Chapter 7

Pedagogies for improving schools

> *Why is it, in spite of the fact that teaching by pouring in, learning by a passive absorption, are universally condemned, that they are still so entrenched in practice? That education is not an affair of 'telling' and being told but an active and constructive process, is a principle almost as generally violated in practice as conceded in theory.*

(John Dewey, 1916)

> *In times of change, the learners will inherit the earth, while the knowers will find themselves beautifully equipped to deal with a world that no longer exists.*

(Eric Hoffer)

Education cannot survive long without hope. It would stop altogether in a society which lost all hope for the future.

The Twentieth Century saw repeated attempts to found a science of teaching - in the sense that teaching might be reduced to a set of objective laws, a collection of recordable behaviours. For those who seek to unravel the mysteries of teaching in terms of the amount of time on task, the pace of instruction, or the accuracy of the assessment record, I suggest a different starting point – a sense of future. It's not that good teaching cannot be explained, but rather that our explanations need to be articulated in more holistic and ethical terms.

This places a question mark on much of the teaching we find in schools. If, as Freire suggests, dialogue depends on hope, then why do we find so little that resembles true dialogue in classrooms? If learning has the potential to offer us alternative futures, why does school learning so often feel like a transfer of *inert* knowledge?

There is renewed emphasis on the classroom level in the School Improvement literature and a recognition that unless whole-school change is paralleled by a focus on learning and teaching, it is unlikely to

have much impact on achievement. This is insufficient, however, as the basis for developing a new agenda for School Improvement, and can lead to an indiscriminate adoption of more 'efficient' teaching methods which do not cohere with each other, with the direction of whole-school change or wider social transformation. The improvement of learning needs to be understood as part of a broader ethical project. The present chapter gives some pointers, and particularly relates the promotion of higher cognitive levels with the democratisation of learning and with a greater connectedness between cognitive, affective and practical development. (See for example the use of the words Bildung and Pädagogik in the German tradition.)

We are not, of course, the first generation to wish to bring new life to learning. Socrates, Comenius, Rousseau, Dewey and many others have questioned the formalised learning of their day, and tried to do things better. Periods of educational reform have often coincided with great turning points in history, and have invariably begun as the movement of a minority, opposed by the dominant forces of their day. Educational history brings many surprises. I read the other day of the school attended by John Keats, founded by John Ryland. Its teachers were religious nonconformists associated with the most daring scientists and democratic radicals of the day, the age of the French and American Revolutions.

> One autumn morning, John Ryland called up the whole school to see the departure of the swallows, which had clustered in surprising numbers on the roof of the building…
>
> Ryland, who believed in educating his pupils 'by recreation', would demonstrate the movements of planets and moons in the solar system … in the playground. Individual pupils were given a card identifying one of the planets or a moon, and listing some information to be learnt. With their cards, the pupil-planets and moons took up their stations in an appropriate circle of orbit around the classmate representing 'the great Sun'. The 'living orrery' was then set in motion. (Roe 1997:29-36)

This live engagement with the world, combining head, heart and hand, is infinitely more advanced than the supposedly scientific explanations of teaching of the positivist era. Starting around 1920, the controlling forces in American education set out to define learning in terms of thousands of specific objectives. It was like pinning down a butterfly – they just don't fly after that. Through hundreds of studies of 'effective instruction', teaching as the transmission of fragmentary facts and sub-skills was subjected to structured observation and quantitative analysis in the

attempt to isolate teacher behaviours which would lead to the most efficient acquisition. The butterfly still won't fly. In the last quarter century, this Fordist mass production of knowledge has literally been tested to destruction; the efficiency of teachers in transferring the set information into children's minds has been increasingly regulated through a regime of high stakes testing.

Among its many critics, these are the words of John Taylor Gatto, in his provocative book *Dumbing Us Down*. (It should be noted that these are not the sour grapes of a 'failing teacher'; Gatto had won numerous awards, including New York State Teacher of the Year after 25 years of successful inner-city teaching.)

