Tacit Knowledge and Pedagogy at UK Universities: Challenges for Effective Management

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Abstract: This paper hopes to persuade readers of current thinking around Knowledge Management that more emphasis should be placed on tacit knowledge in management and its education and how it might be better communicated to students within universities and in organisations in general. It reflects upon what appears to be the predominant attention being paid to explicit knowledge in the curriculum and pedagogy of UK Universities which offer courses entitled Knowledge Management, and that this may be at the expense of more tacit knowledge 'management' approaches.

Keywords: knowledge management (KM) tacit knowledge; communication; pedagogy; curriculum; didactic v constructionist; university curriculum on knowledge management.

1. Introduction

Effective KM including tacit knowledge is about providing vital information for example on a global or even organisational direction, its risks, its competitive advantages, potential strategy, customers New Product Developments, macro and micro environments, and its competitors movements. It also has to attempt to encompass the unquantifiable nuances of our human existence and experiences which are ephemeral, incapable of being counted, checked, and stored or controlled.

Universities, educators and organisations have made tentative plans and perhaps some actions to address the transfer of tacit knowledge via formal communication, but these arguably are only partly effective and done for reasons other than what is crucially important. Some companies have been shown to introduce communication strategies for competitive reasons, some firms have introduced knowledge management because it's seen as the next new thing to do or because so called experts recommend it, or the CEO would like it. These initiatives are often criticised for being bureaucratic and done for their own sake or just following the rules. Knowledge Management has come in for much criticism for being' flavour of the month', pedestrian and only dealing with what can easily be accounted for, such as data bases and patent audits. Real and tacit Knowledge 'assets' are notoriously difficult to quantify, count, take stock of, control therefore pedagogical approaches within universities and control management within organisations that foster excessive didactic reductionism could be counter to good tacit knowledge 'management'.

1.1 Objectives;

1. Evaluate approaches to the management of Tacit Knowledge.
2. Analyse the requirements of business & commerce re managing tacit knowledge
3. Produce & evaluate the gap analysis i.e. the differences between provision and requirements re the 'management' of tacit knowledge.
4. Identify current curriculum models & practices within UK Universities re Tacit Knowledge Management (KM).
5. Look to new curriculum initiates which might be used to address the education of tacit knowledge and its "management".

2. What is tacit knowledge?

It is probably easier to say what tacit knowledge is not. It will not generally be found in books and journals or written down in particulars. It often incorporates the habits and cultures of organisations but it is also the 'stuff' only known by individuals. Before tacit knowledge can become explicit it has to be codified or articulated, the problem here is that most tacit knowledge is incapable of being codified or articulated and it's very difficult to communicate even if people felt they wanted or needed to. As Polanys (1958) puts it 'we can know more than we can tell'. Much tacit knowledge is without boundaries and seldom properly formulated or formalised in our brains. As O Dell (1998) puts it; "if only we knew what we know" .In the limited instances when it can be transferred to other active listeners, it calls for trust, face to face transaction and lots of time to do it. A considerable part of traditional apprenticeships were about inculcating unspoken norms and values

as well as the skills and explicit knowledge of being an engineer etc. One might argue that a large part of the extra curriculum activity and socialising which takes place within a university campus is of a tacit nature Much of the pedagogy was/is unspoken and deals with power, position and the tacit nuances of being, tacit knowledge in other words. The question remains, how can tacit knowledge be past on to others and can it be managed and if so how, while still remaining tacit?
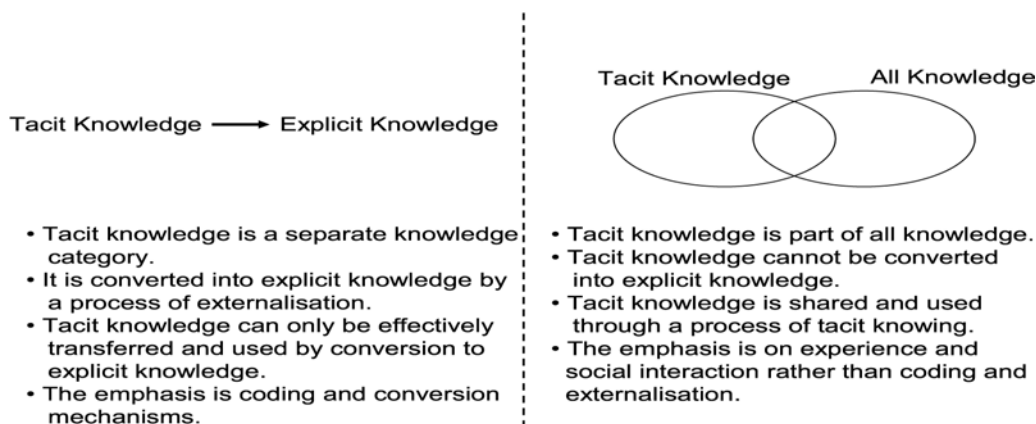
Figure 1: Tacit & Explicit Knowledge continuum. Source; McAdam. Mason B. McCrory. (2007)

Mc Adam & Mc Crory's Model emphasis the delineation of tacit and explicit knowledge but this can be problematic and arbitrary, often tacit can become explicit and on occasions vice- versa. Other models see Tacit Knowledge as a spectrum (Leanards & Sensiper (1998) with knowledge running from tacit to explicit or Ancori.(2000) who describes it as being like an Iceberg with the explicit above the sea level and the tacit 80%+ below the water line, The part that's hard to see but is responsible for sinking most ships that happen to bump into icebergs and correspondingly to use the metaphor of icebergs, the hidden part of communication which causes most problems for organisations.

3. Classical KM Methodology. Re Explicit

1. <u>Tackle the complexities:</u> attempt to place boundaries around the key issues and as far as possible see things in the round. If it's a really big problem attack it rather as you would 'eat an elephant' i.e. a bit at a time. Double Loop (Argyris 1992)the process using such things as 540 degree appraisals; that is manager's worker and customer feedback working together to tackle problems and develop solutions. Balanced Score Card (Kaplan & Norton (1996) is an example of a system that tries to get away from two people, usually the finance director and CEO making all the decisions. Project Management methodologies emphasising the importance of people as well as the ICT in coming to best solutions can help.

