

Harnessing the power of 'mindfulness' in microsystems

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1

Agenda

- Introduction
- Individual mindfulness
- Macrosystem mindfulness - normative patterns/habits of thinking
- Microsystem mindfulness
- Cultural entrapment
- An example and some closing questions

2

Assumptions

- Everyone knows how hard it is to be "attentive" or "mindful" after lunch
- Most of you have had a chance to read or skim the pre-readings
- You are willing to think along with us about the topic at three somewhat arbitrary levels of system - individual, macrosystem and macrosystem - even though they may not equally present themselves to you daily

3

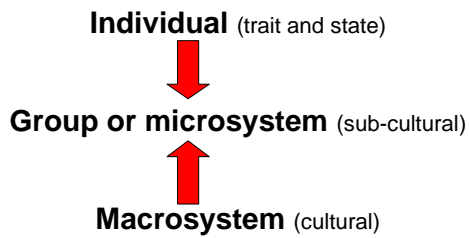
Johann Sebastian Bach is reported to have said, when asked how he found melodies:

"The problem is not finding them, it's—when getting up in the morning and out of bed— not stepping on them."

P. Goldberg
[The Intuitive Edge](#)
1983

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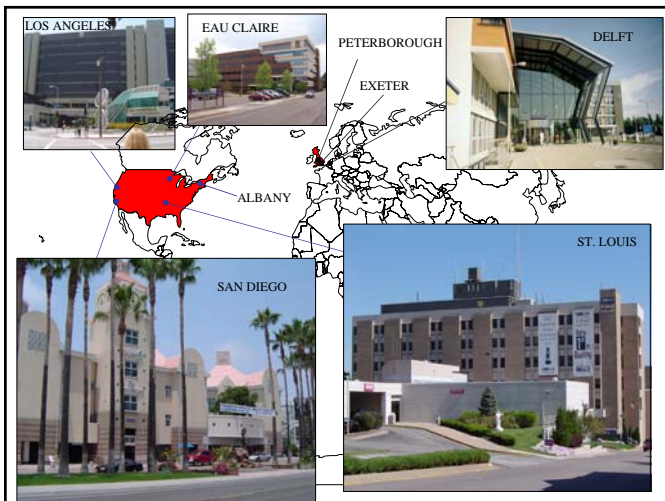
Mindfulness can be found at three levels of the “system”



5

Establishing the relevance and importance of mindfulness

6



Case study sample

- **United States**
 - Albany Medical Center (AIDS Treatment Center)
 - Cedars-Sinai (Emergency Department)
 - Geisinger Health System (Rheumatology)
 - Luther Midelfort Mayo Health System (Critical Care Unit)
 - San Diego Children’s Hosp. (Allergy & Immunology)
 - SSM St. Joseph’s Health Center (Intensive Care Unit)
- **Netherlands**
 - Reinier de Graaf Groep (Flow Varicies - Vascular Surgery)
- **United Kingdom**
 - Kettering General Hospital (Accident & Emergency Services)
 - Kings College (Breast Unit)
 - Peterborough Hospitals (Radiology Services)
 - Royal Devon and Exeter (Orthopaedic Centre)

8

**Getting a feel for what we
are talking about**

Demo

9

**We 'see' with our minds as
well as our eyes**

“Out of sight  out of mind”

“Out of mind  out of sight”

10

**We don't see things as they
are, we see things as we are.**

Anaïs Nin
The Diary of Anaïs Nin
1969

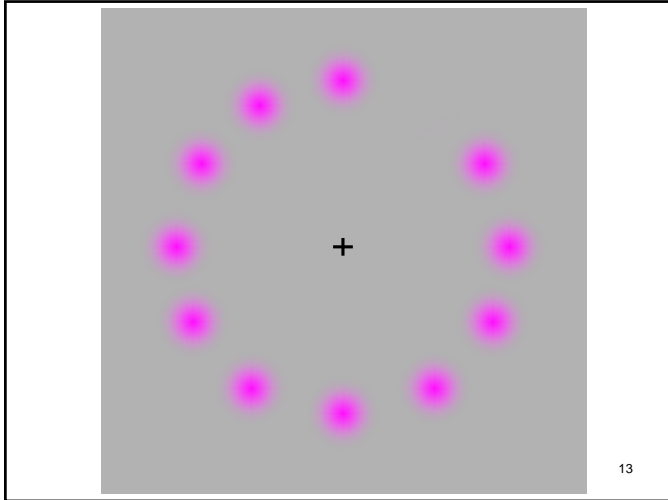
11

'Inattentional Blindness'

