

CULTIVATING POSITIVE LEARNING DISPOSITIONS

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Abstract

Approaches to the development of young people's habits of mind vary along a number of dimensions. Some foreground intellectual habits, and tend to prefer speaking of developing 'thinking' rather than 'learning'; others take a broader view of what lifelong learning involves, and include experiential, emotional and imaginative factors. Some focus on the development of 'skills' while others argue that we need to think of attitudes, values and interests – the fashionable word is 'dispositions' – as well. Some seek to develop stand-alone materials and activities, while others look for ways to infuse regular classrooms and schools with features that lead to the strengthening of desirable habits of mind. Some tend to be prescriptive, having done all the planning, as it were, behind the scenes, while others are more organic, encouraging teachers to evolve their own methods in a more critical and creative fashion. Some are designed to be strongly 'delivered' by teachers to students, while others see essential value in involving students themselves in understanding and developing their own local knowledge and preferred methods for habits-of-mind development. And finally, some think of teachers as being 'trainers' of these habits, while others emphasise their role as 'culture-change agent', creating an environment that systematically invites and stretches the habits. This chapter describes a range of approaches that stress *learning* rather than thinking; *dispositions* rather than skills; *infusion* rather than stand-alone; *organic* rather than prescriptive methods; *involvement of students* rather than delivery of a ready-made product to them; and *culture-shifting* rather than training. It is argued that such approaches offer a more effective foundation for lifelong learning.

Why do I come to school? To develop my learning power, of course! They give us interesting things to explore that get harder and harder. In finding out how to grapple with them, we develop the 'learning muscles' and learning stamina that will enable us to get better at whatever we want, for the rest of our lives. People like scientists and historians have figured out special-purpose way to learn: as we get older, we practice those, and think about how they might help us in everyday life. As powerful learners, we will be better able to learn new skills, solve new problems, have new ideas and make new friends. We know that learning itself is the one ability that will never go out of date – guaranteed – (unlike programming your i-Pod!) And learning power is learnable. No matter how so-called 'bright' you are, everyone can get better at learning. Even professors sometimes have learning difficulties! Oh, and by the way, as we learn the tricks of the learning trade, so we naturally do better on examinations too! It's a no-brainer, really.

Kyle, 14, Cardiff

Apart from food, shelter and love, more than anything else today's young people need strong minds. They need minds that are supple and robust enough, as Kyle says, to deal well with the challenges and uncertainties that are coming their way. Whether it be mastering complicated new technology, mixing with different kinds of people, moving to a new country, or coping with a baby without any Aunties or Grannies to support and advise you...the one thing we can be sure of is that today's students will need to be up to living a learning life.

If they are not – if they do not feel equipped to do so – then we are only too well aware of the escape routes that are open to them. When fighting, drinking, shagging, getting stoned or blowing yourself up become the only apparent alternatives to facing complicated reality – because you have not learned how to - we all suffer the consequences. 'My ex-boyfriend takes drugs to escape from reality,' said one young woman. 'It was his inability to cope with insecurity'. Another said: 'If you're insecure anyway, or you've got a problem, and you're out with your mates, and somebody says to you, you know, I've got something, what do you want...It's just a way of escaping'.¹

So much is common knowledge. There is no shortage of fine words and good intentions along these lines, as education systems around the world try to engage with these issues. In the UK we are currently surrounded by rhetoric about 'lifelong' and 'personalised' learning.. 'Our ultimate goal is to promote and value learning as a rewarding lifelong experience' says one recently-launched Local Authority policy document on Teaching and Learning. '21st century teaching needs to [develop] learning how to learn in preparation for a lifetime of change', declares the UK Government. A report from the think-tank Demos, commissioned by the Minister for School Standards in June 2004, declares that:

Successful lifelong learners need the ability to learn new material quickly in both their working lives and their personal development. Those who cannot learn well face educational, economic and social exclusion. The more learning can be personalised to meet the needs of individuals, the more successful and enduring their education will be.

'Young people need to be provided with educational experiences that will enable them to deal successfully with current and future change with optimism and

resilience,' says Tasmania's widely admired and copied 'Essential Learnings Framework'. And so on.