2. <u>Look for the next big Iceberg:</u> the obvious problem on the horizon, but recognising that many cannot always be anticipated,' life is what happens when you're busy planning the next project' as John Lennon put it. Organisations might use Scenario and, environmental scanning, 'listening, listening, listening' to paraphrase The former British Prime Minister, Tony Blair's; "Education .Education. Education"; to your customers, competitors, suppliers and anyone else helps to decide strategy. Carry out stakeholder analysis and risk assessment continuously.

Identify the major problems with the knowledge manager/s involved and tackle situations using <u>5C's:</u> and determine the 5W's (who, where, what, why, & how) of:

1. **C**ontributors, i.e. stakeholder analysis, team decisions
2. **C**lients, customer requirements and marketing research
3. **C**ommunication,
4. **C**ommissioners (team leaders & champions and key workers
5. **C**hecking using iteration. Monitoring quality, budgets etc.

4. Why is tacit knowledge 'management' needed?

The industrial economies outside of the B.R.I.C.K.'s(Brazil Russia, India China Korea etc the quickly developing countries) are probably on their last throws. We are very much in the Post Fordian' (Bell 74) & Ritzer (2007) age. So- called advanced economies now live on the fruits of what they know, rather than what they make, by and large. The larger part of modern economies are service based, examples of which are the finance, consultancy, advisors, tourism etc. Major manufacturing organisations more often now sub

contract, badge engineer, or buy up whole swathes of suppliers and distributors in upward and downward integration often in a Tran's global way. To take an example, the car giant Ford (as I mention a Post Fordian world). Ford sees making cars as some what incidental to facilitating the manufacture of them and of course attempting to make a profit or tourniquet losses. It has either bought out smaller, often more prestigious car brands and companies (Jaguar, Volvo etc and employed integration of its suppliers and distributors. Ford, as other global players has found, is in an over supplied hyper- competitive situation with a world glut of cars in the west and now looks to The B.R.I.C.K.'s to buy surplus stocks or go into joint venture factories in those countries. Ford, with others has had to find new markets and strategies that are often to do with using its expertise rather than actually making automobiles themselves. Expertise is often a form of tacit knowledge The B.R.I.C.K.s and others pay a premium for expertise, profit can be made from that expertise and not much if any from making the actual goods anymore, especially in the 'advanced economies' where wage rates are internationally uncompetitive. In fact taking the automobile industry as an example, few of the so called big players (Ford, General Motors, Renault/ Nissan etc) are making profits and several rely on state support. Not that profit is the only reason why tacit knowledge management is needed, but to restate, it is becoming the only thing we have that is unique, gives competitive advantage and on which we can support our life style, the one to which we have become accustomed. What will we do when The B.R.I.C.K.S. start to sell their expertise .We might have to find new, often tacit knowledge sources to help pay our way, we probably will! If tacit knowledge cannot be 'managed' we have to resolve the problem of getting tacit knowledge out into the open, translated into a useful form and employed for the services of human advancement, profit and service. Central to a large part of KM today is the use of ICT (Informational Computer Technology) in some cases to the exclusion of other emphasis. The days of achieving competitive advantage from ICT may be numbered.

When new solution using ICT first appear, lets take some historical trends; first there were simple databases followed by mainframes then PC's, now to today's ICT which is quickly being introduced (if not in already) such as EDI, (Electronic Data Interchange) bar code readers, RFID (Radio frequency identifier) and in the not too distant future voice and fingerprint recognition transactions. The trouble with these is they only give competitive advantage for a relatively short time and often only to the large organisations who can afford to be 'early innovators'. Quite quickly the technology falls in price and everyone has it, so its competitive advantages soon become lost. There is also something of a movement away from these sorts of technological solutions, witnesses the slowness at which people in supermarkets take up the use of the cashier less counters or machine like call centres in making their banking and insurance transactions, some financial institutes have recognised this and started to emphasise that their organisations have reverted back to using people and the tacit knowledge and expertise they have on a personal level.

5. Can tacit knowledge be managed?

Some definition of management is required here. If we take the Latin derivative word; 'manu', meaning to lead by the hand or the various definitions alluring to the control of actions, resources, (including records and the storage of facts) we are principally concerned with the tangible. Much of the action and role of management is about the intangible; leadership, motivation, communications, business ethics and corporate social responsibility, effective delegation etc are examples which rely on unquantifiable skills and qualities of managers which cannot be codified and explicated in a meaningful way .In this respect it is somewhat akin to tacit knowledge. Efforts to codify these human competences are open to criticism on the grounds of being arbitrary, unrealistic and highly subjective. In many cases they are incapable of being quantified, what exactly is charismatic leadership? often 'we only know these qualities when we see them'.(Wittgenstein) 'She's a good manager' is part opinion, part based on arbitrary notions of 'good' 'effective' and partly based on some measurable performances ascertained from actual figures or actions delivered. Again there are some similarities here with tacit knowledge. As Hager & Farrel. (2001) put it 'tacit knowledge is too ambiguous and closes off any further enquiry given the nature of its ambiguity' Because we cannot precisely measure intangibles should that preclude us from attempting to manage them?

5.1.1 *"If we attempt to do what we have always done, we will only get what we have always got"*

Tacit assets cannot be managed in the traditionally accepted way with the emphasis on 'control of resources' meaning of management. Far too much of it is uncontrollable, un-codeifiable, even unexplainable, we will probably only know it when we see it, to use Wittgenstein again. The whole question of managing tacit knowledge needs a new approach, some of it based on counting the measurable resources and other means by which we lead and action the ephemeral. We might have to start considering building our ships from iron, traditional management of tacit knowledge resources might be rather like continuing to build ships out of wood .Where do we start,? Well not from what we do now most probably. Much creativity encompass

inverting the present arrangements to produce the very opposite of what we do or know as a means of finding solutions. Such a so called creative exercise when applied to tacit knowledge management might look something like; let all control go, don't keep records, don't try to quantify skills and competences,' we will not know it when we see it', (To turn Wittgenstein's quote on its head). Don't try to decide what 'good', 'effective' 'resourceful' etc are. Stop counting, quantifying, judging, controlling and assessing. Look again at the whole idea of motivation, communication they are often mere superficial constructs only.