(Simons & Chabris)

- “Observers who are engaged in attentionally demanding tasks often fail to see unexpected objects or events.”
- We 'see' not with the actual eye but the 'mind's eye'
- “A way of seeing is also a way of not seeing” (Poggie)
- Perversely, the more you attend (be mindful) to one thing the less mindful you become to something else

12



“The research is showing us something that we didn't think was the case - that we can fail to perceive very major things going on right in front of our eyes ...In contrast with a lot of research on visual perception, these studies are truly surprising for both scientists and lay people because they're so at odds with how we assumed vision worked.”

14

It gets worse

Research on how pilots in flight simulators perform while using head-up displays has shown that when experimenters put something unexpected but important in pilots' field of vision, such as an airplane on the runway, pilots often miss such objects (Christopher Wickens)

So, what are the implications for health care specialists and experts, and how does the microsystem deal with these inevitable blindspots?

15

A working definition of mindfulness

- 'Falling awake' / wakefulness
- Active vigilance: 'Being present and alert'
- Non-judgemental awareness; 'listening with your bones'
- Cultivating intimacy with the ordinary and mundane
- Cultivated ambivalence: a refusal to accept
- Wisdom is simultaneously knowing and doubting
- "A little voice that says 'look again, maybe it's not as it seems.'"
- 'Certain about your doubts, doubtful about your certainties'
- Putting the frighteners on common sense

16

HOW MANY TIMES A DAY DO YOU INTERRUPT YOURSELF?!

17

To sum up

To me it's a form of cognitive and cultural intelligence.

Defined as:

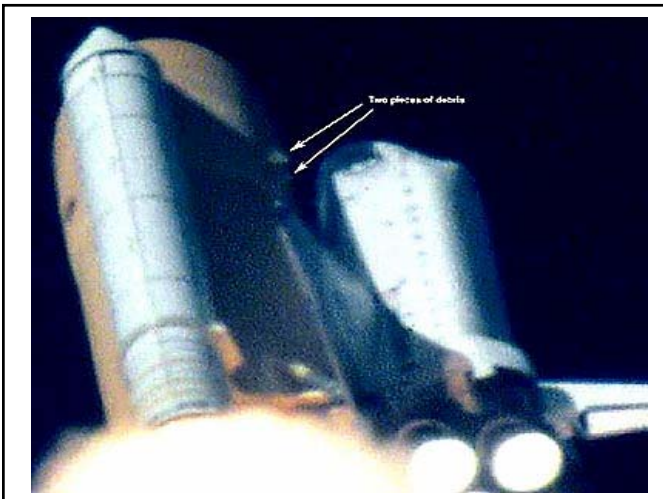
The ability to make sense of and manage a complex, unpredictable, equivocal world.

Also positively associated with:

- Creativity (Langer, 1997)
- Innovation (Vogus & Welbourne, 2003)
- Safety (Knight & Klein, 2004; Vogus, 2004)
- 'Customer' satisfaction (Knight & Klein, 2004)

But lower volumes and turnover! (Knight & Ziegert, 2005)

18



The chilling importance of mindfulness

"[In the disaster] We can trace the fate of an equivocal perception of a blurred puff of smoke at the root of the left wing of the shuttle, 82 seconds after takeoff. Units and people within NASA made sense of this equivocal perception in ways that were more and less mindful. This variation in mindfulness led to processes of interpreting, abstracting, and negotiating that often preserved misunderstanding, misestimation, and misidentification rather than corrected it. Had mindfulness been distributed more widely, supported more consistently, and executed more competently, the outcome might well have been different." (Weick, 2005)

20

Mindfulness at the individual level

“Who did you have in the shower with you today?!”