Until recently, however, practical responses to these calls for educational reform have often been disappointing. Students have been exhorted to plan their revision carefully; to organise their knowledge using spider or tree diagrams instead of linear notes; to use mnemonics and imagery to help them remember lists of facts; to drink water constantly, lest their brains dry up and stop learning. Teachers have tried to address issues of 'self-esteem' or 'emotional literacy' that are thought to interfere with learning. Or they have tried to sort their students into various boxes according to their 'learning style' or 'multiple intelligence profile' – mental characteristics that have often been assumed to be immutable, and readily discernable on the basis of simple pencil-and-paper questionnaires – and to differentiate their teaching style accordingly. Despite a good deal of enthusiasm, many such approaches have turned out to be piecemeal, short-lived, scientifically dubious, and largely ineffective at either raising standards or changing students' learning attitudes. A recent comprehensive meta-analysis of studies of learning styles, commissioned by the Learning and Skills Research Council, for example, concludes that:

Some of the best known and commercially most successful instruments have such low reliability, poor validity, and *negligible impact on pedagogy*, that we recommend their use in research and in practice should be discontinued.
(emphasis added)

Even many of the sounder attempts to teach 'thinking skills' have had equivocal results, often being greeted enthusiastically by teachers and students alike, sometimes producing some short-term gains, but frequently showing a disappointing lack of transfer, or a failure to last or embed in spontaneous thinking and learning (Perkins 1995).

While it is possible, as we shall see, to improve on such pioneering efforts, progress over the last 20 years has been hampered by a number of factors. Educational 'traditionalists' have consistently rubbished all such attempts to explore skill-development, caricaturing it as 'trendy' or 'laissez-faire', and as jeopardising the central aim of transmitting knowledge. Teachers have often been skeptical about skills-based approaches that have not been clearly articulated. While some of the proponents of 'brain-based learning' and the like have been rather over-enthusiastic and uncritical in promoting simplistic slogans and models, and 'handy hints' that are ill-founded. Commercial imperatives have sometimes driven out proper scientific caution.²

The foundations of Learning to Learn: Sand, Cement and Water

Recently there have been a number of attempts to construct a sounder and more coherent conceptual and empirical platform from which to launch innovative approaches to pedagogy and school organisation. The three main ingredients of these foundations – the sand, cement and water, if you like – are the *learning sciences*, *futures thinking*, and school-based *action research*. Let me say a little about each.

Cognitive sand

The scientific 'sand' comes in a variety of colours, of which three of the most important are cognitive science, neuroscience, and sociocultural studies. From cognitive science comes, crucially, a reappraisal of our understanding of the nature of 'intelligence'. Out has gone the idea that young people's learning is largely

determined by a fixed-sized pot of general purpose resource which they inherited from their parents – a factor over which teachers therefore have no control. And in has come a growing realisation of the extent to which *learning reflects habits of mind that have themselves been learned*, and which are therefore amenable in principle to further growth or change. On this new view, it becomes possible for teachers to see themselves as ‘mind coaches’: people who are in the business not only of transmitting ‘bodies of knowledge, skill and understanding’, but of expanding the capacity to learn itself. What matters here, from a practical point of view, is not the technical niceties of the ‘nature vs. nurture’ debate (which have been exhaustively discussed elsewhere)³ but the shift of attention from that which is fixed about youngsters’ minds to that which is capable of development.

This shift is of very much more than academic interest. Children’s learning lives depend up on it. The work of Carol Dweck, for example, has shown that culturally transmitted beliefs about ‘the fixity of ability’ have a direct, deleterious effect on students’ willingness to persist intelligently in the face of difficulty⁴. Crudely, if you believe that ‘finding things difficult’ means you ‘lack ability’ (i.e. are (relatively) stupid) then, from that point of view, it looks smart to give up. There is no point in needlessly distressing yourself by banging your head painfully against a brick wall that you ‘lack the ability’ to penetrate. In general, this strand of cognitive scientific work has shown that dispositions like determination, recovery from frustration, willingness to take risks and ‘have a go’ are all capable – at least in principle – of being influenced by teaching methods, classroom cultures and school ethos.