We now know the human brain does not operate at all like a filing cabinet. Tiny electronic impulses across the brain pathways, though not completely random are not how we construct or think our existence operates. I say this because much of our approach to management and the 'management' of tacit knowledge appears as a glorified filing exercise. To use some synectics (copying nature) creatures in the wild share their tacit knowledge in ways we have not yet understood, but instinct seems to play a part, These ephemeral, serendipitous movements seldom appears as management skills or are seen as part of a whole module within university business schools for example. Project Management methodologies emphasising the importance of people as well as the ICT in coming to best solutions can help but can still rely too heavily on the explicit to the exclusion of the tacit.

6. Can tacit knowledge be taught?

Several writers argue that tacit knowledge can be facilitated, but with limited effect using didactic means. Constructivists reject the idea there is one universal empirical reality, we all come to our own 'meaning making system 'that we develop through our own experience of life' (Armstrong S.2001) Constructivists critique didactic approaches as being too linear and prescriptive but those who tend towards a didactic approach can show evidence of where constructivism is not always effective and would say it depended on the student, their learning style, motivation and well being. Sternberg R.J. (99) suggests tacit knowledge should be practically useful, sighting the use of case study, simulation, with actual personal experience as best. Armstrong (2001) recognises the appropriateness of a contingency approach and the use of a 'middle road' which encompasses didactic and constructivist approaches to teaching and learning. Any curriculum needs to be a 'springboard to further personal development and not an end in itself and that knowledge comes from rich experiences in varied situations (Armstrong 2001).

> *(Chickering A). 1 One rat: no toys.*
>
> *(2003) 2 One rat: with toys.*
>
> *3 One rat: toys changed weekly.*
>
> *4 Several rats: toys changed weekly.*
>
> *5 Several rats' toys changed weekly each rat removed from cage daily and lovingly stroked. The learning curve goes up steadily from 1st to 4th condition, but 5th condition generates a 25% greater gain in rat intelligence .Very likely this is the case for humans too.*

'Powerful learning occurs when all our senses are engaged and that our emotional well being is essential to intellectual functioning'. (Chickering.A.(03) Chickering's list contains elements of the explicit but much of it is "tacit" in terms of what and how the rats learn and develop.

Humans are essentially a plane dwelling ape, with their major centres of nerves and stimulation responses in the hands, mouth and eyes, our hearing is relatively poor and our sense of smell is even worse, especially compared to those of most other mammals.

It perhaps stands to reason that the better part of our learning will take place through our most effective senses. We generally remember, for all our lives how to ride a bicycle, cook or play an instrument; those things that have involved our five basic senses especially touch. We remember some of what we see and hardly anything of the vast proportion of things we hear. The point is, lectures and didactic teaching in the main is prone to being quickly forgotten, if it was ever really understood in the first place. The same is true for many managerial practices,

This includes communication. Learning also involves conscious and unconscious processes and is enhanced by challenges, hence the effectiveness of learning using problem solving. Personal projects and the chance to apply concepts to students' own situation/s are also shown to be an effective ways of teaching and learning. Regular tests to show learner's strengths at representing information, concepts and principles in varied formats that are connected to the real world. Teaching from 'the known to the unknown', i.e. incorporating prior and current experiences. A curriculum that encompasses independent learning, encourages diverse ways of knowing, is interactive and collaborative appears to be best practice. Learning

experiences that encompass, the use of community based research, apprenticeships and group projects. In point of fact most institutes of higher learning attempt these but I argue these are often in a piecemeal, bolted on way. The practice in most universities of presenting a one hour lecture followed by a 2/3 hour seminar is common and is not, the writer argues, usually conducive to tacit, holistic learning, which ticks all the boxes as described re the transfer of tacit knowledge. Many would say its not so good for the non tacit/ explicit learning either.

7. An appropriate curriculum for Business Schools re the transfer of tacit knowledge?

The pedagogy in many universities including business schools tends to be a hybrid of leftovers from the nineteenth century. A part 'Oxbridge', content consisting of what was seen as important for the ruling classes to differentiate and maintain their exclusiveness and privilege (Burke..(99). There are aspects of The 'Sabre Tooth Curriculum' (Benjamin (1939) which can dominate, whereby, despite being out of date, vested interest groups continue to teach things which are no longer relevant or useful and fail to see its inappropriateness to the changed surroundings e.g.. those of increased competition and accelerated change we experience in today's world. The syllabus of most professional business/management examination bodies, contains theory and processes which are at best, months out of date and often delivered to undergraduates who have limited experience or real understanding of their content in a meaningful way. The course content delivered by business schools contains, out of date, sequential and 'deterministically' taught subjects offered in isolation (e.g. marketing, finance, accountancy, change management, entrepreneurship, Knowledge Management HRM etc).

There seems to be a preoccupation with seeing the world in neat patterns, capable of being analysed often using 19 century empiricism and reductionism. There is an excessive 'widgets 'approach (i.e. From the manufacturing age ,"widgets", a common term for consumable items such as white goods i.e. washers, fridges, freezers etc) which can be processed, stored, counted, marketed and controlled relatively easily. There seems to be some obsession with counting so called assets; I'm reminded of the poster at the back of the staff room door; "Just because you keep weighing the pig, it doesn't make it any fatter" as a reminder to tutors who used to be involved in MCI's NVQ's(National Vocational Qualifications) and what appears to be its obsession with assessment and verifying competences to so called arbitrary national standards of what competent managers are supposed to do.

