The Emperor's New Clothes: Possibility as Way of Thinking

Dr Kaalii Cargill

I have called this presentation The Emperor's New Clothes, after the Hans Christian Andersen parable in which an Emperor was so excessively fond of new clothes, that he believed the claims of two rogues who called themselves weavers. The rogues gave out that they knew how to weave cloth of the most beautiful colours and elaborate patterns, and with the wonderful property of remaining invisible to everyone who was unfit for the office he held, or who was extraordinarily simple in character.

The Emperor caused large sums of money to be given to both the weavers in order that they might begin their work directly.

So the two pretend weavers set up two looms and affected to work very busily, though in reality they did nothing at all. They asked for the most delicate silk and the purest gold thread, put both into their own knapsacks, and then continued their pretend work at the empty looms until late at night.

All the people throughout the city had heard of the wonderful property the cloth was to possess; and all were anxious to learn how wise or how ignorant their neighbours might prove to be.

"I should like to know how the weavers are getting on with my cloth," said the Emperor to himself. He was, however, rather embarrassed when he remembered that a simpleton, or one unfit for his office, would be unable to see the manufacture. Perhaps it would be better to send someone else before he troubled himself in the affair.

The Emperor sent his faithful old minister to the weavers. The old man went into the hall where the knaves were working at their empty looms.

The impostors requested him very courteously to be so good as to come nearer their looms, and then asked him whether the design pleased him, and whether the colours were not very beautiful. The poor old minister looked and looked, but he could not discover anything on the looms.

"What!" thought he "Is it possible that I am a simpleton? I have never thought so myself; and no one must know it now if I am so. Can it be that I am unfit for my office? No, that must not be said either. I will never confess that I could not see the stuff."

"Well, Sir Minister!" said one of the knaves, still pretending to work. "You do not say whether the stuff pleases you."

"Oh, it is excellent!" replied the old minister, looking at the loom through his spectacles. "This pattern, and the colours, yes, I will tell the Emperor without delay, how very beautiful I think them."

The whole city was talking of the splendid cloth which the Emperor had ordered to be woven, and now the Emperor himself went to see for himself.

"How is this?" he thought. "I can see nothing! This is indeed a terrible affair! Am I a simpleton, or am I unfit to be an Emperor? That would be the worst thing that could happen."

"Oh! the cloth is charming," he said loudly. "It has my complete approbation." And he smiled most graciously and looked closely at the empty looms; for on no account would he say that he could not see the cloth.

All his retinue now strained their eyes, hoping to discover something on the looms, but they could see no more than the others; nevertheless, they all exclaimed, "Oh, how beautiful!" and advised his majesty to have some new clothes made from this splendid material, for the approaching procession.

The rogues sat up the whole of the night before the day on which the procession was to take place, and had sixteen lights burning, so that everyone might see how anxious they were to finish the Emperor's new suit. They pretended to roll the cloth off the looms; cut the air with their scissors; and sewed with needles without any thread in them.

"See!" they cried at last. "The Emperor's new clothes are ready!"

And now the Emperor, with all the grandees of his court, came to the weavers; and the rogues raised their arms, as if in the act of holding something up, saying, "Here are your Majesty's trousers! Here is the scarf! Here is the mantle! The whole suit is as light as a cobweb; one might fancy one has nothing at all on, when dressed in it."

"Yes indeed!" said all the courtiers, although not one of them could see anything at all.

"If your Imperial Majesty will be graciously pleased to take off your clothes, we will fit on the new suit, in front of the looking glass."

The Emperor was accordingly undressed, and the rogues pretended to array him in his new suit.

"How splendid his Majesty looks in his new clothes, and how well they fit!" everyone cried out. "What a design! What colours! These are indeed royal robes!"

"I am quite ready," answered the Emperor. "Do my new clothes fit well?" he asked.

The lords of the bedchamber, who were to carry his Majesty's train felt about on the ground, as if they were lifting up the ends of the mantle and pretended to be carrying something; for they would by no means betray anything like simplicity or unfitness for their office.

So now the Emperor walked under his high canopy in the midst of the procession, through the streets of his capital. All the people standing by, and those at the

windows, cried out, "Oh! How beautiful are our Emperor's new clothes! What a magnificent train there is to the mantle; and how gracefully the scarf hangs!"

No one would allow that he could not see these much-admired clothes; because, in doing so, he would have declared himself either a simpleton or unfit for his office.

"But the Emperor has nothing at all on!" said a little child.

"Listen to the voice of innocence!" exclaimed his father; and what the child had said was whispered from one to another.

"But he has nothing at all on!" at last cried out all the people.

The Emperor was vexed, for he knew that the people were right; but he thought the procession must go on now! And the lords of the bedchamber took greater pains than everto appear holding up a train, although, in reality there was no train to hold.

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It is probably not surprising that I am attracted to this story. I first encountered psychotherapy in the 1960's and became a willing participant in the Human Potential Movement. This movement arose out of the milieu of the times and involved inner development and social change based on the concept of cultivating the potential that exists in all people.

The word potential means existing in possibility**:** capable of development into actuality. It can also be related to expressing possibility . . .

I spent my twenties immersed in this world of humanistic psychology, with its roots in existentialism and humanism--the so called 3rd force in psychology. We experimented with catharsis and enactment, with breath and encounter, and we learnt a great deal about what was possible.

Necessity also claimed some of my attention: By 27, I had a Social Work degree, a second marriage, and 4 children.

My relationship with necessity and possibility has changed over the years. My children are grown with families of their own; I have run an independent psychotherapy training program for 20 years and participated in the ongoing development of a therapeutic community; I was involved with overseeing the PACFA Register for 6 years, and I have recently been evaluating accreditation of my training program. The direction I have decided to take with that has been informed by necessity and possibility, and, as I discovered, there are layers of meaning in both.

I think most of us relate to the honest child in The Emperor's New Clothes, yet it can be challenging to risk looking ignorant by admitting we cannot see the value of something that is extolled by the "experts".

And what are the experts currently saying about counselling and psychotherapy? And about education? What is being said about necessity and possibility, and how do we locate ourselves in relation to that?

I will be asking questions today and answering them with possibilities rather than certainties. I hope this exploration will leave you with possibilities to consider . . .

Let's look more closely at the concepts of necessity and possibility**.**

Necessity is the condition or fact of something being necessary or indispensable, such as food, shelter, and other necessities of life. Necessity may also refer to an imperative requirement or need for something. The opposite is something that is considered unnecessary.

What are the necessities of counselling and psychotherapy education? How are these included in our teaching? How do they impact on the courses we develop and the training we offer?

Possibility is the condition or fact of being possible. The Latin origins of the word hint at ability. Possibility also refers to something that "could happen", that is not precluded by the facts, but usually not probable. The opposite of possibility is, of course, impossibility.

What possibilities are present when we take up the challenge of teaching people to become counsellors and psychotherapists? How do we incorporate these possibilities into our curricula and our teaching?

How do necessity and possibility interact in our work?

Philosophically, the notions of necessity and possibility go back to Aristotle, and the ideas underpin much of our experience. In psychological theory, possibility has been specifically explored by Abraham Maslow, Jean Piaget and others. Piaget was preoccupied, later in life, with the developing child's understanding of possibility--how the child becomes aware of the potentially unlimited scope of possible actions and learns to choose among them.[i] Piaget's intent was to explore the process whereby possibilities are formed. He understood "the possible" as something constantly coming into being, arising from an event which has produced an opening into it. The actualisation of a possibility in turn gives rise to other openings. In perceiving that a possibility can be realised, and in acting upon it, the child creates something that did not exist before.

