatry changed markedly from the 1960s. (Clarke 1999) The non-judgemental counselling of Carl Rogers emphasised the acceptance of the client's behaviour and attitudes, underscoring the essential place that tacit knowledge, in its broad sense, occupies in mental healthcare. The work of rigorously post-modern psychiatrists like R.D. Laing in the 1960s threw the central position of tacit knowledge into sharp relief. Effectively, he deconstructed traditional medical discourse and offered an alternative vision where indeterminacy and paradox created unexpected but 'liberating' states of mind. (Clarke 1999)

Laing's approach to psychiatric knowledge was not dissimilar to Foucault's conviction that knowledge – or rather, the socialised use of knowledge - is a primary source of power. Like Foucault, Laing was of the opinion that the 'construction' of knowledge can be observed in the discourse that is employed by social groups, and that the discourse of the powerful can then 'deconstructed' to provide alternative interpretations of reality that will effectively give power to the disenfranchised. (Seidman 1998; Butler 2002)

Meanwhile, 'mainstream' mental healthcare has become increasingly evidence-based since the 1980s, though this should not be taken to mean that all evidence is simplistically statistical in nature. (James 2002) On the one hand, evidence based medicine has, and is, being used to demonstrate cost efficiencies and savings. (James 2002) On the other hand, the postmodern legacy has been to challenge the objectivity of 'scientific' medicine, and to highlight the evidence of patients. Laugharne contends that, though clinicians are educated in the scientific method, 'the practice of mental health care should not be a scientific exercise but an exercise in humanity, informed by ethical and moral choices'. (Laugharne 2002)

If evidence-based practice is being seriously questioned (or at least, the type of evidence is being seriously questioned) in mental health practice, where does that leave the issue of knowledge management in this area? Unsurprisingly, perhaps, researchers like Allard believe that progress in this area is inextricably linked with 'discovering the hidden assumptions and agendas at play in mental health research'. His call is for evidence that takes into account the 'value systems of Users/Survivors' (of mental healthcare). (Allard 2002)

### METHODOLOGY

Knowledge management is seriously studied within the healthcare environment, but it appears that comparatively little is discussed in mental healthcare, which appeared to use a large element of tacit knowledge. Also (speculatively) perhaps *because* other branches of healthcare can benefit so quickly and directly from the introduction of explicit knowledge management, general medicine and explicit knowledge handling have occupied a good deal of attention in the literature.

In order to form some understanding of the relationship (if any) between the available literature and the actual practice and perceptions of practitioners in mental health, it was decided to follow Churchill's approach and undertake an exploratory study. (Churchill 1991) A specific choice was therefore made to begin with a discrete unit. A mental health unit within a large general hospital in the U.K. was selected, and nursing staff were interviewed at intervals over a three month period.

In order to obtain a broad perspective, and to elicit staff's own views, it was decided to employ a mixed methods approach, in order to provide a degree of triangulation, as described by (Flick 2004; Hildebrand 2004). Central to this concept was the framework of grounded theory (Hildebrand 2004) on several grounds. Firstly, it offers a conceptual framework in which multiple data streams from literature, observation and narrative can be drawn together, through a recursive sense-making process. Secondly, it engages the contribution of practitioners and their perspectives, through both ethnographic and

phenomenological studies, for example. Finally, it allows space for the interplay between researcher and practitioner, in order to develop new, independent perspectives. (Leonard 2001)

Within a longitudinal timeframe as recommended by grounded theory concepts, the interviews were considered and assessed using a modified form of discourse theory. The exploratory nature of the research for example, did not permit extended time to revisit conversations more than once, in order to gain multiple and deeper insights into the emotional cognition of the 'actors' in the mental health unit. (Mangham 1998) On the other hand, some techniques of discourse theory proved very useful; to allow an interviewee, for example, to feel relaxed that when he was describing 'his world', his perception was as useful as the 'worlds' being described by others. Further, discourse theory allows the researcher to examine the 'positioning' of both himself/herself, as interpreter, and of the interviewee as storyteller. Both these positions are relevant to knowledge transfer and to knowledge creation, as they form the building blocks of mixed explicit and tacit knowledge. (Davies 2001)

Throughout the interviews, cognisance was taken where possible of non-verbal communication, in order to compare with the language dimension offered by discourse analysis. Within this area, attempts were made to compare non-verbal styles with task, authority, and gender roles. (Remland 2000)

## RESULTS

One of the most remarkable findings was the strength of feeling (i.e. emotional climate) surrounding the awareness of group identity. Comments such as "Mental health nursing isn't like anything else – even in the NHS, they don't realise how different it is." These comments were usually accompanied with non-verbal stresses of hand or eye movements, or raised voices.