Our economy and lives are increasingly less to do with what we manufacture and more about what we know and how that knowledge might be 'managed' to best affect. Knowledge Management starts from the realisation that knowledge which *is* useful, is not just data, or just information and it isn't in a form that can be easily stored, counted and retrieved. Its tacit nature precludes it being kept in a convenient location. It's seldom on tap nor is it just in the heads of our 'betters', be they ruling elites or managers or workers. Useful knowledge neither is predominantly linear, deterministic, and found in convenient 'pigeonholes' nor is it easily internalised or communicated.

Within universities one might argue, there is an excessive use of examinations, lectures, ceremony and other 19-century leftovers. Potential students requiring specific topic/s and solution/s have to have the full and often inappropriate content specific to their needs, challenges and likes. A consumerist approach to knowledge may lead to a rather instrumentalist slant on what we know, knowledge for a strict uniform purpose being given an exclusiveness and cache at the expense of informal, irrational, anarchistic and ephemeral understanding which often gets considered as in appropriate and of less or little value.

8. Tacit knowledge transfer versus constructivist and didactic approaches.

The transfer of knowledge as described above falls into a category which can be categorised as constructivist. (Berger & Luckman (66). Syllabuses, delivery mechanism which is 'suitably logical', mostly teacher led using props and aids of a formal and sequential nature. They are often at the expense of actually getting students to think for themselves (Bereiter & Scardamaha) (93) and to communicate those thoughts, often the bedrock of knowledge.

Pressure on universities e.g. (The UK Govt Policy to get 40% of 18-30 year olds into level4 by 2010) (The Leitch Report) is helping to push education on to a near industrial level which can only be satisfied using large scale delivery platforms (mass lectures, seminars, ICT. supports) what Torff . (99) describes as the ' Cognitive Economy' helping to maintain an 'external epistemology' that is to say learning which is largely

directed from above rather than from students own personal development and little if any tacit dimensional considerations. Polangi (58) remarks that tacit learning is more important than explicit learning in terms of what students manage to pick up from sessions .Martin (2002) describes the experiences of a teacher of entrepreneurship whose whole body language and quite a lot of her actual spoken communication gave off the vibes of someone who ultimately saw entrepreneurship as difficult, hard and exploitationary, and as can be expected were the very non specified tacit learning points that were taken up by her audience and remembered and internalised rather than the stated learning objectives of entrepreneurship. Martin (2002) goes on to emphasise that teaching institutions need to not only take account of what students should understand, but how they might understand it'. Universities in the UK tend to prioritise the 'what' rather than the' how 'in these matters and that tacit learning perhaps does not get the consideration it requires and deserves. Tacit learning and Tacit Knowledge are inextricably linked and finding ways to communicate them are central to KM that could help save the planet and other vital considerations for us all.

Clearly there are mechanisms to try and ensure students acquire critical & evaluative skills, and it is not all didactic. Dissertations, assignments, entrepreneur hot houses etc but even these can appear to be induced rather than self formed on the learner's part and often prescriptive rather than at the students own, empowered directive and with little if any slant towards the use of tacit knowledge even where it can be 'Instrumentalised'.

Models concerning learning and intelligence and what is seen as a suitable pedagogy tend to emphasise a one dimensional attitude and often fail to recognise 'multiple intelligence' (Gardner. (03) or Emotional Intelligence (EI) categories (Epstein.(98) .EI & Multiple Intelligence include tacit forms of understanding and learning. Central to tacit knowledge and potentially the management of it, needs to understand how people forge beliefs, and their subjective views with the new.

9. Organisational learning and tacit knowledge

Discussion related to any difference between Organisational Learning (Schon 85) and The Learning Organisation (Senge 90) is immaterial to this paper, whichever you wish to prescribe, prescription seems to be the order of many institutions, whether they instigate formal training and developments, apprenticeships, management development schemes, CPD (Continuous Personal Development or whatever. Single Loop, (Argyris.(96) Top Down approaches seem to reign. The 'Learning Organisation' is essentially antithetical; "to learn is to disorganise and increase variety, to organise is to forget and reduce variety" (Weick and Westley (1996). Nonanka (91) argues that tacit knowledge "cannot be formalised", but he does acknowledge that successful knowledge creating companies build bridges between the tacit and explicit knowledge resources; the former can often become the latter, indeed several Knowledge Management texts suggest it should do (Bartram.(2000) et al.

There are plenty of examples of what seems the ridiculous becoming the solution.; imagine making ships from iron, something that quickly rusts and is heavier than wood .That would have sounded a stupid suggestion in the age of wooden sea faring ships, but it became the norm. In most cases any innovation and new solution will be anarchistic, ridiculous, from the far flung regions of the tacit imagination in the first instance. If only it wasn't so difficult to allow and communicate. It was someone's tacit knowledge that recognised the superior R.D. qualities of iron for making ships in this instance. It was a lot of people's tacit knowledge that recognised many years ago, that man could be destroying the planet.

Organisational Learning in the post bureaucratic (Heckscher 94) era is not that different from what has gone before. A difference in emphasis perhaps, more self surveillance and self control (Sewell and Wilkinson 92 on JIT/TQM) many would argue that 'Taylorism' is far from dead, with growing globalisation, standardisation and greater use of controlling computer technologies and conformity. The so called Knowledge Economy organisations seem to rely more on attempts to 'codify and commodify' (Grey (01) their explicit knowledge assets than harness tacit knowledge for advantage.