That sounds a little like how we might describe a good therapy session--or a satisfying training session with students.

To observe this process, Piaget and his associates devised a series of thirteen problems appropriate for children ranging in age from four or five to eleven or twelve; for example, they were asked to name all possible ways three dice might be arranged, for example, or a square of sectioned paper. Piaget discerned a growing interaction between possibility and necessity--how the child comes to understand necessity and achieves a dynamic synthesis between the possible and the necessary.

" . . .such constructions must have as preliminary conditions the formation of possibilities, the elaboration of necessities, and the progressive coordination of the two." (Piaget, Possibility, p.149)

Piaget describes the construction of knowledge as a dialectical tension of the opening of new possibilities constrained by increasingly stronger necessities from which a reasoned representation of reality emerges.

How do we hold this tension when we teach?

- What are the necessary values, attitudes, ideas, knowledge, and skills that comprise the professional identity of a successful graduate of a counselling and psychotherapy program? How much of this 'necessity' is determined by the particular institution where the training occurs and even the particular trainers to whom the students are exposed?

- Who decides the necessary components of counselling and psychotherapy education? What factors contribute to these decisions?

- What are the tensions between the optimal development of the characteristics of effective counsellors and psychotherapists (whatever these are perceived to be by each training body) and the constraints of course structure, staffing, timetables, funding etc.?

- How are these tensions resolved?

- Do these tensions differ greatly from course to course?

- How explicit are these tensions in selection interviews (for both students and staff), content, in course reviews, experiential work etc.?

- Is the current emphasis on regulation and standardisation of qualifications supportive of effective training?

I will be exploring these questions in terms of possibilities for education and for the practice of counselling and psychotherapy. . .

First, how do necessity and possibility interact in education?

In the 1920s, the industrial movement had an extreme influence on educational practices in the US. This resulted in an emphasis in the teaching process on sameness and conformity.[ii]

As you all know, the Australian Qualifications Framework (AQF) is the national policy for regulated qualifications in Australian education and training. It incorporates the qualifications from each education and training sector into a single comprehensive national qualifications framework**.**

The AQF was first introduced in 1995 to underpin the national system of qualifications in Australia encompassing higher education, vocational education and training, and schools.

The national training system was established to promote quality and consistency across Australia to ensure relevance and standardisation of qualifications. Each specific industry or sector can develop a training package that identifies the required skills and knowledge to perform effectively within that sector. The training package will define how these skills are developed through specific units of competency that form the requirements of the training package.

Why is AQF necessary? The short answer to this question is standards and recognition. Government accreditation of counselling and psychotherapy courses and registration of training bodies supports public credibility of counselling and psychotherapy as rigorous, scientific disciplines with a guarantee of excellence in training.

The benefits are clear:

Any body of knowledge benefits from having relevant, measurable, representative units of knowledge, skills and competencies taught to those people wishing to practise in the profession. The development of these standards implies that those who teach and practice counselling and psychotherapy agree on what should be taught. While there is still no guarantee that people will agree, consensus can hopefully be achieved with good will and open and honest dialogue--a strong feature of SCAPE collegiality and discourse.

Studying an accredited course means that the student has a guarantee:

- Of quality in course content, course delivery and assessment procedures
- That they will be fairly assessed according to the requirements of the course
- That their qualification will be recognised Australia wide
- That their qualification meets the standard of all other qualifications of a similar level
- That they are being provided with the skills necessary to work in the field or engage further study

BUT

Is the Emperor wearing a full suit of clothes?

How does the necessity for regulated qualifications impact on the way we deliver training in these areas? Is there any loss of possibilities in a system of regulated qualifications? Is what we say we are doing really what we are doing?

These questions take us to what we think we are doing when we train counsellors and psychotherapists: What do we think we're doing?

While different training bodies will differ as to their degree of focus on one counselling/psychotherapy approach or another, there are certain basic areas that can be agreed in training effective counsellors/psychotherapists and to ensure credibility as a profession. On paper, these can look remarkably similar across training: evidence-based theoretical material; systematic, behavioural attention to facilitative/ reflective and action-oriented dimensions of practice; specific interviewing and counselling skills; self and other awareness etc.

Yet as we know, the application can vary enormously depending on what we think we are doing:

1) Are we predominantly evaluating whether our students have 'received' the knowledge we are 'imparting'?

i.e. Do we believe our students are adding the knowledge we impart to existing structures (assimilating new information into an old schema, to use Piaget's terminology)
or

Do we ask our students to accommodate new information and experience (changing old schemas to accommodate new information/ experience)?

Piaget described assimilation and accommodation as the two sides of adaptation, his term for what most of us call learning. What factors affect the balance of assimilation and accommodation in training counsellors and psychotherapists?

2) Is there time to explore the meaning students are making of the process of learning, and the process of becoming a counsellor? Is this even important?

3) If we believe that training involves providing opportunities for learning, what do we mean by that? Is there enough time for experiential learning? Should there be?

4) As trainers, do we get to follow the development of professional practice and identity over time? Do we have the opportunity to experience how our training contributes to the building of a community of practice?

One way to begin answering those questions is to consider to what extent our training is content based or relationship based.

The content approach would say that learning is the acquisition of information and skills relevant to the discipline. This relies on the assumption that learning and knowing consist of information processing, which is the *reception* of information, the intelligent *storage* of that information, and the competent *retrieval* of the information on demand.

This approach is based on the following assumptions:

- that information has its own independent existence outside of the student;
- that knowing is solely brain-based;
- that knowing is an individual experience and learning is social insofar as information is passed from one individual to another;
- that teaching is the provision of information and learning is the absorption of that information.

That's not unreasonable, but what really happens in a classroom?

Systems theorists claim that we do not simply "receive" information wholesale. In order to know it; we must interact with it, *do* something on or with it, establish a relationship with it, all acts that demand attention and energetic commitment. A metaphor for this is developing friendship: We cannot expect a friendship to grow from just standing face-to-face with someone or reading their name tag.

We cannot expect to learn from information by simply reading it or listening to it. Learning requires us to be mindful of our own organisation and probe that of the information to better establish a fit, an understanding, a relationship that allows for further understanding and knowledge.

Not only do we change as we read, listen to a lecture, or write notes, but the information necessarily changes as we interact with it and as others interact with us; it is dynamic. From a systems perspective, then, textbooks and lectures are valid sources of "information", but they are not fixed and absolute sources, nor are they any more authoritative than the student who makes sense of them.

If learning is not just receiving information into our brains and capturing it for posterity, what is it?

There has been a lot written about the embodied nature of human cognition.[iii] The consensus seems to be that embodied learning happens through interaction. It is in *relating* to people and texts and ideas that students learn. And they know that they have learnt by noticing change in themselves, in attitudes, ideas, values, emotional responses, and bodily configurations.

And, of course, change takes us further into the realm of possibility . . .

Do we expect our students to change during the course of their training? How much change can we ask for or expect?

As we all know, change can be a highly complex process.

At one level, change can be automatic: we adapt instantly and largely unconsciously to new situations.

It is, however, different if we want our students to know that they have learnt, to make that learning conscious and accessible to language (and hence to reflection and further co-regulation).

This requires time and space to relate, to engage with others and with information in a way that allows this to do something to the learner. Students need time and encouragement to cultivate their awareness of their experiences so they can label them, connect them, and experiment with them-- all actions that entail further change and growth.

What does this look like in practice?

The obvious answer is that it will look different in different settings. The determining element will be the emphasis placed on content (the assumption that teaching is the provision of information and learning is the absorption of that information) and the emphasis placed on facilitating *relationships* with students, between students, with the subject matter and the world it represents.