> The first lesson I teach is confusion. Everything I teach is out of context… I teach dis-connections…
>
> The logic of the school-mind is that it is better to leave school with a tool kit of superficial jargon derived from economics, sociology, natural science, and so on, than with one genuine enthusiasm. But quality in education entails learning about something in depth…
>
> I teach the un-relating of everything, an infinite fragmentation the opposite of cohesion; what I do is more related to television programming than to making a scheme of order… I teach you how to accept confusion as your destiny. That's the first lesson I teach. (1992:2-4)

Positivism, inspection, and effectiveness research

Effectiveness research is dogmatically untheoretical in its study of teaching. Much of it seeks an explanation in terms of quantity, such as time on task, frequency of questions, or highly visible and easily recorded surface features such as classroom layout or specific pupil behaviours. (This is evident, for example, in the literature review by Sammons et al 1995.) There is little attempt in this literature to analyse interactions in terms of cognitive processes, and no clear foundation in a theory of pedagogy. In places Sammons et al warn against too simplistic a quantitative perspective:

> As Carroll (1989) cautioned 'time as such is not what counts, but what happens during that time' (Sammons et al 1995:14)

At times, a pedagogical theory is implicit (Ausubel's 'advance organiser'?):

> Effective learning occurs where teachers clearly explain the objectives of the lesson at the outset. (ibid:16)

In the main, however, we see recommendations for the intensification of surface features of teacher performance: 'Keep the teaching sessions task-oriented' or 'Have high expectations for achievement (give more homework, pace lessons faster, create alertness)'.

Such a thin and untheorized account was adopted for lesson observation by the English inspection agency Ofsted, which is why its inspection reports strip lessons bare of their real strength and shape, making it impossible for readers to imagine what happened or relate them to their own experience and sense of purpose. Inspectors have to use discrete observable categories: pace, planning, assessment, homework, use of resources and experiences. Teaching Methods is just another item on the list, with no guiding principle of what quality might consist of other than a 'variety' of 'appropriate' methods.

This discourse looks at teaching mechanistically, as a set of external behaviours which are not linked to a view of learning. It is a catalogue of teacher performances, rather than a pattern of meaningful interactions between teachers and learners.

> Simple solutions for improving teaching… often focus on individual features of teaching, such as using concrete materials, asking higher-order questions, or forming cooperative groups. But teaching is not just a collection of individual features. It is a system composed of tightly connected elements. And the system is rooted in deep-seated beliefs about the nature of the subject, the way students learn, and the role of the teacher. (Stigler and Hiebert 1999:8)

Hiebert and Stigler's research digs below the surface of teacher behaviours to look at the quality of *reasoning* in mathematics lessons. Deductive reasoning – the reasoning needed to draw logical conclusions from premises – was found in 62% of the Japanese lessons and 0% of the American sample. (ibid:4)

The Japanese teachers place high demands on the learners' problem-solving abilities, and simultaneously empower them as agents in their own learning. They give students time to struggle with challenging problems before providing direct explanations and summaries of what the students have learned. Whole-class teaching has a different role in the USA and Japan. In American classrooms it normally *precedes individual practice*: the teacher demonstrates how to solve a sample problem, clarifies the steps of a fixed algorithm which the students then apply to numerous examples. In the Japanese classrooms, direct teaching *follows group discussion*. The problem is usually 'one that students do not know how to solve immediately but for which they have learned some crucial

concepts or procedures in their previous lessons. Students are asked to work on the problem for a specified number of minutes and then to share their solutions.' (ibid:6-7)

> American students spend most of their time acquiring isolated skills through repeated practice… irrespective of whether students are working individually in rows or are sitting in groups, or whether they are using pencil and paper or have access to the latest technology. (Hopkins 2001:79)

Improving schools through 'direct' instruction?

The repeated advice from government agencies in England has been: more direct teaching. This would be unproblematic if pupils really were empty containers into which knowledge could be poured. Constructivist theories of learning, on the other hand, emphasise the need for learners to process information for themselves.