John Kabat-Zinn

21

“We are thinking 24x7 but are totally unaware. Next time you're in the shower check and see you are there! You may not be there. You may be in a meeting or the whole meeting may be in the shower with you, and you may be having a helluva argument with someone not there - but you're not aware of the shower head. But this moment *is* your life and yet up to 90% of it may be this kind of mindlessness. We need to re-inhabit our lives”

“Going to the doctor's and being there but not 'seen'. According to the medical record the patient was seen - but by whom?! This is not a luxury but the core of the Hippocratic oath. It says 'show up', be present”

(Jon Kabat-Zinn)²²

Mindful Meditation: mindfulness as a particular way of engaging with the world

- ‘Awareness is the key’
- Deconditioning: unlearning automatic habits of mind and body
- Mindfulness is about *discernment* – all the gradations between black and white – not *judgement*
- Honour mindfulness, nourish it, feed it

23

Mindfulness at the individual level

Individual mindfulness is “a heightened state of involvement and wakefulness or being in the present” (Langer and Moldoveanu 2000).

4 domains associated with mindful thinking:

- **Novelty-seeking:**
An individual who seeks novelty perceives each situation as an opportunity to learn something new
- **Engagement:**
An individual who scores high in engagement is likely to notice more details about his or her specific relationship with the environment
- **Novelty producing:**
A novelty producing person generates new information in order to learn more about the current situation.
- **Flexibility:**
Flexible people welcome a changing environment rather than resist it.

SO HOW DO YOU SCORE ON LANGER'S PERSONAL MINDFULNESS SCALE?²⁴

Table discussion

Share your scores with one or two others and consider the question 'what can we do - individually and collectively - to improve mindfulness in ourselves and others?'

(Feed back 3 main points)

25

**Mindfulness is a discipline and an attitude of mind ...
[requiring]...curiosity and courage to see the world as it is rather than how one would have it be.**

R. Epstein
"Mindful Practice"
JAMA Sept. 1, 1999

26

Mindfulness can be found at three levels of the "system"

Individual (trait and state)

Group or microsystem (sub-cultural)

Macrosystem (cultural)

27

Mindfulness at the macrosystem level

- Collective mindfulness is a set of processes which "create a rich awareness of discriminatory detail and facilitate the discovery and correction of errors capable of escalation into catastrophe" (Weick, Sutcliffe, & Obstfeld, 1999, p. 81)
- Mindfulness is the hallmark of the High Reliability Organisation (HRO)
- Organizations that are high in collective mindfulness are able to perform reliably in circumstances of high risk and uncertainty.

28

Five processes contribute to mindfulness

1. Pay more attention to failures than success
2. Reluctance to simplify interpretations
3. Are just as sensitive to operations as they are to strategy
4. Organise for resilience rather than anticipation
5. Allow decisions to migrate to experts wherever they are located (underspecification of structure)

Combine to produce organisational mindfulness, a characteristic of complex organisations operating in 'tightly coupled,' high risk situations
(Weick & Sutcliffe)

29

Or is it less than five?

- Fiol and O'Connor (2003) suggested that there are likely only three processes: reluctance to simplify, commitment to resilience, and preoccupation with *both* success and failure
- And Knight & Klein (2005) that a four-factor structure best fitted their data (with factors 4 and 5 combined)

30

The HRO is a particular kind of culture

1. *A preoccupation with failure* is a belief that the system is flawed; errors and mistakes are likely and risky
2. *A reluctance to simplify interpretations* is a belief that tasks and environment are complex and simplifying this complexity is risky
3. *A sensitivity to operations* is a belief that everyone has a handle on facilitating error detection, and contributing to the bigger picture
4. *A commitment to resilience* is a belief that all errors and mistakes cannot be prevented, but quickly detected, can be contained and their escalation avoided
5. *Deference to expertise* is a belief that decisions should be made by those with the most relevant expertise, regardless of their hierarchical position

31

"These may sound like odd ways to make good decisions, but decision-making is not what HROs are most worried about. Instead, they are more worried about making sense of the unexpected. In that context, (the five processes) make perfectly good sense ... They are important because they preserve detail, refine distinctions, create new categories, draw attention to context and guard against mis-specification, misestimation, and misunderstanding. When abstracting is done more mindfully, people are better able to see the significance of small, weak signals of danger and to do something about them before they have become unmanageable."