Do our training environments allow for the safety, individuality, and interaction that supports relational learning? Can we maintain a healthy, hopefully passionate, relationship with the content we are teaching? Do we trainers know ourselves well enough--our psychological, emotional, and social inclinations, the buttons students can push, etc.? Is there time and support for awareness in the moment and for productive reflection after the fact?

In response to the UK Government's 'White Paper' on the future of higher education in England, Paul Kleiman [iv] advocates for a shift from the traditional linear, positivist, computational paradigm that has been the dominant scientific paradigm for c. 300 years.

> "That paradigm . . . is one in which educational systems are understood as, essentially, closed systems which are the sum of their parts (learners, curriculum, technology, teachers, etc.). The performance of the whole system can be regulated by controlling these parts, with the objective of achieving a state of equilibrium. Knowledge, in this paradigm, is perceived as an external, quantifiable object that can be transmitted to and acquired by learners, and in which the "effectiveness of educational systems is a function of the effectiveness and efficiency of the transmission process." (p 62.4).

Kleiman tells us that it is time for "educational systems to do things they were *not* designed to do." That is, replace cause-and-effect linear models of education with "organic, non-linear and holistic approaches, in which the *relations* within interconnected networks – and the quality and dynamics of those relations and interconnections – are the key elements in the life-cycle of those phenomena."

Unfortunately--or fortunately, depending on your perspective--complex, relational models cannot be reduced to simple parts. This has some profound implications for the manner in which we might approach the planning and design of our programs of learning

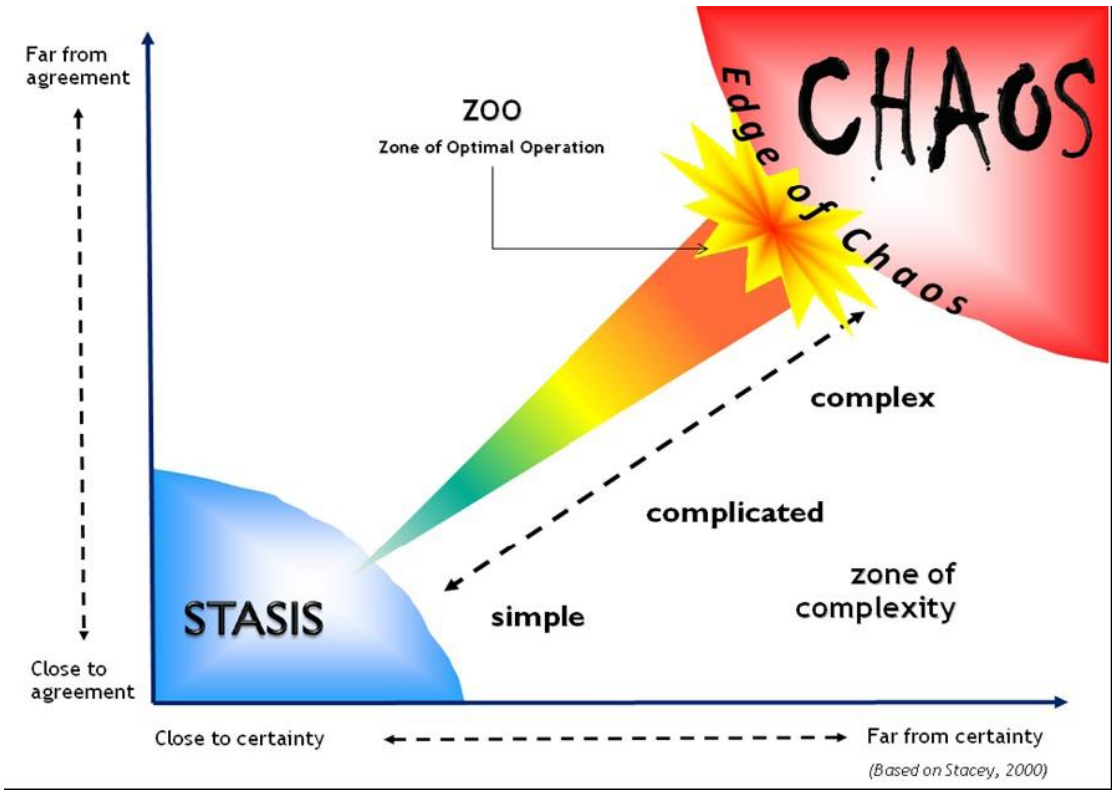
For example, if we accept that we are operating within a complex adaptive system, then it becomes clear, as Kleiman[v] points out, that writing things like *"on completion of this module the student **will be** able to (a, b, c,....etc.)"* is somewhat unrealistic. However, that is the form of language that is expected and accepted by the validation and regulatory frameworks within which most of us work.

The huge problem for counselling and psychotherapy education is that we are training people to work with complex adaptive systems--human beings! Yet very often we are doing so from within a framework that reduces teaching and learning to relatively simple parts.

Presumably we are managing to effectively train our students to work with real human beings, with all the self-evolving, agile, and inherently unpredictable characteristics that make human beings who we are. Yet increasingly, there is that demand to regulate our trainings so that we can say *"on completion of this module the student **will be** able to (a, b, c,....etc.)"*

And even if our students can do (a,b,c . . .etc.) can they--and we--really engage the complexity of being present with other human beings at the edge of chaos?

I have borrowed this diagram from Paul Kleiman:



The concept of learning "at the edge of chaos" comes from Complexity Theory**.**

Complexity theory is a cluster of ways of thinking that have developed from branches of "new science" concerned with the behaviour of natural systems, such as:

- Chaos theory
- Dissipative structure theory
- Quantum physics
- Complex adaptive system theory (ie systems that are complex and also adapt)[vi]

Complexity theory also has much in common with "ancient wisdoms" such as Lao Tzu's "Tao Te Ching".

Systems theory says that the evolution of a complex adaptive system is fostered by disequilibrium and feedback. Yet very often we find ourselves moving towards equilibrium or stasis. In equilibrium, all acting influences are cancelled by others, resulting in a stable, balanced, or unchanging system i.e. a system in stasis. It might sound comfortable, but it is not the optimal condition for learning.

How do we know that? And what is the optimal condition for learning?

I refer back to an article I wrote for the SCAPE newsletter in 2006: Hardening of the Categories. I was focusing on an aspect of teaching and learning that can baffle the most diligent teacher: intransigent beliefs and behaviours that do not change in response to our most rigorous teaching methods.

I am sure you all have examples of this. My example involved the question, "How does that make you feel?"-- the standard question asked by television and movie therapists. I have observed students asking that question in a training exercise, regardless of specific instructions to not use it. It is as if it is the default question when faced with a client. There is, of course, nothing wrong with the question, but if asked habitually, it does not allow for precision in the use of therapeutic language. It is, however, remarkably difficult for many students to break the habit.

This phenomenon has also been observed in science education. Researchers at the Harvard-Smithsonian Centre for Astrophysics found that many of their brightest students had false ideas about scientific facts.[vii] The interesting discovery was that the misconceptions could not be overcome by traditional instructional methods. They discovered, for example, that casual observations of the sky leads people to believe what they think they see, rather than what is scientifically accurate. Many people, for example (including some of the science students), see the moon as producing its own light rather than reflecting the light shining on it from the sun. Even when the scientifically correct information is available, people will still tend to believe that it is the moon's light they are seeing. After all, there are countless poems and love songs that confirm it!