A transmission model, whereby teachers project a stream of facts and sub-skills, produces learning as *replication* - pupils copy down information and later demonstrate their knowledge by regurgitating what they have learnt through essays, practice examples and tests. This is such a long-established tradition that teaching and learning tend to collapse back into it by default if we don't deliberately set out to do things differently.

This is not to suggest that direct teaching is always inappropriate, but it has to involve ways of activating the learner's attention – sometimes known as 'direct interactive teaching'. Whole-class teaching, and even lectures to a larger audience, can be redesigned in order to subvert assumptions of learner subservience and passivity. This is necessary in order to raise the cognitive level and connect symbolic processing with feelings, action and experience.

Perkins suggests

- eliciting further examples
- asking learners to compare local examples with more distant ones
- analysing what they see
- linking new concepts to old
- and testing out new ideas by means of principles they already know. (1992:54)

He recommends we avoid simple replication in learning by requiring students to engage in 'understanding performances'; the learners don't simply demonstrate that they *possess* knowledge but must do things with it and move beyond the information given. This might involve

- explaining something in your own words
- giving new examples
- applying a theory to a phenomenon not yet studied
- or justifying a hypothesis through appropriate evidence. (ibid:77)

Modes of teaching

In order to strike a good balance, beginner teachers in Scotland are asked to consider four 'modes' of teaching: exposition, discussion, enquiry and action learning. They are recommended to avoid an excess of exposition / direct teaching. It is a start but rather too simple: it avoids issues of sequencing, context, purpose and above all, quality of learning. It also neglects the importance of questioning teacher dominance in directing and evaluating learning, and the need to promote students' awareness and evaluation of the aims and success of activities in which they are engaged.

Just as direct teaching can be enhanced by making it more interactive, the other categories can easily be found in debased forms.

- A teacher might describe a lesson as discussion though, to any observer, it looks as if one dominant individual (the teacher) is putting a series of closed questions to younger and less powerful listeners, or occasionally seeking out opinions which more or less coincide with the teacher's own. There is little communication among the learners, who rarely extend or comment upon each others' views.

- Enquiry quickly becomes another form of replication learning in which the individual pupil copies extracts from a reference book. When the teacher advises them to 'put it in your own words', the pupils understand this simply as a requirement to omit a few verbs and articles.

- Action learning can become thoughtless activity, in which pupils copy an artistic technique or carry out a science experiment which has been entirely designed by the teacher and whose conclusion is already obvious.

In any mode, we need to deliberately subvert replication learning. To enhance learning and retain new knowledge in memory, we need to engage the learner's mind in actively processing the information in some

way. We have to be constantly alert to routinised activities which do not result in real understanding.

A particular example would be the frequent use of 'comprehensions' in a variety of subjects. This type of activity perhaps owes its popularity among teachers to its incorporation of testing and control into teaching, but it is questionable as a means of developing understanding. It has been shown that pupils can answer questions without actually understanding the text, simply by transforming the syntax and paying attention to the order of words. The following extract from a nonsense passage shows how this works:

The Blonke
This particular blonke was quite drumly – lennow, in fact, and almost samded. When yerden, it did not quetch like the other blonkes, or even blore. The others blored very readily.

Q1 What is 'drumly'?
Q2 In what way(s) was the drumly blonke unlike the others?

(from Simons ed: The English Curriculum – Comprehension)

A more dynamic engagement would require us to *do something* with a text, such as:

- predicting how a story will continue
- re-arranging jumbled paragraphs in a narrative or report
- disputing a statement, from someone else's point of view
- comparing two texts on a similar subject
- examining the rhetorical devices used in a newspaper article.

Converting textual information into diagrammatic form encourages a more holistic reading. If our reading begins by asking ourselves what we already know about a topic and what we most want to find out, we become more focused and often more critical readers.

The visual representation of an idea can also be used formatively, during an investigation or in pursuit of an hypothesis. Sometimes we can appreciate a theory or concept more holistically through a visual model than through words alone. (Einstein explained that the idea of relativity first came to him as a mental image – he pictured himself travelling alongside a beam of light!)