10. Communications and tacit knowledge

Most writers on communication emphasise the need for it to be a two way process. From Karl Popper' (72) to the Double Loop Learning model of Argyris (1992).They show the limitations of poor feedback mechanisms that are slow or fail to understand the nuances of language and personal agendas. What is in peoples' heads is not often what is completely communicated. The barriers to effective communications are well documented, ranging from the physical barriers of noise, distortion and language, to the psychological barriers of cognitive dissonance, politics/power perception, information overload, grapevine effect etc. On a

practical level inappropriate organisation structures (see Fig 2) with managers and workers hoarding information, "email tennis", endless and often pointless meetings that are poorly structured, chaired and has no real communication happening in them. An obsession with keeping data rather than crucial information, and at the next level, really important information which can be used to gain competitive advantage or…. save the planet to go back to the introduction of this paper! Pareto Analysis applies as to how much real useful information an organisation has a handle on. 80%+ of data is useless. Organisations often think their data is or will be useful; on its own it's absolutely useless and often clogs up the efficient processes. 80% of the useful data is often not instantly accessible, nor is its importance understood for the purpose of going onto the next level where data might be turned into really useful information. 80% of that possible useful information is not agile or really cutting edge. The final level to get onto, for this 'useful' information is for it to be appropriate to good decisions being made, thereby creating competitive advantage or saving the planet; that tends to be far less than 20% of that already screened, if it's been screened at all.
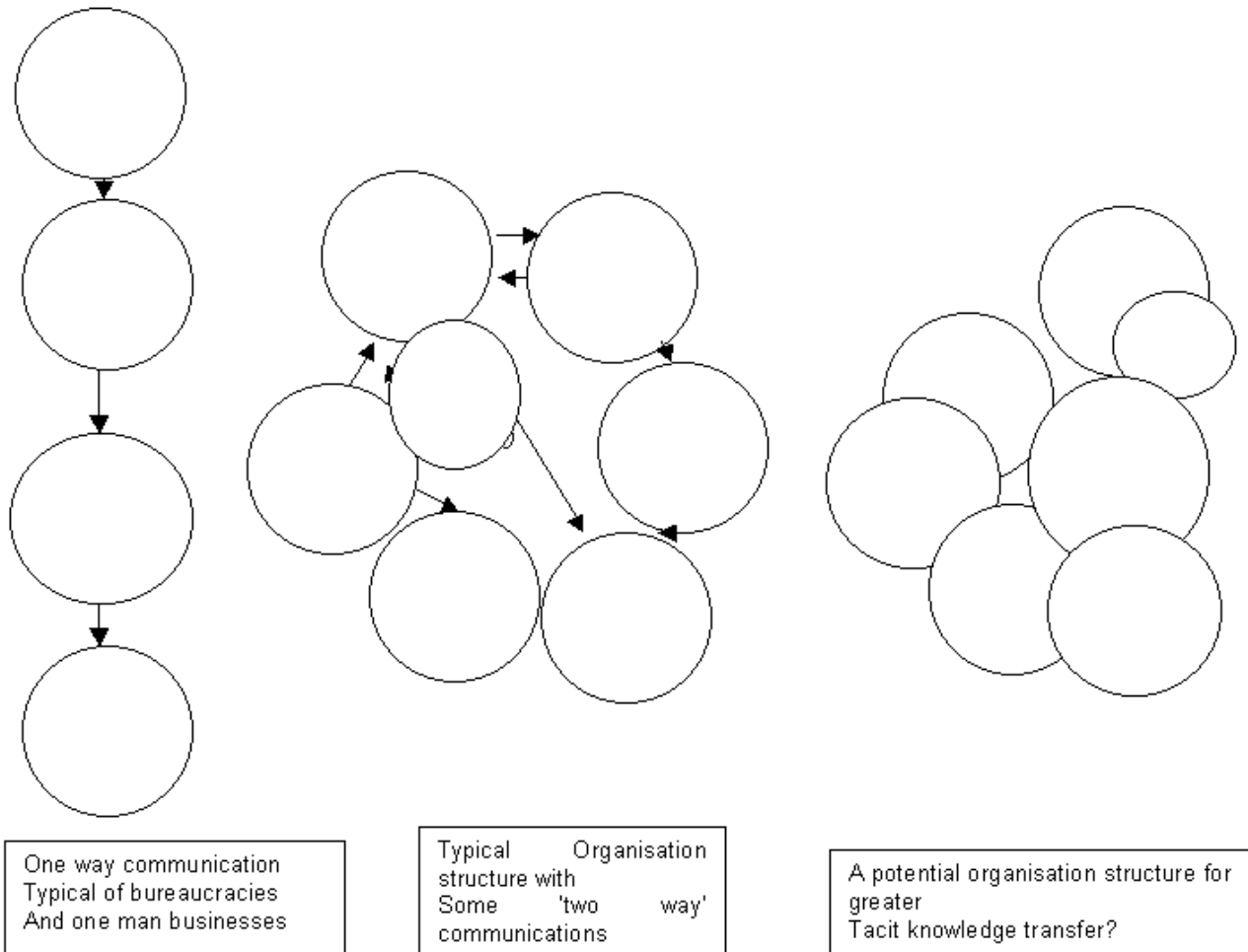
The other problem, well documented in knowledge management texts, is that really crucial information is tacit, not filed or easily extracted and its mostly found in the most unlikely place and time without us knowing its there and more often without the appropriate means of extracting it. (The salesman, cleaner and car park attendant often have more tacit information than the CEO about many aspects of some organisations but are so often not in on the communication loop, nor is their tacit knowledge acknowledged or listened to.