One of the first modern researchers to investigate this phenomenon was Kurt Lewin[viii], founder of social psychology. Lewin, exploring group dynamics, leadership and change, developed a practice he called "unfreezing", a process of disconfirming a person's former belief system by examining fondly held assumptions about self, others, and the world. It has, however, been observed, by Lewin, the researchers at the Harvard-Smithsonian, and almost anyone interested in change, that

> Disconfirming information is not enough . . .because we can ignore the information, dismiss it as irrelevant, blame the undesired outcome on others or fate, or, as is most common, simply deny its validity. In order to become motivated to change, we must accept the information and connect it to something we care about.[ix]

In other words, if new information and behaviour is going to replace an existing belief, idea or habitual response, it has to produce an emotional response. This emotional response may be experienced as curiosity or excitement, but it can also be felt as an uncomfortable dissonance or unease.

This takes us back to Piaget's work with assimilation and accommodation. Remember: assimilation involves the incorporation of information from the outside world into the internal world, without changing the structure of the internal world. If the new information "fits", it can be easily assimilated. If not, it may be changed to fit, or simply discarded as irrelevant or invalid. Accommodation requires that the internal world changes in response to the information from the outside world, a more difficult and painful process than assimilation.

Piaget found that children typically find accommodation as easy as assimilation. Adults, however, have developed "habits" that work for them, making it increasingly difficult to accommodate new information. Hardening of the categories!

Lewin also developed the idea of "learning anxiety" as the emotionally laden belief/ experience that change (or learning) involves an admission of imperfection or wrongness [*If this new information is valid, then how I have been, or what I have believed, has not been right]*. The process of accommodation can, therefore, involve a temporary loss of effectiveness, self esteem, or even identity.

Brain imaging technology illustrates the disturbing effect of disconfirming information[x]. A perceived difference between expectation and actuality produces an "error" message in the orbital prefrontal cortex [*Something's not right]*. The error message appears in brain imaging as dramatic bursts of light.
See: ajp.psychiatryonline.org[xi]

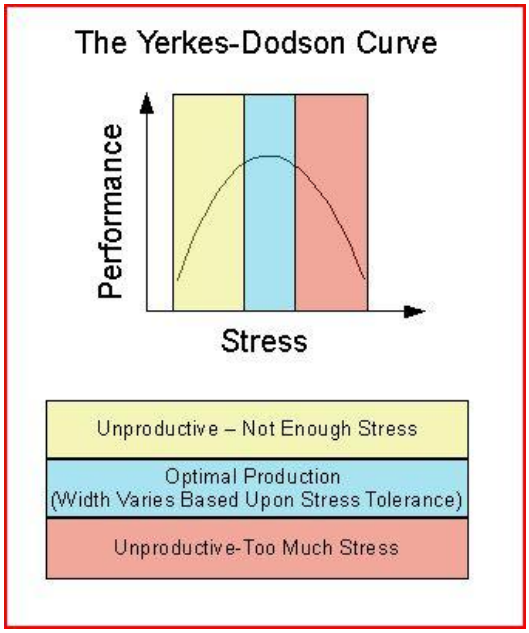
The orbital prefrontal cortex is linked to the amygdala, which plays a key role in efficient learning, interacting with other regions of the brain that store specific kinds of memories.[xii] When these areas are activated with fear and anxiety, energy is drawn away from the prefrontal region, the area of higher intellectual functioning.

Learning new information or encountering new experiences can, therefore, trigger strong messages in the brain that something is not right. If the messages are strong enough, rational thought will be disabled, and the learning process will be interrupted.

So, just how much arousal is good for our students? How close should we be taking them to the "edge of chaos"?

It has long been understood that the relative efficiency of the interaction between brain regions is correlated with the level of emotional arousal. The inverted 'U' performance curve was first documented in 1908.[xiii] The Yerkes-Dodson law

demonstrates that performance increases with cognitive arousal but only to a certain point: when levels of arousal become too high or too low, performance will decrease.



From: http://zenstorming.wordpress.com/category/yerkes-dodson-curve/

The implication is that there is an optimal level of arousal for successful engagement of a task. Too little arousal inhibits motivation, and too much arousal can inhibit concentration.

Applying the idea of optimal arousal to memory and learning is not, however, a simple equation[xiv]. Research says that some disturbance of habitual equilibrium is necessary for learning to occur. But how much?

Brain imaging reveals two modes of neuronal activity in relation to learning. In the words of the researchers:

> Thus the "promised land" must be somewhere in between –"at the edge of chaos". Starting from a chaotic state, a recurrent network while learning should be able to evolve toward both types of functioning. It should evolve toward more synchrony to manage a coupling between the environment and the agent and "back" to chaos to test and acquire new (and possibly better) behaviours.[xv]

The interesting thing about this research is that it was conducted to develop artificial intelligence--autonomous robots! The drive to simulate human learning behaviour is revealing some valuable insights into how we learn.

The researchers conclude by saying that "the chaotic nature of recurrent spiking neural network is a very interesting feature. Indeed, 'learning at the edge of chaos' is a powerful way to assure an emerging coupling between external and internal dynamics."[xvi]

Others have said that :

> Whether it is in the form of brains, individual people, or coupled relationships, systems poised at the critical edge of chaos are healthiest because they are most flexible, adaptable, and responsive to environmental change[xvii]

This association of mental and physical health with flexible adaptation rather than with equilibrium and stability is a significant paradigm reversal.

As we all know, counselling and psychotherapy training involves complex tasks: learning theoretical information and experiential skills, developing the capacity to utilise oneself in the therapeutic endeavour, involving processes of self-monitoring, self-examination, self-awareness, and self-development.

How, then, do we structure our learning environments to support the complexity? What are the conditions that provide enough stimulus to require change and accommodation, yet also ensure adequate psychological and emotional safety?

What is clear is that when the learning anxiety exceeds a person's tolerance for the anxiety, there is also likely to be defensive avoidance of the new information.[xviii] In practice, this can take the form of dissociation or distraction, excessive questioning or pseudo-interest, frequent non-attendance, and amnesia for sections of the material or process instructions.[xix]

The challenge is to design a curriculum which introduces new information or experiential processes that stir uncertainty without evoking unmanageable anxiety or defensive strategies. This is consistent with Lewin's idea of "unfreezing": a student's system must be upset enough so that change can occur, but not so upset that he or she becomes overwhelmed.

No matter how well prepared and skilled, educators are going to encounter students whose learning anxiety interferes with the assimilation and accommodation of new information. Is there time to manage this? Are class sizes such that management is possible? Do trainers have the knowledge and skills to respond adequately to learning anxiety? Can we manage our own anxiety as students approach the optimal arousal threshold where change can occur?

And through all of this, we are still trying to say : “on completion of this module the student **will be** able to (a, b, c,....etc.)” !

Just as counselling and psychotherapy require practitioners to simultaneously attend to process and content, teaching in the field also requires the same dual awareness. It is not just what we teach, but *how* we teach that informs our students. When trainers are successful in facilitating accommodation of new information, they serve as role models; students learn by example and experience to work with change, and to work with others' responses to change.

One of the forces working against our creativity as educators is the constraint imposed by the systems and environment in which we work[xx]. The current climate of regulation, accreditation, and push for government recognition may well create a gravitational pull towards certainty and agreement--towards stasis: this is what we are; this is what we do; this is what we train our students to do. “That pull exists at all

levels, from the macro level of educational policy to the micro level of module learning outcomes, and it requires a lot of energy and courage to resist it. It is understandable that many educators choose--often reluctantly--to go along with the gravitational pull towards certainty and agreement."[xxi]

Then there is also the influence and expectations of our own colleagues. It has been pointed out that: "Universities are characterised by organised sets of social practices – recurrent patterns of behaviour that are 'engrooved' and quite difficult to change. Changes often falter and practices 'snap back' to old models"[xxii].