Patterns of communication

Schools are verbally saturated, but often in ways which discourage learners from using language to generate their own thinking. There is a different balance between words and actions in schools than elsewhere: an apprentice learning a skill does not defer action until he has heard extended verbal advice or explicit instructions. One of the best technology teachers I have seen avoided lengthy step-by-step explanations at the start of a lesson, but as soon as a pupil asked for help, he would *invite* others to see it demonstrated. A small group would gather round, and listen with full attention because the time was right for them.

Research into classroom discourse shows extreme asymmetry between teacher and learners. The 16th Century French satirist Rabelais challenged the Jesuits' pedagogical methods, asking 'Shouldn't it be the pupils who ask the questions?' We have grown so used to teachers asking all the questions that we fail to notice, but surely it is surprising that four-year-olds who ask their parents a question a minute turn into inarticulate seven-year-olds who in some cases ask their teachers only a few questions a week – usually 'Can I borrow the felt tips? or 'Please miss, may I go to the toilet?' Barnes (1969: 22-3) points out the predominance of factual over reasoning questions, and that genuinely 'open' questions hardly ever occur.

Whereas Freire spoke of true dialogue which is based on hope, our classrooms are so often filled with asymmetrical exchanges that they are almost monologic. The learners use language not to exchange ideas, but to show what they have remembered and to prove that they are listening.

Freire associates true dialogue with 'love, hope and mutual trust'. The two parties have a relation of empathy, and are engaged in a joint search. He contrasts this with an 'anti-dialogue' based on hierarchy and control:

> This anti-dialogue does not communicate, but rather issues communiqués. (Freire 1974: 46)

In re-reading his accounts of rural education in Brazil, it is remarkable how closely his description matches what still happens in too many urban classrooms today:

To develop our schools into places for democratic and hopeful learning, we need to transform patterns of communication to open up spaces for learners to contribute actively to the construction of understanding. This requires as radical a rethinking as Freire engaged in for popular education in Brasil. We cannot simply transfer his model, but there is much to learn.

In this rigid, vertical structure of relationships there is no real room for dialogue... This is the consciousness of the oppressed. With no experience of dialogue, with no experience of participation, the oppressed are often unsure of themselves. They have consistently been denied their right to have their say, having historically had the duty to only listen and obey...

It is a pattern which is hard to break at first: They say to the educator: 'Excuse us, sir, we who don't know should keep quiet and listen to you who know.'

True communication is not, in my opinion, the exclusive transfer or transmission of knowledge from one Subject to another, but rather his co-participation in the act of comprehending the object. It is communication carried out in a critical way. (Freire 1974: 118-9, 138)

Douglas Barnes' research in the 1970s has lasting relevance for the School Improvement project. Barnes discovered that children are often more articulate in small-groups than in the whole-class setting. Sometimes the dialogue is difficult to analyse; it can be messy - the children take over from each other mid sentence, build upon each other's ideas, and make rather tentative half-formed suggestions - but this is a strength, not a weakness. It reflects a cooperative thinking process, the exercise of a shared intelligence, or in Perkins' words, 'distributed cognition'. Terry Phillips (1985) discovered that children in small group activities tend to use two very important forms of language which rarely occur in whole-class situations:

    i)   they form hypotheses

    ii)   they relate academic theories to everyday experiences.

In response to Bernstein's concept of working-class 'language deficit', critics such as Cooper (1976) have suggested that it might be the language patterns of school which are deficient. The gulf between everyday language and school language is deep and unbridged. Sometimes ideas are rejected because they are expressed in the wrong register.

In a science lesson, pupils were shown pictures of a foetus in a womb. One boy asked: 'How does it go to the toilet?' This is a sensible question and shows that the pupil is thinking for himself. The teacher ignored the questions, commenting later 'He must have been joking.' (Keddie 1971, in Stubbs 1983:18)

When children transfer to secondary school, they quickly learn that their everyday knowledge has no place within the academic discourse of subject specialists. Their attempts to exemplify or test out teachers' theories in terms of their own experience and observations are overlooked or regarded as distractions, especially when the teacher feels under pressure to cover the syllabus. (See, for example, Barnes 1969:28) The pressure to learn a new code – the passive voice in science, an objective unconcerned tone in history – can be so great that pupils' own voices are smothered – and especially for working class or ethnic minority pupils who are less comfortable with formal academic registers. Messages are unconsciously given out that pupils' families and communities, their lives out of school, their language and experiences are of no account to the school – an important though neglected issue for School Improvement's research into culture and ethos.