(Weick, 2005)

32

“Rather than being content with existing strategies and protocols, employees in mindful organizations continuously reevaluate and renegotiate standard practices.”

(Weick et al. 1999)

Might all of this equally apply to the microsystem?

33

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34

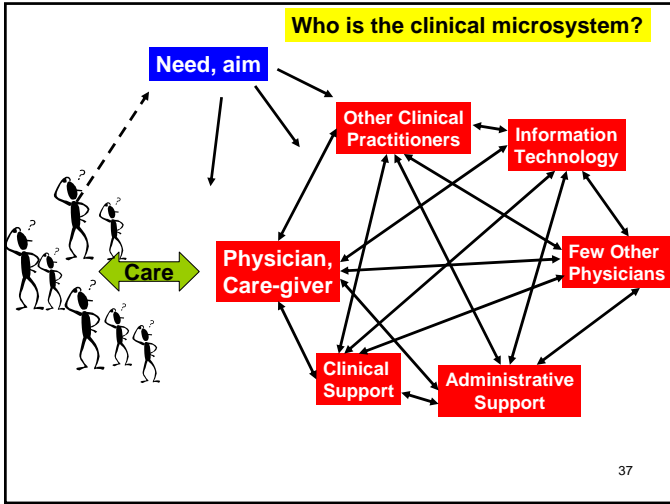
Mindfulness at the clinical microsystem level?

35

Recall that a “clinical microsystem” is...

- Small group of doctors, nurses, other clinicians
- Some administrative support
- Some information, information technology
- A small population of patients
- Interdependent for a common aim, purpose

36



Connecting Weick, Sutcliffe to a clinical microsystem we know well...

Surveys

38

So what?

What might you begin to do about what you've realized about "mindfulness" in the microsystems of your work?

39

Mindfulness, Behavioral commitments & Cultural entrapment

Does this stuff matter?

40

The Bristol Royal Infirmary 'heart baby' scandal

41

BRI reconstructed a history of excess deaths and transformed it into a history of excess complexity....which persisted because layers of officials above had had a say in setting up the situation and they were hesitant to put their judgments into jeopardy.

42

How does this work?

- An exposed person seeking perfection, reluctant to admit fallibility, and who feels vulnerable.
- Vulnerability persists until a justification can explain away adversity.
- What begins as a plausible justification becomes dogma, partly because of its importance.
- Dogma precludes learning & improvement.

⁴³
Weick & Sutcliffe

A "behavioral commitment" requires...

- an elapsed action
- socially acceptable justification for that action
- potential for subsequent activities to validate or threaten the justification

44

“Justifications” are...

- Not simple individual self-justification or defensiveness.
- A “rationalization done within socially acceptable bounds.”
- The rationalization works because it is deemed culturally appropriate.

45

Essentials of a culture of entrapment in the tragedy of the Bristol Royal Infirmary

- **New, complex field**
- **Small numbers of disparate patients**
- **Own patient logs served as the relevant, reliable sources of data...& were interpreted as revealing a pattern of complexity**
- **Time pressure**
- **Tenacious justifications—which helped make sense—also made it harder to learn, harder to discontinue the actions, easier to spot confirming information**

46

One way to [minimize this risk is to]... make the interdependencies involved in medical work more explicit...this feature makes the biggest difference in performance improvement.