Yet we all recognise the growing complexity in the day to day demands of living on the planet--from managing credit card expiry dates to the constant threat of nuclear war and environmental catastrophe. How can our models of teaching and learning--and the systems that support them--support trainers and students to respond to a more complex, less stable, predictable world? What might this look like in practice?

The following points are adapted from a list compiled by researchers investigating why experiential learning is effective:[xxiii]

- Participants are interacting in close proximity whilst working on new and unfamiliar challenges. The communication, collaboration and effort required develop relationships quickly.
- The unfamiliarity of the experiences places people in a state of disequilibrium or disorder. They are supported to examine and perhaps move from their normal status, roles and defenses.
- When reflection and review occur in the context of experience, there is an opportunity for learning new principles directly related to the work.
- Students have the opportunity to experience mistakes, disorder, crisis, and failure in a safe environment where the consequences for failure are limited.
- The experience provides a common language, experience and story (consistent with Lewin's idea of "communities of practice").
- Students have an integrated or "whole mindbody system" learning, involving physical, mental, emotional and behavioural dimensions.

That list--or other lists like it--are only useful:

1) when the person reading it has the depth of understanding needed to engage in a way that changes practice

AND

2) when the system within which the teaching and learning take place supports working at the "edge of chaos".

In terms of depth of understanding: Do we all mean the same thing when we speak of "interacting in close proximity"; "unfamiliar challenges"; "state of disequilibrium"; "reflection and review" etc. ?

Dr Adrienne Alton-Lee is the Chief Education Adviser of the Iterative Best Evidence Synthesis Programme in the New Zealand Ministry of Education[xxiv]. Her work is about integrating evidence-based educational research and the craft of teaching.

She describes one of many disconnects between educational research and educational practice as "the problem of overassimilation" [xxv] -- what happens when teachers assimilate new concepts and approaches into their existing way of working without the depth of understanding needed to change practice.

What this means is that an idea like "experiential learning" might be simplified to fit into pre-existent categories rather than engaged fully as a creative process of change. When there is "hardening of the categories", educators can ignore new information from research or colleagues, disregard or explain away poor outcomes, and over-simplify the learning experience.

Do we have a complex enough understanding of the pedagogical implications of the terms used in our training standards, course outlines, and curricula?

Are we willing to accommodate information from educational research into the craft of teaching? Or do we mostly tend to do what we have found works in practice?

Tone Kvernbekk[xxvi], Professor in the Department of Educational Research at the University of Oslo, suggests that in educational contexts, the main function of research is that of support: confirmation or disconfirmation

She challenges the idea that ''evidence-*based* practice'' means practice based on evidence: the practice in EBP is not really based on evidence, but is based on the hypothesis or theory for which evidence is found. Sometimes the evidence looks very different from the claim it supports

Bronwyn Davies[xxvii], an ardent critic of EBP, discusses what ''based'' might mean. She suggest that most people think of ''based'' in terms of a base or foundation consisting of facts and (quantitative) data.

Is this how you think of EBP--as the foundation of evidence from which practice should be derived? If so, how do you determine which evidence should make up the base and who should select the evidence and thus decide what is relevant and what is not?

The danger in uncritical acceptance of an EBP model is in thinking that research will give us a "truth" that can be translated neatly into rules for action. Kvernbekk argues that it makes more sense to think of a hypothesis, or a teaching strategy, as not *based* on evidence; rather, it is *supported* by it. She points out that facts, data, propositions, narratives, and the like can all constitute evidence, negating attempts at insisting on RCT data as the only legitimate form of evidence.

It seems clear that education is recognised as deeply context-dependent, and that educational research should include case studies of what worked in a specific situation in the past. Even advocates of evidence and general knowledge seem to agree that the use of these implies judicious adaptation of this knowledge to the concrete

circumstances. The professional judgments and philosophical perspective of practitioners are therefore necessary in order to make the best use of their knowledge in serving the good of their students, patients, or clients.

Therefore, how we think about EBP has implications for education as well as for the practice of counselling and psychotherapy.

Necessity and Possibility in Counselling and Psychotherapy Practice

I was speaking with a psychology colleague recently, expressing some of my concerns about the ethics of the Medicare rebate system. She laughed and said that she must not be very ethical because she hadn't even thought about it that way; she just accepted the referrals, did what she had been doing for twenty years, working with clients in her preferred mode, and mostly it seemed to be good for the clients. I have no doubt that she experienced as many successes and failures as the rest of us. In fact, if she was congruent in her preferred mode--as she seemed to be--chances are she may have been more effective than average.

My colleague is not alone in trusting the evidence of routine practice for what works. There is a strong argument [xxviii] for a research approach that complements the Cochrane data base (which advocates for evidence-base decision making) with an evidence base which is located in routine practice. The aim of this approach would be to establish the effectiveness of the full range of complex interventions and clinical populations that comprise routine practice, so that practice based evidence can complement the Cochrane data base to yield a more robust knowledge base for the psychological therapies. This is what Dr Alton-Lee is working towards in education in New Zealand.

However, with an increasing emphasis on EBP in psychology and mental health initiatives, where do we as educators locate ourselves? Is EBP a focus in the courses you teach? What do you think about it? Is the Emperor really wearing a fine, new set of clothes?

My research methods lecturer in my undergraduate Psych Degree began the semester by announcing that the cloth woven by researchers was often so full of holes that it was unusable. He said that 60% of research could be rejected at a glance based on experimental error, sampling bias and other variables I have forgotten. Of the remaining 40%, we were told that we could also discard 60% due to experimenter bias and even more reasons I've since forgotten. What stayed with me was the extraordinary idea that the Emperor of psychological research was strutting around with very little on.

As part of my Honours year at Melbourne Uni, I studied Neuropsychology. For some reason--beyond logic, beyond common sense--our class was required to dissect human brains. Wearing our white coats, clutching our scalpel cases, we filed into a room with long benches. Evenly placed along the benches were tubs containing human brains.

"Whose brains are they?" I asked.

Unlike live brains which slosh around like porridge, dead brains congeal to the texture of moist pencil erasers. We sliced through the layers to reveal tiny splotches of cells with names like hippocampus, amygdala etc.

"Where is the person?" I asked.

One of the demonstration brains was still attached to a skull--and a face. If it had been a relative, I would have recognised him. But, of course, he was no longer there. The clusters of Greek-named cells did nothing to reveal the person he had been. Had the whole of who he was even resided there in that soft pencil-eraser brain?

The lecturers were mostly older, versed in Greek, Latin, and some wisdom. They sympathised with my puzzlement that these clusters of cells could possibly help me understand the complexity of the human mind or soul. I passed the subject, but I was none the wiser about the mystery of human complexity.

In addition to the bewildering encounter with lifeless brains, the supervisor of my honours thesis demanded that I replace the word "psyche" with the word "mind" I have mentioned this cautionary tale before, arguing against us making the same reductionist error as my supervisor.

I know most of you will say "of course not!", but these reductionist errors can happen incrementally. They can happen in what we ask students to read, and in how we contextualise the reading. They can happen in how we introduce interventions, and in which interventions we teach. They can happen by over-valuing Mental Health Practitioner interventions like Focused Psychological Strategies. There are myriad ways the errors can creep into our teaching--and they always diminish possibility.