Using Frozen Gateaux as an analogy (see fig 2). Imagine a frozen dessert only partly thawed out for a dinner party, just as the guests are ready to have that course. The top of the gateau (metaphorically the management), issue edicts, policies and procedures down to a frozen middle layer, (metaphorically middle managers), who fail to pass it down the organisation because of all the usual communication failures. Similarly communication from the thawed out base of the cake; (the workers / operatives), find their communications getting frozen out in an upwards direction, again by middle rank service operatives. Senior managers seldom get to know the full picture or hear the tacit knowledge and similarly those at the bottom. Some communication goes around via the thawed out bit i.e. those near the outside part of the gateaux, this is often via the grapevine, with all its potential for distortion and noise. The middle ranks don't wish to psychologically or physically bar from free movement up or/and down the organisation, messages, it's just the nature of many institutions and their modus operandi. It's often not helped by the organisations' structure (fig3)
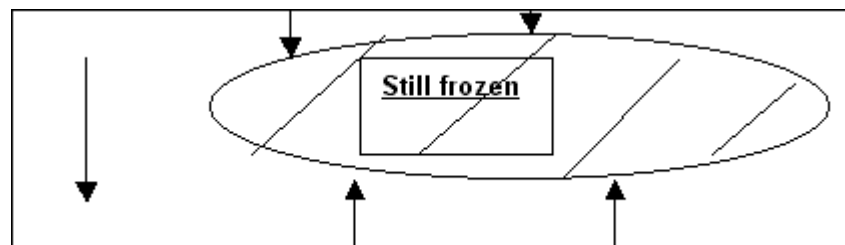
Figure 2: The frozen gateau model of communication

It is relatively easy to produce a checklist which is supposed to facilitate effective communication; flat open structures,(see Fig 3), Involvement and Participation strategies, message systems that encourage fast feedback loops, meetings that are well managed and serve a real purpose with minutes, agendas and actionable pointers, effectiveness of communications surveys with staff etc but they tend to deal much more with the explicit.

One way communication	Typical Organisation	A potential organisation structure for
Typical of bureaucracies	structure with	greater
And one man businesses	Some 'two way'	Tacit knowledge transfer?
	communications	

Figure 3: Organisation structures/communication networks

Classical KM could be summed up using Nonaka & Takeuchi (95)quote; 'Socialisation elements of the Knowledge Spiral Model which calls for the location and acquisition of external explicit knowledge, which is then communicated to others within an organisation, is then internalised ,contextualised to the local situation, shared with further external knowledge requirements acquired and stored'.

Allee (2000) believes intangible knowledge grows every time a knowledge transfer takes place- 'the knowledge is multiplied up as it is shared'. 'Effective KM connects knowledge activities to processes that add value, just capturing, stockpiling and transferring knowledge is not enough' Seeley(02).All of this is far easier said that done. It tends to sound prescriptive, simplistic and appears not to take account of the human elements; politics, fear, envy, greed, power and the other deadly sins. The deadly sins are often staples of tacit knowledge, 'managing' it calls for completely different approaches.

11. Curriculum models within UK universities ref knowledge management ; findings (see Appendix 1)

An analysis of subjects going under the heading of Knowledge Management within UK Universities shows a pattern of thinking which is to do with thoughts in this paper so far.

In most cases the pedagogy tends to be delivered in discreet areas with some but limited thrust to make it interdisciplinary or holistic. Of 17 Institutes of HE(Appendix 1) researched, the predominant theme appears to see KM as a bolt on to Informational Computer Technology (ICT) or organisational learning. As could be expected, some common themes such as 'Typologies of knowledge', 'Intellectual assets and their auditing', 'research methodologies' etc are common to most programmes. Several appear to add onto topics common to business schools such as creativity, innovation, change management, corporate culture, CSR& ethics, HRM and even Customer Relations Management. This paper is not meant as a criticism of business schools per se and their curriculum but rather as a reflection on what these organisations see as the way it should be done, and perhaps expedient in their use of available resources e.g. lecturers whose specialised area of

research etc can relatively easily be joined onto the general banner of; Knowledge Management. With reference to university courses offering Knowledge Management in their title, a quick glance at the table (Appendix 1) reinforces the notion that there is an emphasis on the explicit, reducible, 'left brain' course curriculum and a rather, empirical and didactical emphasis in the pedagogy as evidenced in university course brochures, websites and course information sheets. From the literature available, only one institute appears to use an interdisciplinary approach to the subject of Knowledge Management. All the courses are subject to HEFC funding requirements and therefore depend upon having to set official and centrally driven assessment criteria .There is not a sense of any offering serendipity, chaos, creativity and dealings of an unstructured nature. Ones which this paper argues are the stuff of tacit knowledge.

12. Curriculum initiatives for tacit knowledge management

Universities have taken steps to use' techno centric' as well as 'learning centric' approaches to help them in their mission e.g.' the furtherance and advancement of knowledge and understanding ' and the personal growth of students together with some vocational content centred upon economic independence of students and their future careers etc . KM strategy starts from the basic question of 'what do we want any Knowledge Management to do and often involves approaches to mustering the 'explicit',' tacit' and 'potential knowledge' an organisation may possess. It should then go onto using it successfully, which in the case of institutes of HE, (to take a Bentham's Utilitarian view i.e.' the greatest good for the greatest number') approach to tacit, explicit and potential knowledge and what ever those may mean to each individual student and using them for the betterment of those individuals <u>and</u> for society in general.

The following are examples of how institutes of learning often engage in text book KM that is to say, auditing their knowledge assets, they;
1. 'Create repositories of research interests and results'.
2. 'Identify commercial opportunities from that research and findings'.
3. 'Have repositories of curriculum improvements'.
4. 'Delineate, list, describe etc best practice'
5. 'Decide lessons learned e.g. from course reports, students feedback questionnaires etc'.
6. 'Creating Portals of teaching and learning using ICT e.g. Black Board'
7. 'Have repositories of interdisciplinary learning'.
8. 'Create hubs of information.'
9. 'Create repositories of assessments'.
10. Use emerging technologies etc (Source :University check List)

We could argue that these instrumental and somewhat reductionism initiatives help to improve the student experience and college management but in the main, they are ways of managing the explicit rather than the tacit knowledge, which to repeat, is, largely personal, often context specific, difficult to formalise, communicate and transfer. The list mainly contains processes which are, relatively easy to formalise, communicate and transfer, but perhaps miss out on what Nonanka (1991) emphasises as important i.e. 'the need to build bridges between the tacit knowledge and explicit knowledge', in essence, knowledge auditing on its own is not enough.
 A good part of university curriculum is related to the requirements of society and by inference business requirements; as business and its components are intertwined with society at several levels and therefore reflected in university curriculum;

13. The requirements of knowledge management by business and organisations

Svieby (2001) addresses 10 Knowledge Strategy Issues. 'Organisations will ask the following;
1. How can what they know, satisfy customers, suppliers and stakeholders and how can it be applied?
2. How can organisational processes be integrated to satisfy customers for the mutual improvement of the business and stakeholders?
3. How can the organisation maximise its capacity to add value for the whole system?
4. How can competences be transferred between people better?
5. How can we add value to what we know from our customer's suppliers and stakeholders in order to maximise shareholder value?
6. How can we integrate individual's competences into the whole system?