Another recent trend in cognitive science has implications for the way in which ‘learning to learn’ programmes are developed. It challenges a pervasive belief about the way the mind is organised, which assumes that kernels of useful ‘skills’ and ‘concepts’ are readily extracted from the shells of particular materials and experiences, and then stored in the mind in a general, free-floating kind of way, so that they will (potentially at least) be called up by any subsequent problem to which they are relevant. Sadly, it turns out that the sense of ‘relevance’ is not given; it has to be learned. Our heads are full of useful ideas and skills that do not come to mind when they are needed: that is the norm. We are all capable of much better thinking than we usually deploy, for example.⁵ Thus acquiring the ‘skill’ is only a part of the learning that is required; the rest involves slowly discovering when and how and for what purpose it can be used. We need to be not only ‘able’, but ‘ready’ and ‘willing’ as well. It is no surprise, therefore, that many kinds of short-term and/or stand-alone training in ‘thinking skills’ do not spread; do not deepen; and do not last. To achieve this, longer term, more sustained, strategies are required.

Cognitive science tells us a range of other useful things, that there is not space here to go into in detail. We know there are smart and not-so-smart ways to ‘practise’, and that some forms of coaching make a positive difference, while others can even be deleterious. We know that ‘mental rehearsal’ is a powerfully effective learning tool – for learning a wide range of things from sports skills to handling stressful encounters – and that with encouragement people become more ready, willing and able to make use of such a strategy. We know that creativity involves, amongst other things, the ability to move fluently between focused, purposeful cognition and relaxed, receptive cognition, and that there are simple methods for encouraging young people to do so. And so on.⁶

Neuroscientific sand

Integral to the construction of strong foundations for educational practice is the second kind of ‘sand’, which comes from neuroscience. Here we have to be careful, however, as it has become contaminated. There is a good deal of uncritical hype

about 'brain-based learning' at the moment. There is no good evidence that you can make youngsters smarter by giving them short bursts of tricky exercises designed to expand the bundle of fibres that connect the 'analytical' left hemisphere of the brain to the 'holistic' or 'imaginative' right. There is no good evidence that an hour without water turns a smart plum of a brain into a dried-up prune. There is still very little evidence that so-called 'smart pills' will actually make you smarter.

On the other hand, there is very good evidence indeed that 'thinking too much' interferes with learning. Hard thinking focuses the brain's attentional field on that which is probable, plausible or 'sayable', and thus makes it miss more intricate or unexpected details and patterns in experience. For example, the effort to describe a face – to render down all that patterned subtlety into a few words – interferes with one's ability to recognise it again in a crowd. And thinking aloud can interfere with creative problem-solving. Once they know these things, teachers can be more alert to the disadvantages of 'trying too hard' and 'thinking too much', and help their students to develop an appreciation of when and how to pay wordless attention, as well as when and how to analyse and explain.⁷

Another important area of brain research for education is the new field of 'affective neuroscience'. While popular approaches to 'emotional intelligence' have focused on crude categories such as 'anxiety' and 'self-esteem', and bland nostrums such as 'Feel good, learn good!', the neuroscientists have been finding that emotions are not antagonists of 'intelligence' but essential aspects of it. Without feelings, intellectual cleverness become abstract and disembodied, and people who have lost emotional capacities through brain injury (or mental illness) are inclined to 'think clever and act dumb'. Emotional intelligence seems to be much more a matter of understanding the vital functions of emotions, and heeding their messages, than of trying to 'manage them away'. Emotions do not block learning so much as colour or nuance it in a variety of useful ways.⁸

Sociocultural sand

The third kind of scientific sand comes from the sociocultural studies that have developed out of the pioneering work of Russian psychologist Lev Semyonovich Vygotsky. His insights were twofold. First, minds consist largely of internalised habits, strategies and attitudes that are first developed in interaction with other people, and which therefore substantially reflect *their* habits and values. Minds are contagious, in other words. Thus one of the most powerful influences that teachers can have, especially on younger minds, is not so much what they are teaching, but what learning characteristics they are modelling as they do so. When things go slightly wrong, does the teacher model calm, patient inquisitiveness, or do they model an anxious concern to re-establish control as quickly as they can? Do they welcome and enjoy challenge and uncertainty, and thus foster a climate in which their students can welcome them too, or do they, inadvertently, reinforce the idea, by their reflex behaviour, that it is *knowing* we want round here, not *finding out*, and that 'not knowing' is an aversive state to be rid of fast?