In terms of the current emphasis on FPS and Mental Health interventions, I quote from Pat McGorry[xxix] :

> . . .although psychiatry has been a recognised branch of medicine for over a century, in this field attitudes to diagnosis remain mixed and its value is continuously questioned. The advent in the United States of a new (5th) edition of the influential *Diagnostic and Statistical Manual* (DSM) has brought this deep ambivalence to the surface once again, breathing new life into an enduring culture war. This culture war is symptomatic of something much more fundamental to the mental health of Australians. A person with mental ill-health is so much more than a diagnosis. If a diagnosis is reduced to a label that obscures the humanity and uniqueness of that person, has unclear utility and in some cases the burden of stigma, it is no wonder that people will question its value.

It behoves us to think through the issues that have arisen from the Better Access initiative and Medicare rebates. There is a real risk that diagnostic expansion is resulting in inappropriate and narrowly-based interventions. What do we teach our students about this? Do we teach them to read the research critically? Do we teach

them to look for the funding behind research and mental health initiatives? Or do we teach them, perhaps by default, to admire the Emperor's new clothes?

In a 2009 PsychOz article[xxx] John Arden and Lloyd Lindoff tells us that

> A seminal era is ending in psychotherapy and psychiatry, and a new one is beginning. In the 1970s, Prozac, the *DSM III* and *'evidenced-based'* therapies all came into being within a few years of each other. These innovations provided a stable way to think about, classify and treat mental conditions, and became institutionalized in a model we refer to as the *pax medica*. The pax medica medicalized psychology and psychiatry in a way that has become so pervasive it's almost invisible, like the air we breathe.

John Norcross (2002)[xxxi] writes that the medical model:

> . . .inclines people to define process in terms of technique, therapists as providers trained in the application of techniques, treatment in terms of the number of contact hours, patients as embodiments of psychiatric disorders, and outcome as the end result of a treatment episode (p.12).

The medical model tells us that diagnosis is vital to planning and evaluating treatment, and that treatment should be targeted at symptoms. And, of course, there are randomized controlled trials to establish empirically validated treatments. An empirically validated treatment must be shown superior to placebo or comparable treatment in two separate randomized clinical trials. Moreover, the intervention had to be reducible to a clear and teachable manual[xxxii]

You probably all know the history of Aaron Beck's rise to "Emperor" status in his new clothes of evidence-based practice. As Beck paraded the garments of CBT, there were cries from the crowd:

"What about empathy, warmth, congruence?"

"What about common factors?"

The "common factors" debate[xxxiii] has been lively.

One of the common factors advocates, Micheal Lambert, concludes that:

• Psychotherapy is as effective as many common medical treatments.
• It works well due to the common factors that underlie different schools.
• The 'best practice' in individual psychotherapy is to ask the patient how things are going in the treatment on a regular basis (preferably during each visit).
• Giving patient feedback to therapists minimizes treatment failures and enhances overall effectiveness[xxxiv]

Meanwhile, the Australian public have been asked to admire the "new clothes" of Focused Psychological Strategies (FPS's):

FPS's are a range of evidence-based strategies that have been approved for use by allied mental health professionals utilising the FPS Medicare items. As outlined in the MBS book, these are[xxxv]:

1. Psycho-education (including motivational interviewing)

2. Cognitive-behavioural Therapy including:
    - Behavioural interventions
    - Behaviour modification
    - Exposure techniques
    - Activity scheduling
    - Cognitive interventions
    - Cognitive therapy

3. Relaxation Strategies
    - Progressive muscle relaxation
    - Controlled breathing

4. Skills training
    - Problem solving skills and training
    - Anger management
    - Social skills training
    - Communication training
    - Stress management
    - Parent management training

5. Interpersonal therapy (especially for depression)

There is also flexibility to include narrative therapy for clients of Aboriginal and Torres Strait Islander descent.

The final report of the Evaluation of the Better Access to Psychiatrists, Psychologists and GPs through the Medicare Benefits Schedule Initiative[xxxvi] concluded that

> Better Access is playing an important part in meeting the community's previously unmet need for mental health care. The initiative has improved access to services for consumers who have clinically-diagnosable disorders and are experiencing considerable psychological distress. These consumers' mental health status improves markedly during the course of their care; their symptoms reduce, their psychological distress diminishes, and their overall wellbeing improves. They are extremely positive about Better Access, appreciating the fact that it enables them to receive free or low-cost services from specialised providers. The providers are also positive, enjoying the role they are playing in facilitating access to quality care.

Is this true? Or is it another case of the Emperor's New Clothes? How do we know what the Emperor is really wearing?

There are obviously vested interests in the whole debate:

A 2011 media article[xxxvii] reported on Mark Butler's comments about GP payments under Better Access:

> The recent evaluation of the Better Access program clearly showed the GPs have been getting paid over the odds," Mr Butler told parliament on Thursday.
>
> The average GP consultation under the program lasted 28 minutes, the minister said. Doctors have been getting a flat rate of $163 for that when a standard Medicare consultation that lasts more than 40 minutes is just $99.

Even after the budget overhall, GPs now receive a 27 per cent premium on top of the standard rate if they have done *six* hours of mental health training.

This sort of financial incentive is not good news for determining the real value to clients, especially when what is to be diagnosed and rendered pathological, is also politically driven[xxxviii] and subject to the dictates of mainstream scientism: The presumed medical and psychological authorities dictate what grants get funded, what is to be studied in laboratories, what gets taught, what is normal, and especially what is human and what is not. [xxxix]

One example of this goes back to research on antidepressant effectiveness conducted at the Oregon Health and Science University.[xl] The researchers subpoenaed the U.S. government to release all the studies on antidepressant effectiveness in its archives. They found that research reporting positive effects for antidepressants was twelve times more likely to be published than studies reporting negative results. We now have "publication bias" to add to the list of biases that impact in impressions of effectiveness (and, of course, there's also "presenter bias"--I'm here telling you about the research that stands out to me!).

The Oregon study concluded that publication bias had inflated the common impression of the effectiveness of serotonin reuptake inhibitors by about a third overall; and for some medications, the figure was twice as high.

In another study, is was found that the most effective psychiatrist actually achieved better results with placebos than the worst-performing psychiatrist achieved with antidepressants[xli]

But if we question the emphasis on EBP and the medical model--on empirically validated treatments and clear and teachable manuals--where does that leave us?

I think one fear is that it may leave counselling and psychotherapy without the type of status and respectability that is derived from association with two powerful systems in our culture – medicine and science. Describing our work in medical and scientific terms creates an aura of power and respectability.

James Hansen, professor and coordinator of the Mental Health Specialisation in the Oakland University Department of Counselling, describes the difficulty counsellors and psychotherapists have defining ourselves, a difficulty exacerbated by the increasing diversity of the profession[xlii]. Embracing the medical model alleviates

anxiety about not having a clearly defined identity, and it provides a strong, ready-made, and well-defined identity that also promises recognition and financial rewards.

Yet it also seems clear that the medical model:

(a) does not accurately describe what actually occurs in psychotherapy and counselling;
(b) continues to dominate the field not because of its accuracy but because of its questionable ties with medicine, science, and the health insurance industry;
(c) obscures the fact that psychotherapy and counselling are interpersonal processes, not medical procedures; and
(d) fails to account for the fact that the vast majority of clients use psychotherapy and counselling for support, guidance, and personal growth instead of treatment for mental illness.[xliii]

As educators, we have a huge responsibility in how our students come to understand and respond to these issues. What are we telling them? Are we providing them with adequate information and opportunity to:

1) Decide what their posture will be relative to the medical model?

2) Consider the ethical implications for working with clients who have received a diagnosis of a "mental disorder" when other models might suggest these people are merely responding in a way humans respond to difficult moments of life?

3) Explore whether it is ethical to collaborate with managed care and other health insurance companies, and if doing so is really in the best interest of our clients' welfare?