7. How can we learn from customers, suppliers and stakeholders?

8. How can we support customers' suppliers and stakeholders better?

9. How can the organisation communicate more effectively between customers' suppliers and stakeholders?

10. How can the organisation improve individuals' competences so as to benefit the customers' supplier and stakeholders?'

If we were to ask most organisation managers, we would get answers on those lines but in more stark terms 'The customer is always right and we try to satisfy', 'we monitor competitors prices', 'We are always trying to drive down costs and use Continuous Improvement initiatives', 'We try to support our people with regular training, annual performance appraisals and suggestion schemes' and all the other managerial phrases and day to day operations. The above list tends towards an explicit knowledge bias. The writer would like to propose a similar list with a bias towards addressing tacit knowledge issues;

1. How can we get into the hearts and minds of our customers, workers and stakeholders?

2. What do customers and stakeholders really think, deep down about our processes etc?

3. Is the maximisation of resources and profit really worth it.?

4. Is the organisation really open and what does being open mean for us?

5. What are psychological barriers to openness and sharing?

6. How can we best open up all our information to one another?

7. What am I doing to not pollute/destabilise the planets eco system?

14. Approaches to 'managing' tacit knowledge

There are means of improving communication such as networking, applying job rotation, cross functional teams, chat rooms, brainstorming. Good management is seen to apply Involvement and Participation strategies (I&P) such as devolving decisions to the front line and utilizing local knowledge. Using team approaches to solve problems and instigate change does help gain the participation of people and listening to the end user in the design of products and services helps. Organisations that build a culture which embraces change, learning and sharing can help to improve the transfer and accumulation of tacit knowledge. These approaches involve communicating both explicit and potential knowledge but importantly tacit knowledge too. No initiative is without costs, easily installed, or without some ripple effect to the organisation .They often suffers from the law of unexpected consequences, can be seen as simplistic, arbitrary and subjective and introduced in ways that destroys trust and harmony. Some managers see these management initiatives as fashionable, perhaps the next best thing to do rather than for any real strategically planned reason or necessity, any one of them can lead to having to expend a lot of energy for poor returns.

15. Gap Analysis of KM
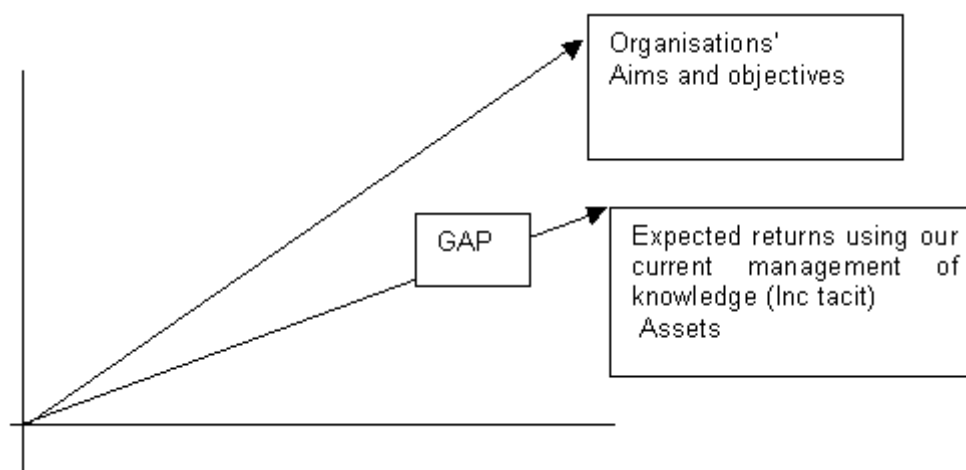
Applying the above Gap Analysis Model and taking Svieby's (2001) list above as a starting ground for most organisations' i.e. The Aims and objectives of what they need from knowledge (including the tacit) assets and comparing that with what they get from existing KM measures, this paper proposes that there is a probable gap which we could look to fill. Indeed the gist of it is, that a larger part of that gap could be caused by an inadequate consideration of tacit knowledge sources and perhaps some 'management' of it would benefit. The more explicit knowledge aspects can be partially gained from the initiatives listed on pg 9 (CPD training etc) and approaches to managing knowledge listed on pg 11(University check list). Tacit KM might need further fresh and creative approaches.

16. Filling the tacit KM gap

Socialisation in our early childhood experiences mould our behaviour, attitudes and beliefs and this pattern repeats itself through university, our working lives and onwards. Further socialisations occurs; including our first days at work and the culture of that organisation is imbued in an unspoken, tacit fashion, to the new starter from the minute they arrive, the building, its contents, the friendliness or otherwise of the introductions and myriad of other non verbal cues. Most communication and what we learn are not from what is spoken, but from rich pictures of interdisciplinary experiences. The explicit knowledge assets lend themselves generally to being translated and assimilated into the organisation via the formal measures; brainstorming T groups, training and inductions, CPD (Continuous Professional Development etc. These are probably less than 20% of the total needed or desirably internalised and transferable to the 'useful' category. The writer proposes the gap be filled by measures which address the way we learn i.e. interdisciplinary, serendipitously, via all our senses, but mainly through doing. (Touch) and reinforced by practice and play. Most tacit knowledge is passed on in this way anyway, Educational and institutional requirements to make the transfer of all knowledge didactic, prescriptive, instrumental and reductionism, can run counter to our ways of being, assimilation and well being. Management is not an appropriate concept in its accepted sense when dealing with tacit knowledge, it's like herding a lot of cats, in terms of how our knowledge builds up, is transferred and then internalised for use later. Better to let it happen in its own way; but that calls for structures, cultures and managers that are prepared to sit back and not attempt to micro manage the unmanageable. That is not to say organisations should do nothing to influence tacit knowledge assets given their importance, but to recognise that their influence cannot be of a controlling nature, but more of facilitating one.