Vygotsky's second insight is that, whatever habits of mind you bring with you to learning, these are always selected, shaped and skewed by whatever unique predicament you happen to find yourself in. The 'intelligent learning agent', we might say, is never the person alone, as they can be described in abstract, but always 'person plus': me plus my laptop, plus my modem, plus my books...and most importantly, plus the intricate, evanescent web of human resources in which I am always enmeshed. How I learn reflects who I'm with – and that includes who I might be with in my memory and imagination - as well as who's currently around, on my team. Knowing this, teachers can help students make the best use of the material

and human resources that surround them, and to learn how to move skilfully around in the social space of learning – knowing when to go for a walk by yourself, when to dash off an email for advice, and to whom, and how to contribute to groups in ways that maximise the collective learning power of all.⁹

Visionary cement

The ‘cement’ of these learning-to-learn approaches adds well-thought-out values to scientifically-informed theory. We cannot decide what is ‘good practice’ until we are clear about what we are educating young people *for*. Education is, after all, the systematic attempt to cultivate in all young people whatever-it-is that we think they are going to need to thrive in the 21st century. We can’t know what and how to teach them unless we have some idea what the challenges and opportunities are which we imagine they are going to meet. Education draws on the past in order to anticipate the demands of the future. If it only focuses on transmitting what is known, without paying serious attention to what it is that students will need, it risks - especially in times of change – becoming a waste of young people’s precious time.

The bald insistence that ‘they must study Shakespeare and algebra’ (or whatever is your favourite subject) because we are agreed that these are exemplary products of human learning and achievement, without paying any attention to the *habits of mind* that are being cultivated by ‘studying’ them in a particular way – and without asking whether those habits of mind are the ones they are going to need – is wildly irresponsible. The tedious to and fro between ‘traditionalists’ and ‘progressives’ that has passed for educational debate, and the woeful poverty of imagination that manifests as the current fascination with ‘personalisation’ and ‘choice’, are costly distractions because they usually leave the vital, prior questions of ‘why?’, ‘what for?’, unasked and unanswered. Young people know that what they need – what they have a right to expect from their education – are strong minds, up to the challenge of coping with all the complexities of 21st century life. Many of them know they are not getting it, and that fiddling around with fractions and formulae, analysing literary works and historical motives, is not developing what they need - unless it is done in a very particular way. The compliant may learn to walk the narrow plank of examination success, or simply the art of keeping out of trouble. The less docile learn how to avoid challenges and subvert authorities. It is an open question, regardless of the qualifications they do or don’t get, which strategies develops life-skills of greater real-world currency.

The history of educational reform is a chronicle of failed innovation. The rusting scrap-heap of tinkering, once so hotly contested, now so quickly superseded, reflects the fact that such reforms invariably involve tinkering with what exists, rather than asking the ‘What for?’ question and working back. They barely scratch the surface. It seems likely that young people will not re-engage with their schooling until they can see how it will help them not just in the job market – a dubious rationale, as they know – but with the central challenge of their lives: insecurity in the face of ambiguity and complexity.

Practical water: the role of action research in educational change

The third foundation of what we might call ‘expansive education’ – the ‘water’, without which the other two ingredients would not ‘set’ – is action research: a wide range of small-scale, low-cost, low-risk, highly practical activities and interventions that turn the ‘in principle’ of science, and the ideals of vision, into concrete realities, accessible and appealing to large numbers of teachers. The action research foundation places more value on such practitioner-generated ideas than it does on large-scale, costly Research with a capital R, which so often in the past has had disappointingly weak effects on practice. These approaches also value grass-roots dissemination over the

laborious construction of fine-sounding 'policies', which again have little effect unless they are cashed out in practical suggestions that both inform and inspire. They draw on the science to give depth and coherence to its ideas, and on the vision to acknowledge the social realities and social needs that teachers see around them every day. Combined, at best, these two ingredients fire educators' imaginations about what is both possible and desirable. But this enthusiasm can all too easily fizzle out if the science and the vision are not immediately backed up with 'And here's something you could try'.