4) Re-evaluate diagnostic tools, including the DSM, which essentially buys into the medical model?

5) Define psychotherapy and counselling according to a range of models?

Alternative models
In the 2009 PsychOz article mentioned earlier, Arden and Linford propose a new model of brain-based, client centred therapy as an alternative to the medical model. Their “BASE” model offers a complex understanding of how people change based on brain neuroplasticity.

They claim that a central component of change is attunement:

> Attunement helps our clients face what has been hidden and experience that has been denied, and as that happens both their brains and ours are changed. We also help by educating clients about how their behaviour affects their brains and how that in turn changes how they feel (p. 22).

Brain neuroplasticity is at the centre of several new models of learning and therapy. The current experts include Loius Cozolino, Norman Doidge, Allan Schore, Dan Seigel, Bessel Van der Kolk, and others.

Allan Schore writes about the importance of nonlinear dynamical thinking within the intersubjective field, both during development and psychotherapy:

> When a psychobiologically attuned dyad cocreates a resonant context within an attachment transaction, the behavioral manifestation of each partner's internal state is monitored by the other, and this results in the coupling between the output of one partner's loop and the input of the other's to form a larger feedback configuration[xliv].

Schore describes how these kinds of coupled dynamics are central to counselling and psychotherapy, where they occur beneath the level of consciousness, where arousal levels, facial expression, emotional perceptions and response, body rhythms, and pupil size are all significant indicators of empathy.

Schore is not alone in describing these elements as the foundation for therapeutic outcome, but how do we determine if the fine new cloth woven by the neurobiologists has any substance?

I happily admit a bias towards some of the ideas arising from neuroplasticity research. The ideas remind me of to the story about the 100th monkey, popularised by Ken Keyes in his book about social change.[xlv] It is a parable about change and about possibility:

> The Japanese monkey, Macaca Fuscata, had been observed in the wild for a period of over 30 years.
>
> In 1952, on the island of Koshima, scientists were providing monkeys with sweet potatoes dropped in the sand. The monkey liked the taste of the raw sweet potatoes, but they found the dirt unpleasant.
>
> An 18-month-old female named Imo found she could solve the problem by washing the potatoes in a nearby stream. She taught this trick to her mother. Her playmates also learned this new way and they taught their mothers too.
>
> This cultural innovation was gradually picked up by various monkeys before the eyes of the scientists. Between 1952 and 1958 all the young monkeys learned to wash the sandy sweet potatoes to make them more palatable. Only the adults who imitated their children learned this social improvement. Other adults kept eating the dirty sweet potatoes.

Then something startling took place. In the autumn of 1958, a certain number of Koshima monkeys were washing sweet potatoes -- the exact number is not known. Let us suppose that when the sun rose one morning there were 99 monkeys on Koshima Island who had learned to wash their sweet potatoes. Let's further suppose that later that morning, the hundredth monkey learned to wash potatoes.

THEN IT HAPPENED!

By that evening almost everyone in the tribe was washing sweet potatoes before eating them. The added energy of this hundredth monkey somehow created an ideological breakthrough!

But notice: A most surprising thing observed by these scientists was that the habit of washing sweet potatoes then jumped over the sea...Colonies of monkeys on other islands and the mainland troop of monkeys at Takasakiyama began washing their sweet potatoes.

Thus, when a certain critical number achieves an awareness, this new awareness may be communicated from mind to mind.

Although the exact number may vary, this Hundredth Monkey Phenomenon means that when only a limited number of people know of a new way, it may remain the conscious property of these people.

But there is a point at which if only one more person tunes in to a new awareness, a field is strengthened so that this awareness is picked up by almost everyone!

As in all good teaching stories, there is some fact and some fable in this tale, leading us into the realm of possibility as a way of thinking. As neuroscientist, Candace Pert[xlvi], reminds us, "absence of proof is not proof of absence".

In the realm of facts, evidence from neuroimaging now offers a possible explanation for some of the monkeys' behaviour: mirror neuron systems (MNS).

The existence of mirror neurons arose from the work of researchers at the University of Parma, Italy. These neurophysiologists placed electrodes in the ventral premotor cortex of the macaque monkey to study neurons specialised for the control of hand

and mouth actions; for example, taking hold of an object and manipulating it. During each experiment the researchers allowed the monkey to reach for pieces of food and recorded from a single neuron in the monkey's brain, thus measuring the neuron's response to certain movements[xlvii]. They found that some of the neurons they recorded from would respond when the monkey saw a person pick up a piece of food as well as when the monkey picked up the food.

A few years later, the same group published a paper discussing the role of the mirror-neuron system in action recognition, and proposing that the human Broca's region was the homologue region of the monkey ventral premotor cortex.[xlviii] A subsequent study by Ferrari Pier Francesco and colleagues[xlix] described the presence of mirror neurons responding to mouth actions and facial gestures. In 2002 Christian Keysers and colleagues reported that, in both humans and monkeys, the mirror system also responds to the sound of actions[l].

Recently, evidence from functional neuroimaging strongly suggests that humans have similar motor neuron systems: researchers have identified brain regions which respond during both action and observation of action. Functional Magnetic resonance Imaging (fMRI) can examine the entire brain at once and suggests that a much wider network of brain areas shows mirror properties in humans than previously thought. These additional areas include the somatosensory cortex and are thought to make the observer feel what it feels like to move in the observed way. [li]

Although there is debate about some of the claims for MNS, the research offers the first biological evidence that when we experience purposeful sensory stimulation, our brains may *simulate* this external experience neurophysiologically using multisensory inputs (including auditory, visual, affective, olfactory, appetitive, gustatory, and, most importantly, feelings). Identical sets of neurons can be activated in an individual who is simply witnessing another person performing a movement as the one actually engaged in the action or the expression of some emotion or behaviour

In other words, MNS research lends support to the "common factors" voices that advocate for the positive therapeutic effects of empathy, warmth, congruence, and the therapeutic alliance[lii]. It demonstrates that what is happening in the relational field of interaction between client and therapist can produce changes in the client.

I don't claim to know all of what makes therapy--or education--work. I strongly suspect it varies from therapist to therapist, client to client, culture to culture--and that we are to some extent wasting precious time trying to empirically validate treatments when

> Turning and turning in the widening gyre
> The falcon cannot hear the falconer;
> Things fall apart; the centre cannot hold;
> Mere anarchy is loosed upon the world,
> The blood-dimmed tide is loosed, and everywhere
> The ceremony of innocence is drowned;
> The best lack all conviction, while the worst
> Are full of passionate intensity.

William Butler Yeats (1865-1939) The Second Coming.

Psychotherapy and counselling is on a threshold in Australia. Do we succumb to the increasing pressure for empirical validation and all that entails, or do we claim the diversity and depth of healing our profession has to offer these troubled times? Is there a middle line?

I am clear that counselling, psychotherapy, and education all involve more complex dynamics than can be explained by the set progression of diagnosis, prescription/prognosis, treatment, follow-up evaluation, or "clear and teachable manuals". The danger in adopting alinera model and ignoring the evidence of complexity is not only that we are ineffective--there is also a real danger that we can do harm to the wholeness and ineffability of the complex systems with which we are interacting.

Complexity theory tells us that within any system, all dynamics evolve through continual feedback loops, where the output of one round is recycled back in as the input of the next one, a concept known as iteration.

Psychoanalyst, Terry Marks-Tarlow[liii] analyses clinical material in terms of the following principles:

1. Nonlinear relationship between diagnosis and treatment, in that diagnosis does not always precede treatment in a predictable, stepwise progression, and a course of treatment is not always implied reductionistically by diagnosis.