Nurses also identify with the patients as much as with the concept of being 'clinical staff'. "When someone says they're depressed, we know what they mean. There's no point in telling them that they're not depressed, because that's a particular medical diagnosis, and they're suffering from something else". It appears that, mirroring de Pinheiro and Spink's findings (2004), meanings are being sought and negotiated, to avoid the therapeutic relationship becoming 'trapped into technical rationality'. (de Pinheiro 2004)

It became evident that this unit, so far as the nursing staff were concerned, were functioning as a 'community of practice' (Wenger 1998) - "Coffee breaks and hand-overs are very important. We talk about events and patients, but we're also saying to each other 'I know what it's like; we're all in the same boat'" - "The way we work is based on best practice – yes, obviously – but we have our own ways of , just signalling to each other that a certain patient is having a difficult day, or that a particular doctor is making some daft decisions". The interview responses offered all three of Wenger's community of practice dimensions: (1) nurses saw themselves as engaging in a joint enterprise understood and *continually renegotiated* by the members (my italics). (2) the mutual engagement had bound members (interestingly, patients seemed included too) into a social entity, and (3) it had developed a *shared repertoire* of communal resources (routines, sensibilities, artefacts etc) (Wenger 1998)

The relevance to knowledge management of this sort of community of practice is quite profound, and touches at the heart of the problem that sooner or later, Information Systems must deal with. The group – in fact, the human process that the group enacts – retains knowledge in "living ways", unlike a database or manual'. (Wenger 1998)

The ways in which knowledge is currently recorded are varied and regarded in different ways. At the moment, the unit has access to the hospital's PAS (Patient Administration System), though this is regarded with at best a degree of condescension. It is criticised as being often inaccurate and out of date. Therefore it is rarely relied upon, and staff use corroborating data where they can – usually from the patients themselves. Much of the 'useful' (i.e. according to the nurses) data is recorded on paper within the unit itself. On the one hand, the PAS is held in low esteem, but on the other hand, computing technology is seen to be advancing rapidly. Again, (perhaps defensively) staff question whether any form of technology can adequately capture the kind of knowledge they need to impart to colleagues.

## DISCUSSION

Though there is comparatively little written on the subject of knowledge management in mental health, there is no shortage of evidence. It is the nature of that evidence that poses problems for the researcher.

Strictly speaking, information systems need not be technology- or computer- driven at all. Most Management Information Systems textbooks will offer a definition that allows for the non-use, or the partial use, of technology. (O'Brien 2006)

The richness of the evidence surrounding the types of knowledge and the physical expressions of knowledge (e.g. individual behaviour, cognitive processes, work processes, PAS, handwritten notes etc) should not be seen as a problem for the IS

researcher, rather the beginning of the solution. Blackburn's principle of complementarity (described by Gray) – 'full understanding of a phenomenon requires the application of a number of complementary theories or descriptions' – (Gray 2000) helps us to move forwards by recognising that an array of interpretations of knowledge is probably essential in finding better ways of creating, managing and transferring it. Information Systems must be flexible enough to support these interpretations.

The Current Consumer View (CCV) used in New Zealand (see Introduction above) is very much like a 'proto-PBS' (Process-Based System), (Perry 2004) that shares similarities with groupware systems (Ciborra 1996) in terms of initiating processes, even if those processes are then continued outside the information system itself. The CCV is also significant, in knowledge management terms, as it provides the interface between the data management 'world' and the human, processual world of cognate functions, 'know-how' and emotions.