It is central to the dispositional approach, therefore, that local experiments are communicated within and between schools, and that this creative ownership is publicly acknowledged and celebrated. The low-key approach of 'here's something you could try' is, we feel, much more likely to appeal to busy teachers than the deluge of glossy materials, full of fine words, to which they have become used. But any classroom-tested ideas and illustrations that are passed on must be quickly and continually 'hedged' with encouragement to 'try them out', customise them, and make them their own. Indeed, it may well be central to the sustained success of any 'learning to learn' initiative that not only teachers, but students themselves, are continually involved in critical and creative reflection on whatever they are trying out. No 'magic bullets'; no 'prescriptions': only seeds of practical ideas that have 'worked' for at least one other teacher, to be played with, adapted and discussed.¹⁰

The dispositional approach thus rests on the working assumption that effective, sustained change in the ethos and effects of schooling, to develop stronger positive learning dispositions, only happens when all three of these ingredients are present.

The dispositional framework

Taken together, these three kinds of consideration have steered the development of a more 'cultural' approach to school improvement that is distinct from some of the other approaches to 'learning to learn'. Let me draw out and make explicit some of the key dimensions along which such approaches may differ.

Learning rather than Thinking

Many current approaches to 'learning to learn' describe their intentions in terms of the development of thinking. Though different authors define the scope of what counts as 'thinking' differently, the usual emphasis is on processes that are explicit, intellectual, precise, justifiable, rigorous and logical. Improving the construction and evaluation of explicit, reasoned argument is the central concern. Often the word 'learning', when it is used, is taken to be co-extensive with this kind of thinking. However, it is clear from the scientific literature that I have illustrated, that learning involves far more than rational cogitation – for example, patient, unthinking attention to immediate experience; daydreaming and reverie; active visualisation and mental rehearsal; sensitivity to creative inklings and hunches; a nuanced understanding of the relationship between emotion and learning; and sensitivity to different rhythms and phases of learning. Dispositional approaches deliberately incorporate these less rational aspects of learning, seeing their cultivation as a vital balance to models of education that have largely ignored them.

Dispositions rather than Skills

Conventional approaches to learning to learn also make use of the word 'skills' – 'thinking skills', 'critical skills', and so on. More broadly, it is now common place for the goals of education to be described as 'key skills' or 'core competencies'. It is, of course, welcome to see the traditional preoccupation with knowledge transmission balanced with an explicit concern for the development of mental capability (even to

the point where we now have a government Department for Education *and Skills*). However, there are two pitfalls in the skills notion. First, it suggests that complex performance can be broken down into component 'skills', which can then be 'trained' (and then somehow re-integrated inside a person's head as a complex assembly of cognitive sub-routines), Second, it falls into the trap, of which we spoke earlier, of assuming that such training experiences can rapidly result in the creation of the free-floating mental capacities. Neither of these assumptions is valid. Nor is their corollary: that you can tell, on the basis of a quick test, whether someone 'has' the skill or not. They may have it but do not feel ready or willing to show it. Or they may display it in a familiar and predictable setting, but have failed to realise the wider range of situations to which it is potentially applicable.

To counteract some of this over-simplifications, many recent approaches prefer to speak of the cultivation of 'dispositions' – though this is not without risks in its own right. The abstract noun 'disposition' seems to point to a class of mental entities distinct from 'skills' (as well as 'knowledge'). This can create bogus and unnecessary worries about which category to place particular capacities – kindness? imaginativeness? – into. Whereas actually all that is at stake is the recognition that people are differentially 'disposed' to make use of *any* putative skill or ability; that their degree of disposed-ness changes over time and place; and that education can influence the development of these inclinations, as well as the sophistication of the 'skill' itself. It is of little use 'having' a skill that never comes to mind. The dispositional approach assumes that to help someone become a more effective all-round learner, you have to help them disembed any ability from its context of acquisition, and to develop the 'meta-disposition' to drive that disembedding process for themselves.