Weick and Sutcliffe

47

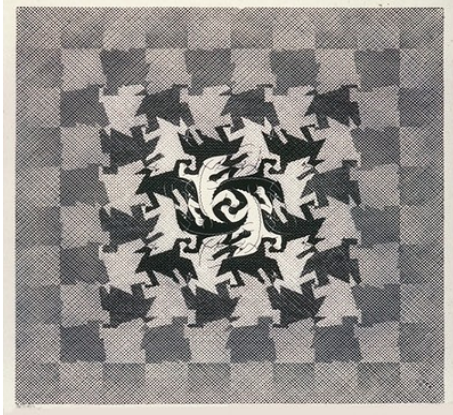
Microsystems in meltdown: the contraction, suspension and/or collapse of sensemaking

The dynamics of failure (including research in once successful organisations)

- Ideology and mission become dogma: 'isms and 'ologies
- The Castalian culture: isolated and arrogant
- A powerful inner logic takes over: a whirlpool, vicious circle black hole of thinking
- Narrowing of interpretations and choices
- Equivocal signals are interpreted in acceptable ways (rationalisation and normalisation)
- 'Escalation of commitment to a failing course of action'
- Loss of control

Organisation comes off the rails!!!

48



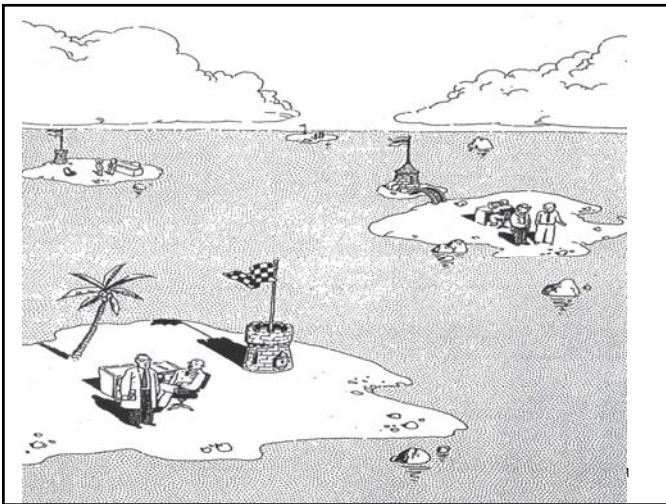
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The dreaded C word

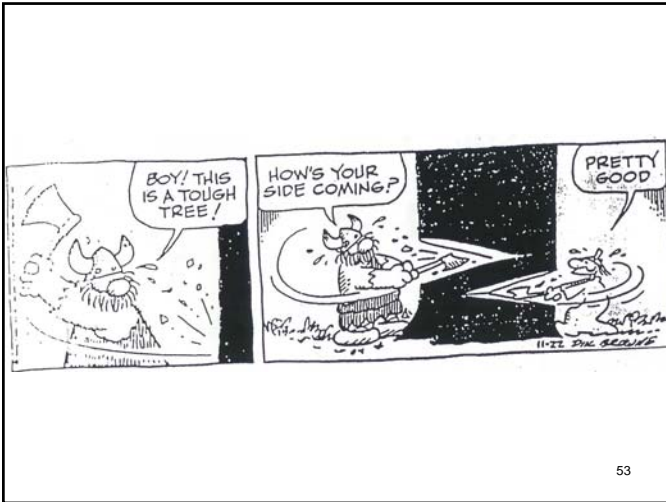
"Culture is rather like a black hole: the closer you get to it the less light is thrown on the topic and the less chance you have of surviving the experience." (Keith Grint)

"Culture is like gravity: you only discover it when you try to jump six feet in the air." (Fons Trompenaars)

50



52



What are some of your microsystem's positive and not so positive mindsets – its 'isms?

54

Ending on a high!

The Allergy & Immunology
microsystem at
San Diego Children's Hospital

55

Photographs of San Diego Children's Hospital removed

56

Microsystem = Microculture

A culture:

- of mindfulness
- that is passionately patient - and peer - focused
- in which one never accepts anything as typical or 'standard', which is always ready to challenge the 'obviousness of the obvious'
- that never accepts the senior person is always right
- of 'no blame'
- of pride (but never arrogance and complacency)
- that says this is our patient not my patient
- which constantly asks is there an even better way of doing this?
- based on learning
- of 'open talk'

So, how near or far is your microsystem from this – and should it be?