Since most other means of handling knowledge in mental health appear to be part of a process, or initiate processes, it would appear that the use of technology based systems with a process capability would be much closer to the way that staff seem to work. In other words, just as the CCV initiates, and to a limited extent enacts a process, so IS professionals might start to embed process within their systems wherever possible: not in a prescriptive way, but in a permissive sense, that enables the staff to select and use process, rather than just extract or load data.

## CONCLUSIONS

This paper has explored the interplay between explicit knowledge, and the extensive, often hidden environment of tacit knowledge. It has identified the importance of these issues in mental health care, as a work environment that utilises, and depends on, such tacit knowledge to a greater degree than medical nursing or many other professions. In doing so, it continues a perspective on knowledge management that has been accepted for a number of years already – '...we should consider the topic of information systems as more of a social science or a sociological subject, not simply a technical one'. (Galliers 1993)

While many vendors (CSE-Servelec; Graphnet Health Ltd; iSoft plc) are working on, or have produced, case work software for mental health practice, all have stopped short of consciously harnessing the potential of the deeply held, frequently unconscious, knowledge of nursing staff. The commercial judgements of the vendors are, of course, outside the scope of this paper, but it is worth looking at the problems they would face, since they are largely the same problems that the IS researcher faces when considering the role of technology-based systems in mental healthcare.

Firstly, there is the problem of identifying what the tacit knowledge is. Looking at the evidence so far, it is most frequently observed in behaviour, both linguistic and non-verbal. It is grounded in the organisational culture, which as we have seen may be quite specific in a small, tightly identified or geographically isolated unit. (Helms 2001) It is also grounded in the emotional climate of that culture, which may be even more specific. (Brown 2002)

Secondly, there are the technological problems of capture, storage and communication. Some of the case work systems (e.g. Graphnet) routinely use large data objects (x-ray images, scanned document images etc) and employ technological standards like XML to capture, sort and display a variety of data from many different formats.

Speculatively, it may be viable for staff to record their data as transcript, and use video / voice recognition software to encode the data as text, whence it can be easily used within conventional systems like EPR. This would leave the video/voice recording as an indicator for colleagues of the emotional content. On the other hand, such systems would perhaps be so far outside the established 'norms' of information requirements that it would be at direct variance with organisational culture, which as researchers have noted for many years, would result in very strong user resistance, quite likely leading to system failure. (Cooper 1994)

There is also the argument, proposed by a number of psychiatrists and mental health researchers, that the very act of 'fitting' data into neat classifications is problematic when trying to treat patients with mental illnesses. Without going to the 'extremes' of Rogers or Laing, such ideas are now becoming a part of 'mainstream' thinking. 'The more one takes account of human experience, the more difficult it is to utilise the language of diagnostics and therapeutics' (Clarke 1999) The argument can even be made then, that database-type classifications have dubious authority as knowledge, since each patient has to be viewed as a unique entity.

If knowledge in mental healthcare is heavily dependent on linguistics and behaviour, then what role can information systems realistically play? Should they simply be relegated (as they often are, and as the PAS in this study was) to the storage and retrieval of 'objective' data such as name, date of birth and address? Should mental health information systems instead be transformed from their (positivist, medical) linguistic basis into (subjectivist) semiotics-based systems? Probably not.

Firstly, information systems developers, in conjunction with users, need to be aware that far more knowledge is at work than can currently be managed technologically. Secondly, both parties should be aware, as they design systems, that especially in mental health, the medically-sanctioned terminology and process will exercise power both of action and of meaning over staff and patients alike.