Capability rather than Attainment

Many of the pioneering learning-to-learn approaches were focused on raising students' school attainment. Mnemonics will help your students remember their French verbs. Spider diagrams will help them organise and retrieve conceptual knowledge – and thus do better in their exams. Thinking skills will help them write better-argued and better-structured essays. Dispositional approaches, however, may derive from their future-oriented values a more ambitious aim: to help students become better learners – curious, tenacious, thoughtful, imaginative and so on – out of school as well as within. The goal dispositional development cannot be pursued at the expense of the 'standards agenda' – these days, no headteacher could afford to ignore the latter. But it does mean that we have to take the transfer issue doubly seriously, and deny ourselves the comforting assumption that aiming to raise examination performance will – should? – automatically inculcate useful real-life learning dispositions. The science tells us that 'traditional good teaching' is more likely to stunt the development of dispositions such as resilience and resourcefulness, than it is to strengthen them.¹¹

Some approaches do not distinguish clearly between the aim of helping young people 'become better learners', and helping them 'learn better'. Yet a moment's reflection reveals their difference. A traditional good teacher may well create close to an optimal environment in the classroom, for students to focus on their set tasks, and by doing so, she will help them learn better. But her very success at creating and maintaining a calm, orderly, pleasant, purposeful environment deprives students of opportunities to develop the social and cognitive dispositions to do this optimising for themselves. Thus they become more, not less, dependent on the continual presence of the teacher. (Teachers are familiar with inheriting classes who cannot regulate themselves, but can only 'work well' under the firm hand of controlling teacher). Dispositional approaches set themselves the task of helping teachers to support the

development of positive learning dispositions that will stand young people in good stead wherever they find themselves.¹²

Infusion rather than Add-on

Many of the earlier learning-to-learn approaches left 95% of school and classroom life unaltered, and added on something different. Some of these add-ons were small-scale hints and tips to be used within ordinary lessons. Some were stand-alone lessons in 'thinking skills', 'creative thinking' and so on. Some sectioned off a few days, or even a whole week, at the end of term, for a feast of 'creativity'. Many of these activities were very well received by students. However the evidence for any abiding impact on students' learning dispositions, let alone on their school attainment, has been very thin, and often disappointing. There are several possible reasons why this might be so. Bolt-ons often underestimate the transfer problem, and so do not attend to it. The initial novelty can pall quite rapidly. There is sometimes very little progression in the activities, so they quickly become stale. And sometimes they are presented to students in an unquestioning, 'God's Gift' kind of way, that does not invite their critical involvement or ownership.

More recently, dispositional approaches have tried to find ways in which the learning-to-learn intention can become more deeply rooted, more gently cumulative, more organic and experimental, and more involving of students' critical and creative energies. Such approaches try to find practical ways of seeding a culture change in the classroom (or the school as a whole) that nurture, value and steer students' development in the direction of the positive learning dispositions. A beautiful laminated 'Stuck poster' – a display of ideas about what students can do when they are stuck – may well have less impact on dispositional development than a more scruffy home-made version that is a continual source of debate and up-grading by students themselves. The idea that learners are predominantly Visual, Auditory or Kinaesthetic in their learning is better presented not as an established truth (which it isn't), but as a subject for critical discussion and experimentation in the classroom. The idea of 'learning styles' becomes a device for stimulating the development of students' self-awareness, rather than another label to hang around their necks.

Infusion approaches also make use of some of the sociocultural insights outlined above. If ideas about how to learn effectively are contagious, as Vygotsky argued, then the classroom and the school can become a place where positive contagion is maximised, and negative diminished. Orchestrating opportunities for students to learn together, discussing hard problems, sharing ideas, swapping between the roles of 'learner' and 'teacher' amongst themselves, becomes a higher priority for a dispositional teacher. So-called 'reciprocal' and 'peer' teaching have been shown to be effective at building the knowledge and the confidence of both the 'tutor' and the 'learner'. The nature of learning conversations, and the vocabulary that is used to articulate the process of learning, are also important. And dispositional teachers quickly come to see that opportunities for them to model positive learning dispositions are also valuable. It becomes part of their professional role to seize and create chances to say 'I don't know', 'Could you explain that to me again: I didn't get it', or 'That's a good question: I've never thought of that'.

Though they are still in their infancy, our guiding hypothesis is that pedagogical approaches that

- involve infused culture-change,
- are organic and evolving rather than static, and
- which involve students in enquiring about learning rather than learning to use someone else's Handy Hints,

will be more effective in the long run.