2. Intersubjective field, as constituted by continual feedback loops within and between people at multiple time scales and descriptive levels.

Marks-Tarlow describes how the whole of our body/mind/brain system self-organises according to implicit dynamics that exist on multiple, interlocking time scales. Even acts of conscious and deliberate decision making, such as lifting a coffee cup to our lips, are preceded by nonconscious brain events that occur on time scales too rapid for awareness. If we are not able to track all the events in lifting a coffee cup, how can we possibly believe that we can map a linear diagnostic and treatment sequence fior our clients?

Yet, if we subscribe to this complex, non-linear approach, how do we teach this to students?

How do we incorporate an understanding and experience of the bottom-up, subcortical processes involved in complex, multiple circular feedback loops with the more obvious top-down, cortical influences?

I think the first step involves adopting possibility as a way of thinking about what we do.

Theoretical biologist, Stuart Kauffman, makes an argument for a new scientific world view he calls "emergence". Emergence

> finds a natural scientific place for value and ethics, and places us as co-creators of the enormous web of emerging complexity that is the evolving biosphere and human economics and culture[liv].

Unfortunately, a large majority of contemporary scientists, educators, and practitioners are still reductionists--they maintain that the behaviour of the complex whole is "nothing more" that the laws governing the behaviours of the parts and their interactions. Even the exciting implications of mirror neuron systems can be reduced to "nothing but" mind over matter.

How we think about what we do is important. Philosophers are still debating the meaning of necessity and possibility, and how these states of mind might affect our experience, and I invite you to further the debate by experimenting with possibility as a way of thinking.

This may bring challenges. The first challenge arises because knowledge is constructed by eliminating possibility. If all explanations were possible and equally valid, then the law of gravity, the theory of relativity, and the whole body of logic would be lost among other possibilities attempting to explain the world. Embracing possibility as way of thinking does, therefore, make us less certain, less absolute.

This can be fraught with risk for both the teacher and the student. When we allow possibility, we allow for making mistakes, taking missteps, and misinterpreting. The gain is that we can reflect on these experiences, dwell in them, and allow the possibility of transformation.

The learning process is an emotional one: stress, fear, and insecurity enter the classroom. Students defend against this in overt ways like absenteeism and also in less obvious ways such as accepting new experiences or information too willingly, too uncritically, in order to avoid conflict or discomfort.

Do we know how to recognise these variations and to support the learning that can arise through engaging them ? Or do we avoid them, or experience them as insurmountable obstacles?

A complex, relational perspective--possibility as a way of thinking--supports us in the process of knowing students, of bearing the uncertainty of the inescapably complex reality that must be engaged if our students are to learn. Teaching becomes the difficult and delicate task of facilitating change through full-bodied commitment to relationship—to fear, anxiety, anger, love, disappointment, and, at best, exultation.

Of course, in aiming for the *edge* of chaos, where the most productive learning takes place, we and/or our students will sometimes overshoot. But this is not necessarily a problem. It can be an opportunity for greater sophistication and complexity to develop--in both teacher and students.

If we adopt possibility as a way of thinking, we need to be able to bear uncertainty and to relinquish the illusion of absolute control. Of course we need to manage the

classroom, but getting students to do what we want is due to something far more complex than simple authority. It is about observing, attending, pacing, engaging, and being present to what arises in students' moment-to-moment experiences. In this way classroom management invites cooperation and makes change possible.

But are the systems and processes that we create around training--or the systems created for us-- supportive of complex teaching and learning models?

What aspects are supportive? What needs to change?

One area I have thought about is specific supervision for educators. In counselling and psychotherapy, supervisors review the work with clients and offer an alternative perspective from outside the relationship. The supervisor's suggestions can encourage shifts and changes in the counselling relationship.

Supervision of teaching might involve considering what "learning" is, and what kinds of changes teachers might encourage in themselves and others. It could be about discerning disruptions in classroom interactions and finding ways to creatively engage them.

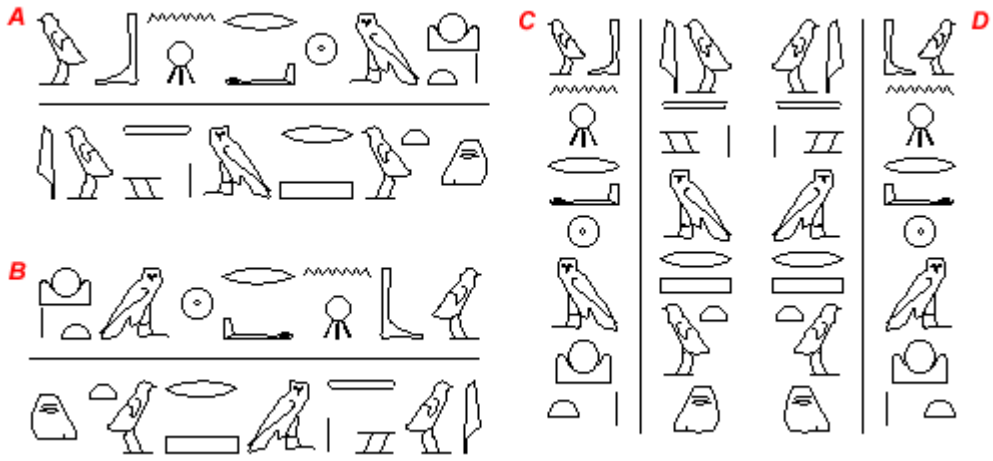
Perhaps the following questions, posed by Kleiman[lv], might be useful in developing fertile conditions for creativity, for confronting the complexities, and enhancing students' learning:
:

- What *might* we do to design and create knowledge enhancing and life enhancing learning experiences for our students and for ourselves?

- What *might* we do to create curricula that enable our students to confront with confidence the complexities and uncertainties they will face in their work?

- What *might* we do to create our own adventures in learning and teaching at the edge of chaos?

Last century, a French philosopher left his home in Switzerland to live close to the Temple of Luxor on the east bank of the Nile. He stayed there for fifteen years, unravelling the mysteries of ancient Egypt.[lvi]



He discovered that each individual Egyptian hieroglyph was *not* like a letter of the alphabet. The hieroglyph represented the characteristic connection of *all* the parts of a concept or experience. Instead of a spiral moving inwards to a fixed point (a single word like "cart"), a hieroglyph was more like a spiral moving outwards to ever-increasing connections and relations (what the cart was made of, the animals that pulled the cart, the goods carried in the cart, and so on).

This story reminds me to stay aware of possibilities. It also reminds me that there is always more to learn.

Another reminder of the complexity of teaching and learning comes from Gregory Bateson, who described the human system this way:

> "The total system is a sort of a ladder, interlocking settings which are calibrations, which are qualitative, discontinuous, fixed, structural sort of things."[lvii]

In other words, there are some structures, and there is also uncertainty and change. Our tolerance for the uncertainty allows us to reach for the next piece of the puzzle--the next possibility.

In conclusion I want to quote from a 17th Century book of rules in the Japanese tradition of "The Way of the Tea". The Zen Master writes that

> Proper learning requires an agreement of the interior and the exterior. If the heart is not like a host who carefully and expectantly prepares everything for the coming guest, then all the learning of forms and rules will remain futile. If only the heart opens up to the way without realising itself in the exterior, the way cannot unfold itself. This signifies for the student of the teaway not to learn the forms just as a set of rules and then to stick to them slavishly. But on the other hand he'll not progress on the way if he thinks his inner attitude right but does not master the outward forms. The form and the inner attitude have to go together. [lviii]

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