Children learn to learn within institutions with early schooling, then colleges and universities. That learning is unlikely to satisfactorily take place if it is micro managed fails to allow free spirit and play and is predominantly one dimensional (didactic etc.) There is an interesting study comparing school starting age (Sharp.2002) across countries .Formal education starts some two years before most other countries in the UK and the nature of that nursery and primary education is more structured and involves less 'play' than particularly Scandinavian schooling for example. When it comes to measuring UK children in academic attainment they do not appear to perform any better indeed a small scale US study suggests that more formal schooling may lead to experiencing more problems as adults than those who experienced a play based curriculum with more opportunities to choose their own learning activity.

17. Initiatives within H.E for transferring tacit knowledge

Management is rarely about handling one simple problem or issue at a time; by its very nature it will encompass several at any one time; managing people, resources, information and money etc together in one scenario. Where possible therefore the business school curriculum should attempt to mirror that reality in its pedagogy.

Initiatives that may help bridge explicit and tacit knowledge within universities include; experiential learning involving holistic teaching, Action Learning, Double Loop (Argylis.). Strategies designed to provide evaluative learning (Bloom 56), Incidental Learning (Handy. Mumford. et al) Accelerated Learning, and those involving complex problem solving in actual context .These approaches may address the problem of excessive didacticism but often leave us the problem of how they can be verified, tested, accredited and valued for their own sake and not just seen as fun, and lacking rigour.

Management occurs in many ways and situations, not just within industry and commerce. Mothers manage their children and families, counsellors manage their clients etc. Management scenarios occur in many areas and in many ways, lending the 'teacher' and institutes to perhaps look again at the pedagogy and epistemology. 'Management' in its broadest terms, occur in novels, tragedies, films, television programs and so on. There have been numerous films dealing with leadership, motivation and all the other categorised, managerially coppiced headings but in a holistic context .For example, Shakespeare's' King Lear' is a 'management story', about a leader (King Lear himself) who could not delegate effectively, trusted the wrong people, made bad decisions, became obsessed etc(Egan. (2000). Most people have probably come across a manager with some of those traits to a greater or lesser degree. These can present a perfect background for teaching management subjects although the problems of validity, rigour and so called legitimate education are political questions and not for this paper. The other advantage of offering management courses that are prepared to deal with multidisciplinary complexity is that it could appeal to many more niche markets of students e.g. those interested in film, literature, TV, sport etc.

18. Conclusion and recommendations

This paper argues for a realignment of Knowledge Management and its education to take account of the importance of the tacit knowledge to and within organisations and society. Tacit knowledge, by its nature is anarchistic and serendipitous and any so called management of it is likely to be the same. It appears that most teaching of KM within UK Universities fails to reflect the elusive and transient nature of knowledge and attempts to place it in a common curriculum and pedagogy which the writer argues could be fraught with negatives. Organisations that will, and do prosper in the growing knowledge economy might need to look to new, serendipitous, and open structures, to take advantage, as more of their gap in knowledge is likely to come from tacit sources. To accommodate, universities, may need to offer a pedagogy which encompasses more of the holistic, serendipitous, anarchistic nature of much tacit knowledge. In any case the freeing up and more holistic approaches would benefit education in H.E. in general and KM in particular.

It begs the question of what is the relationship between KM in organisations and within education particularly HE? What can one manage and what can one "teach"? Arguably both, but some things happen better in "ordinary life" perhaps extra curriculum activity which can be perfectly suited to the development and "management" of tacit knowledge.

There is still a place for didactic learning for specialist subjects more involved with counting and reductionism ; finance, statistics etc ,others more akin to tacit knowledge aspects could make greater use of serendipity through play, drama, novel, film, action learning, apprenticeships and accelerated learning strategies.

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Appendices

Possible curriculum scheme for KM within universities

Accelerated Learning workshops to impart key KM principles etc
Major ongoing interdisciplinary case study on KM
'Apprenticeship' to local business/organisation/ entrepreneur applying KM
Project.
Action Learning sets aligned to project & 'apprenticeship'.
'Applying Mozart, film, the novel, etc to KM'
Applying ICT to tacit knowledge sources
Specialist option (marketing finance HRM etc)
Serendipity

Appendix 1: UK universities offering courses with knowledge management in their title

KM Course emphasis	Bradford	Cranfield	Glasgow C	KMCI	Lancaster	London Met	Loughboro	Middlesex	Monash (Aus)	Northumbria	Oxford	Open BS	Paisley	Portsmouth	Robert Gordon	Surrey	Westminster
Intellectual assets / law						√			√		√		√	√			
Data Mgt ICT		√			√	√		√			√	√	√			√	√
KM tools /processes/frames	√	√			√	√			√	√	√	√					
Creativity/innovation			√							√	√		√				
Organisational Learning	√					√							√		√		
Strategy / change mgt	√									√			√				
Culture ethics					√											√	
HRM					√											√	
Personal Reflection/ PDP										√							
Research Methodologies										√			√	√	√		
Information security											√						
Customer relations											√						
Leadership/decision making							√										
Business process analysis		√															
Communications											√						
virtual working/e economy										√			√		√		
Risk management				√										√			
Finance							√										
programme		MSc			MA	Msc		Msc		MSc				MSc	MSc	MSc	MSc

Note: The chart is not meant to imply those topics not ticked against a university are not taught either in other courses or even within the title in them. They are meant to imply of Knowledge Management programmes the emphasis, as extracted from the universities prospectus web sites and course handbooks/contents