Secondly, there is much that can be done to improve existing systems. Whereas the PAS in this study was effectively a straightforward 'transactional' system (Perry 2003) and therefore did little to support nursing processes, process-based systems like the CCV (Bloomfield 2005; Orr 2005) above can win considerable enthusiasm by demonstrating that they can act as an 'expert assistant' to the practitioner, to the point of becoming a 'virtual colleague'. As Maier and Remus point out, such process knowledge management (PKM) systems will, at a functional level, include '...personalization, contextualization...navigation from knowledge elements to people' (my italics). (Maier 2003) There is evidence that Process Based Systems enable organisational functions to run more easily, conveying not just data but knowledge, thus changing the normative expectations of users. (Perry 2004) This is in line with Tsoukas' suggestion that the use of knowledge is conditioned by the normative expectation of people's organisational function. (Tsoukas 1996)

To return to the paradigm of 'data-information-realization-action-wisdom': (Kakabadse 2003) if wisdom is the highest expression of knowledge, and is exercised by the operation of a purposeful will, then successful mental health interventions (by the nature of the knowledge exercised) require wisdom, and all the supporting dimensions of knowledge. The evidence seems to point to Process Based Systems, whether they are EPR, case work, or New Zealand's CCV, to be the most effective means of joining the tacit interpersonal dimension of practice with the explicit, medical and procedural dimension.

## REFERENCES

1. Allard, S. (2002). A User/Survivor Perspective: what's behind the evidence? Evidence in Mental Health Care. S. a. S. Priebe, M. Hove, Brunner-Routledge: 207-215.
2. Altschul, A. (1997). A personal view of psychiatric nursing. The Mental Health Nurse: Views of Practice and Education. S. Tilley. Oxford, Blackwell Science.
3. Bloomfield, S. (2005). "Advancing Mental Health Pathways." Health Care and Informatics Review Online(1st September).
4. Brown, A. (1998). Organisational Culture. Harlow, England, Prentice Hall.
5. Brown, R. B. a. B., I. (2002). "Emotion at Work." Journal of Management in Medecine **16**(5): 327-344.
6. Butler, C. (2002). Postmodernism: A very short introduction. Oxford, Oxford University Press.
7. Churchill, G. A. j. (1991). Marketing Research Methodological Foundations. Orlando, Florida, Dryden Press.
8. Ciborra, e. (1996). Groupware and Teamwork: Invisible Aid or Unnecessary Hindrance? Chichester, England, Wiley.
9. Clarke, L. (1999). Challenging ideas in psychiatric nursing. London, Routledge.
10. Cooper, R. B. (1994). "The Inertial Impact of culture on IT Implementation." Information and Management **27**: 17-31.
11. CSE-Servelec. Retrieved 28/2/2006, from <http://www.cse-servelec.com/>.
12. Davies, B. a. H., R. (2001). Positioning: The Discursive Production of Selves. Discourse Theory and Practice. M. Wetherell, Taylor, S., and Yates, S. J. London, Sage.
13. de Pinheiro, O. G. a. S., M. J. P. (2004). "Discursive practices and demographic participation: negotiating language in mental health." Journal of Health Psychology **9**(1): 55-71.
14. Doherty, N. F. a. P. I. F. (1999). "The Uptake and Application of Workflow Management Systems in the UK Financial Services Sector." Journal of Information Technology **14**(2): 149-160.
15. Flick, U. (2004). Triangulation in Qualitative Research. A Companion to Qualitative Research. U. Flick, Von Kardoff E., and Steinke, I. London, Sage: 178-183.
16. Galliers, R. D. (1993). "Research issues in information systems." Journal of Information Technology **8**: 92-98.
17. Graphnet Health Ltd. Retrieved 28/2/2006, from [www.graphnethealth.com](http://www.graphnethealth.com).
18. Gray, P. H. (2000). "The effects of knowledge management systems on emergent teams: towards a research model." Journal of Strategic Information Systems **9**(2-3): 175-191.
19. Helms, M. a. S., R. (2001). "Exploring the factors that influence employees' perceptions of their organisation's culture." Journal of Management in Medecine **15**(6): 415-429.
20. Hildebrand, B. (2004). Anselm Strauss. A Companion to Qualitative Research. U. Flick, Von Kardoff E., and Steinke, I. London, Sage: 17-23.