An attitude of 'mindfulness': seeing the zebra

"Medicine is cookbook up to a point, and then every single person is different ... They may have pneumonia but also they have this other underlying problem which is why they have pneumonia. You can't just fill out the pneumonia pathway and say ok, I'm going to give this patient drug x and they're going to get better."
(physician)

So, what do you have to do to avoid 'missing the zebra'?

58

The mindful physician

"They are great at 3 in the morning when you are half asleep. I think pathways are good in the right context. *I think they are useful if you already know what you are doing, you've already thought about differential diagnosis, you already know your treatment options.* Then it's a good thing; you're not going to forget to do something; you're not going to forget to wean off oxygen; you're going to check box so it's going to happen; so nobody's gonna stay in the hospital longer than they need to be there because oxygen wasn't weaned at 10 am because you didn't read that order. It's good for that part of it ... But I think the danger of pathways is *you just don't think about it.* You know it's there, you calculate the drug doses, you check your boxes, you sign your name, you walk away and it's done. You haven't necessarily thought about other things the child could have, other tests that might be useful. Sometimes you just take them at face value, you don't ask 'why am I doing this now?'"

So, how do we nurture mindfulness in clinical staff?

59

The mindful nurse

"The nurse is the one that spends the time at the bedside with the patient. On a 12 hour shift the nurse will spend 5, 6, 8 hours with that patient interacting. We glean a lot of information and as a nurse I can look at something and I'm doing, even in my regular life, I'm just doing a quick assessment of everything, that's just part of our... a good nurse's process is you're surveying the whole situation - even though I'm talking to you I can still be analysing data and looking at the whole picture. I'm talking to you, your child is here and establishing... today, I'm Cathy but I'm also looking at the patient, the colour's good, is he breathing okay, yeah okay his oxygen's on and I'm just sort peripherally also assessing those things, especially with children. You want to talk to their parents first and that they see that you have talked with their parents, their parents aren't scared, before you turn and then deal with the child. So that's just one of the little round about ways to get in ..."
(Cathy G, senior nurse)

So, how do we nurture mindfulness in clinical staff?

60

Mindful as opposed to mindless use of care pathways

“They are *done* better. People keep up with the literature. They also *challenge* the pathway. They put the references down at the bottom and so you can go back to the literature, and say maybe that’s what it says in your pathway but I don’t believe it, or you know, this paper is flawed and I don’t know whether I am going to do it this way, or this is a great paper and I hadn’t seen it and this is the way I’m gonna practice. So I hope that is why pathways work here because people *think* about it. I don’t think you could put anybody here to check off boxes or multiply numbers and get the same utility out of pathways.”

So, what might help foster *challenging* the pathways you regularly follow?

61

A culture of mindfulness

“Do you know what, I’ve never seen this algorithm [for the care pathway] before (laughs). *I just do it in my head*. You know, I read the literature, I learn from Dr B, I watch other people. I don’t learn how to take care of patients from an algorithm someone hands me. In other departments the algorithms are much more visible and a lot more come through, but as far as like quality of care and the people that give the care, I mean it’s excellent here. Most people are trained to think about it, so even if you’ve missed it and filled out the box somebody else might say why are you doing this? Why not do this, or maybe you need another test, or maybe you should wait? I think that’s a matter of where you are and what sort of institution it is ... I think it depends on your environment.”

“A lot of times *we will all look at a pulmonary function loop* and we’ll think, you know, was this effort? Was it really that there’s something wrong or was the kid just not feeling well that day, they’re coughing during it? What’s going on? We’ll take the flow loop to who did it and say what do you think is going on, and then you would have the answer you would never have from looking at a piece of paper.”