Whole-school rather than just Classroom-based

The heightened recognition of the importance of language, modelling, student involvement and ownership, and other tell-tale aspects of cultural value – as well as pedagogy – draws attention to the impact that the whole-school environment can have on the development of students' 'learning power'. Where the earlier approaches to learning-to-learn focused exclusively on what the teacher was doing in the privacy of her classroom, more recent approaches, such as 'building learning power',¹³ are on the look-out for opportunities to embed L2L messages in the life of the whole school. For example:

- Do displays of students' 'work' acknowledge and celebrate their Learning Journey, with all its ups and downs, or only the Wonderful Product?
- Do you show a video of the collapsing scenery and the drying up, as well as the last night of the school play when everything finally went right?
- Do you invite members of the community in to the school to talk not about their achievements, but about their struggles, difficulties and failures?
- Do teachers dare to display themselves as learners, both to each other and to the students?
- Can teachers ask each other for help without feeling threatened?
- Can the head make a fool of herself without getting up-tight?
- Do the governors appoint an observer to help them improve the quality of their meetings?
- Are parents (and students) privy to the doubts and uncertainties that the school is facing, or are they continually presented with the Illusion of Total Control?
- Are sports about Learning, or are they all about Winning?

Conclusion

These are pioneering days. For over a hundred years, schools have mimicked the industrial production line. Students progressed down the conveyor belt in batches, with a variety of 'experts' bolting packages of 'knowledge, skill and understanding' on to them as they went. Every so often they went through Quality Control to be graded and stamped, as a result of which they were sent into different sets or streams or schools, or they left altogether. A student could no more question the bit of Maths that was being welded on than an egg could question being imprinted with a little lion. Things *have* changed since the nineteenth century – but surprising little, given the massive changes in the surrounding society. But finally, with a lot of creaking, and some complaining, we are realising that education is about becoming a Learner rather than a Knower, and that the idea of school as Knowers' Ark has had its day. We are coming to see that developing positive, transferable learning dispositions is a subtle but achievable goal that takes time, finesse, and a change of heart by those who run and work in our schools. And we are also coming to realise that Learning involves much more than Thinking, and that powerful learners need to know how and when to watch and dream, as well as how to pick holes in an argument.

Notes and references

¹ Quotations from *Speaking Up, Speaking Out* (Industrial Society, London, October 1997)

² For a critique of some of these approaches, see Guy Claxton, *Teaching Children to Learn* (National Primary Trust, Birmingham, 2004), and Guy Claxton, *An Intelligent Look at Emotional Intelligence* (Association for Teachers and Lecturers, London, 2005).

³ See, for example, David Perkins, *Outsmarting IQ* (Free Press, New York, 1995), Stephen Ceci, *On Intelligence* (Harvard University Press, Cambridge MA, 1996).

⁴ Carol Dweck, *Self Theories* (Psychology Press, Philadelphia PA, 1999).

⁵ Perkins (1995), op. cit.

⁶ For a review of this research, see Guy Claxton, *Wise Up: Learning to Live the Learning Life* (Network Educational press, Stafford, 2001).

⁷ For a summary of this research, see Guy Claxton, *Hare Brain, Tortoise Mind: Why Intelligence Increases When You Think Less* (Fourth Estate, London, 1997).

⁸ See Antonio Damasio, *The Feeling of What Happens* (William Heinemann, London, 1999), and Jaak Panksepp, *Affective Neuroscience* (Oxford University Press, Oxford, 1998).

⁹ For an up-to-date survey of Vygotsky-inspired approaches to education, see Gordon Wells and Guy Claxton (eds), *Learning for Life in the 21st Century* (Blackwell, Oxford, 2002).

¹⁰ Matthew Horne, *Classroom Assistance* (Demos, London, 2001).

¹¹ See *Wise Up*, op. cit.

¹² From this point of view, some of the popular learning-to-learn approaches that rely on diagnosing and playing to students dominant 'learning styles' may improve attainment (though there is precious little evidence). But they run the serious risk of leaving students more *restricted* in their sense of themselves as learners, rather than of expanding their flexibility and sophistication.

¹³ Guy Claxton, *Building Learning Power: Helping Young People Become Better Learners* (TLO Ltd, Bristol, 2002).