21. Hitt, M. a. T., B. (1991). "Strategic decision models: integrating different perspectives." Strategic Management Journal **12**: 327-352.
22. Hofstede, G., Neuijen, B., Ohayv, D.D., Sanders, G. (1990). "Measuring organisational cultures: implications for training and development." Administrative Science Quarterly **35**: 286-316.
23. iSoft plc. Retrieved 28/2/2006, from [www.isoftplc.com](http://www.isoftplc.com).
24. James, P. a. B., T. (2002). Influence of evidence on mental health care developments since 1980. Evidence in Mental Health Care. S. a. S. Priebe, M. Hove, Brunner-Routledge: 28-40.
25. Kakabadse, N. K., Kakabadse, A., and Kouzmin, A. (2003). "Reviewing the knowledge management literature: towards a taxonomy." Journal of Knowledge Management **7**(4): 75-91.
26. Laugharne, R. (2002). Evidence - the postmodern perspective. Evidence in Mental Health Care. S. a. S. Priebe, M. Hove, Brunner-Routledge: 53-57.
27. Leonard, D. a. M., R. (2001). "Grounded theory methodology and practitioner reflexivity in TQM research." International Journal of Quality and Reliability Management **18**(2): 180-194.
28. Litwinenko, A. a. C., C. L. (1994). "The Impact of Trust Status on Corporate Culture." Journal of Management in Medicine **8**(4): 8-17.
29. Maier, R. a. R., U. (2003). "Implementing process-oriented knowledge management strategies." Journal of Knowledge Management **7**(4): 62-74.
30. Mangham, I. L. (1998). Emotional Discourse in Organizations. Discourse + Organisation. D. Grant, Keenoy, G. and Osrick, C. London, Sage: 51-64.
31. Nonaka, I. (1990). "Redundant, Overlapping Organization: A Japanese Approach to Managing the Innovation Process." California Management Review **32**(3).
32. Nonaka, I. (1991). "The knowledge creating company." Harvard Business Review(Nov-Dec 1991): 96-104.
33. Nonaka, I. (1994). "A dynamic theory of organizational knowledge creation." Organization Science **5**: 4-37.
34. O'Brien, J. A. a. M., G. M. (2006). Management Information Systems. New York, McGraw-Hill.
35. Orr, M. (2005). "Knowledge management to systemic wisdom development." Health Care and Informatics Online(September 2005).
36. Perry, I. F. (2003). Making sense of the organisation's knowledge: does systematisation of the knowledge base have a positive or negative effect on organizational culture? HICSS '36 (36th Hawai'i International Conference on System Sciences), Hawa'i.
37. Perry, I. F. (2004). Knowledge as Process, not Data: the role of Process Based Systems in developing organisational knowledge and behaviour. Americas Conference on Information Systems
38. AMCIS-10 2004, New York.
39. Polanyi, M. (1958). Personal knowledge : towards a post-critical philosophy. London, Routledge and Kegan Paul.
40. Priebe, S. a. S., M. (2002). Evidence in the twenty-first century: the way forward. Evidence in Mental Health Care. S. a. S. Priebe, M. Hove, Brunner-Routledge.
41. Remland, M. S. (2000). Nonverbal Communication in Everyday Life. Boston, Houghton Mifflin.
42. Sathe, V. (1985). Culture and Related Corporate Realities. Homewood, Illinois, Richmond and Irwin.
43. Schein, E. (1999). The corporate culture survival guide : sense and nonsense about culture ch. San Francisco, Jossey-Bass.
44. Scott, P. B. (2005). "Knowledge workers: social, task, and semantic network analysis." Corporate Communications: an International Journal **10**(3): 257-277.
45. Seidman, S. (1998). Contested Knowledge: Social Theory in the Postmodern Era. Oxford, Blackwell Publishers Ltd.
46. Smircich, L. (1983). "Concepts of Culture and Organisational Analysis." Administrative Science Quarterly **28**.
47. Smith, J. (2000). Health Management Information Systems. Buckingham, Open University Press.
48. Tsoukas, H. (1996). "The Firm as a Distributed Knowledge System: A Constructionist Approach." Strategic Management Journal **17, Winter Special Issue**(1): 11-25.
49. Ward, M. F. (1992). The Nursing Process in Psychiatry. Edinburgh, Churchill Livingstone.
50. Wenger, E. (1998). "Communities of practice: learning as a social system." Systems Thinker(June).