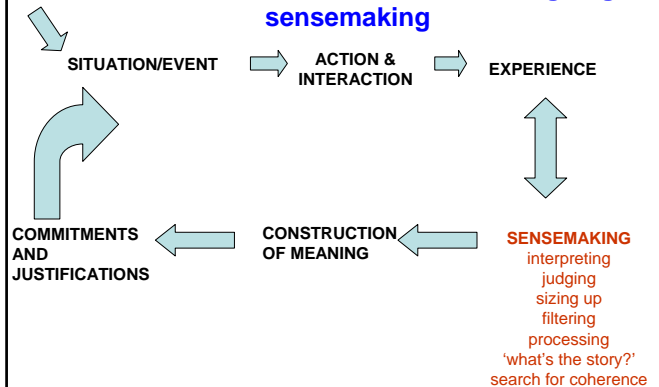
So, does the evidence support more discretionary freedom or more discipline?

The importance of team sensemaking

“And sometimes you get so attuned to “I need to treat that, I need to treat this” that you kind of forget the outer fringes or the big picture because you focus in on your piece of the picture and you’re trying not to make a mistake. And that’s why you need that kind of team concept because sometimes, while we’re focusing on this, the nurses will pick up on other things that they’ll bring to our attention so we can kind of redirect and go back and address that issue.” (Physician’s assistant – Marlys Christianson, 2005)

So, we need more of a team approach but what about the old argument that a ‘camel is a horse put together by a committee’?

The heart of mindfulness is active, ongoing sensemaking



64

“Organisational sensemaking is a fundamentally social process: organisation members interpret their environment in and through interactions with others, constructing accounts that allow them to comprehend the world and act collectively”

(Maitlis, 2005)

Where are the social interactions in your microsystem, and wider macrosystem that could be used more effectively for “sensemaking?” How might you begin to be more intentional about that?

65

Mindfulness is also about tacit knowledge and experience-based knowledge

“The attending physicians go home so we have just the necessary base staff at two in the morning. The resident house staff are calling Thelma... They know that Thelma is over here and she knows a lot about, well not everything, but most things. So if you need a resource and you don't know where to turn, and you don't want to wake up a physician at two a.m., you know Thelma's on. And you're going to call Thelma and say, Thelma, I have this question: can I run it by you? ... The other units also draw on her knowledge and expertise”. (Nurse)

So what are the barriers to following the “expertise” in your microsystem?

66

“Sometimes I can't tell you, if you're the physician, that the heart rate is different or the specific hard signs are changing to tell you 'This patient's not doing well.' A lot of it is intuitive.

I know this patient. Something's not right. I'm missing it, I can't tell you what it is, but I'm seeing subtle changes. Let's deal with it now instead of waiting hours or a half a day later until the patient goes into code status or stops breathing.

And I just know. ... And that's kind of some of the big successes that we do really well here. We're not on the news. The T.V. cameras don't come for that, but that's what we celebrate within our unit”. (Nurse)

So, how can we blend the intuitive and the explicit knowledge?

Sensemaking and mindfulness as the key to microsystem effectiveness

“From closer in, the view of organisation associated with continuous change and improvement is built around recurrent interactions as the feedstock of organising, authority tied to tasks rather than positions, shifts in authority as tasks shift, continuing development of response repertoires, systems that are self-organising rather than fixed, ongoing redefinitions of job descriptions, *mindful construction of responses in the moment rather than mindless application of past responses embedded in routines*, and acceptance of change as a constant.”

(Weick & Quinn, 1990: 375)

So, what helps you stay “mindful in the moment” in your microsystem?

68

So much for the what, but what about the 'how'?

It is easy to become more aware; it's sustaining and keeping it up that is the hardest

69

Improving microsystem mindfulness: technical systems design

Tools and rules from the Design Sciences that make something more usable with fewer human errors and a better experience:

- Resilience engineering (Woods, 2005)
- Improving user-system interactions (usability and interactivity)
- Immediate feedback principle
- Progressive disclosure principle - keep what users need to know to do something to a minimum
- Using forcing functions to prevent errors - make the user do something that prevents (or makes unlikely) some type of mistake e.g. car ignition keys
- Think from the user in: write the pseudocode your users would want to write, and then make it work with as few additions as possible.

70

Improving microsystem mindfulness: social systems design

- Playfulness, humour (including self-parody); and 'funology'! Humour relies on a shift from mindlessness to mindfulness

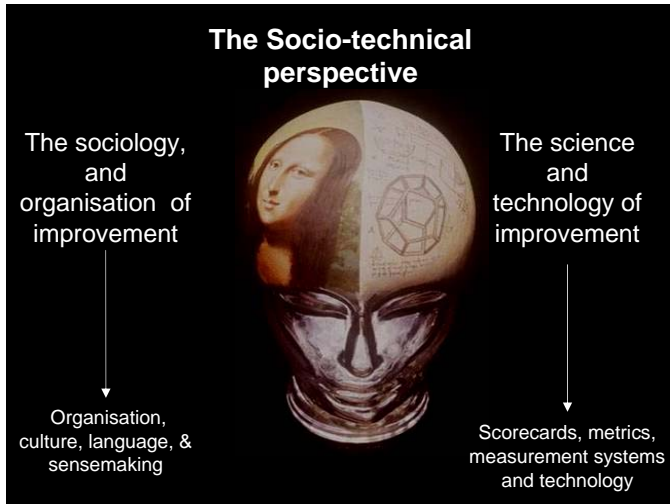
"When the artists and sculptors I know work, there's a sort of free play idea. You try things; you experiment. It's kind of naïve and childish, it's like kids in a playpen. Scientists work that way too - for example, genetic scientists that I have been involved with seem to work similarly. It's kind of like throwing things out and then following the idea, rather than predicting where you're going to go." (Frank Gehry)

- 'Interpretive practice'; being obsessively 'other-centric'; mentally putting yourself in someone else's place ('emic' v 'etic'); immersion and empathy
- Storytelling, narrative and counter-narrative: stories are how we make sense of our experience
- Practising too much can lead to mindlessness, therefore deliberately improvise, even if just a little

71

- Peer mentoring, coaching and critiquing
- Slack and 'safe havens' for reflection - 'periods of silent exploration'; interrupting and debriefing yourself!
- Lots of talk by experts and non-experts together ('periods of collective inquiry and dialogue')
- Training to look for the gorillas in our midst - we don't do training in awareness; stop taking it for granted and develop it; it is the heart of any true system of education: "Revolutions begin in transformations of consciousness"
- Retrospective learning and sensemaking: learning *and* unlearning: Hindsight=insight=foresight
- The frame is everything: "Foam loss is not a safety of flight issue"

72



Why the organisational and other 'human' perspectives are important

- Because every aspect of care is accomplished through organisation (and people) - or more accurately, the *processes of organising*. Safety and quality are wholly dependent on them, i.e. are organisational (as well as clinical and technical) phenomena
- If this is the case, it is imperative to –
 - (1) Gain a better understanding of these processes
 - (2) Recognise them for what they are and not pretend or assume they are no different from non-human processes
 - (3) Build them into the systems we are designing e.g. quality and safety systems are *socio-technical* systems
 - (4) Actively seek to manage them, not leave them to take care of themselves

THE ORGANISATION PERSPECTIVE IS 'THE MISSING PERSPECTIVE' IN HEALTH CARE

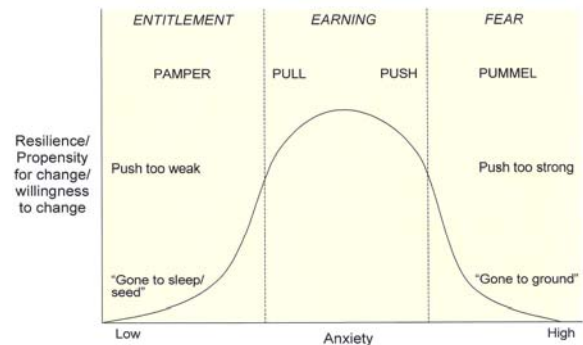
74

What model of leadership does this imply?

How do we provide leadership in mindfulness and cultural change?!

75

Change Leadership: A matter of fine judgement



S.P. Bate, adapted from Judith Bandwick (1991) Danger in the Comfort Zone

76

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