Developing cognition

Piaget's theory of child development links levels of cognitive activity to chronological age. This was challenged by Vygotsky, who regarded development as potentially more dynamic if the teacher responds to the learners' existing understanding and engages with them in a sympathetic but challenging dialogue.

According to Piaget, children reach a stage of abstract reasoning around the age of 11. Michael Shayer and Philip Adey (1981), replicating Piaget's research, concluded that the majority of inner city pupils haven't achieved this independently by the age of 14 or even 16. Rather than becoming demoralised or concluding that comprehensive schools are a futile utopian dream, they set out to understand the conditions under which cognitive development could be accelerated by bridging the gap between concrete operational and formal operational thinking. Thus began the CASE (Cognitive Acceleration in Science Education) project, and similar initiatives in other subjects.

The provocative title *Really Raising Standards* (Adey and Shayer, 1994) threw down a gauntlet to improvement specialists who, at that time, were largely ignoring pedagogical theory while focusing exclusively on whole-school management. Based on constructivist psychology, Adey and Shayer identify five key elements of a pedagogy to develop cognition:

i)   concrete preparation

ii)   cognitive conflict

iii)   construction zone activity

iv)   metacognition

v)   bridging.

Concrete Preparation entails both rich experience and introduction to a specialist vocabulary. Cognitive Conflict describes an event or observation which the student finds puzzling, and discordant with previous experience or understanding. Construction Zone Activity is mental activity which is speculative and collaborative:

> a magic place where minds meet, where things are not the same to all who see them, where meanings are fluid, and where one person's construal may preempt another's .

Metacognition involves not only a personal control over the activity, but self-reflection and higher-level modelling on the part of the learner. Bridging is the conscious transfer of a theory to new situations and problems.

The benefits of this method include:

*   linking school learning back into direct experience
*   connecting words with meanings
*   providing the opportunity for students to engage in exploratory dialogue
*   giving them a conscious control over the learning process
*   then taking the ideas forward into new situations and problems.

It shows a respect for learners and an active hope for their future development.

When visiting case study schools for *The Power to Learn* (Wrigley 2000*)*, I saw many examples of similar practices. Teachers of bilingual students were conscious of the need to contextualise learning in first-hand experience. They sought to establish the subject vocabulary by relating it to direct experience, rather than simply displaying definitions of *key words*. They understood the importance of fieldwork, video, and tactile and visual experience.

Problems were posed in a manner which was rich in language and experience. Students who were studying evolution drew imaginary islands, each with a distinct climate and vegetation. The teacher placed an unsuitable animal into this habitat, provoking a discussion on how it might survive. Pupils then went on to discuss how it might adapt.

Construction zone activity was carefully planned. In a study of population changes, students discussed where to place narrative statements of events on a graph (see Leat 1998). Students studying the English Civil War sorted role-cards of a family into those who would support the King or Parliament, then engaged in a simulation of the family's heated debate over dinner. Focusing on a shared problem, learners were able to shift easily between personal memory, immediate experience, visual representation and words. Pupils working in small groups are more likely to refer to their personal experience and to form hypotheses. Collaborative group work provides a context for bridging the gap between everyday language and the more formal academic register of schooling.

The development of metacognition depends on thoughtful planning. It has become standard practice for teachers to point out the key words of a particular topic, but identifying deeper concepts and processes is less common. For science Adey and Shayer (1994: 82) have identified central concepts such as classification, variables, correlation and equilibrium; for geography, Leat (1998) suggests classification, location, systems, inequality and development. I saw good examples of classes being asked to reflect on the learning process by thinking about core concepts or discussing the proposed method of investigation or the nature of proof. In a lesson about bacteria, pupils were encouraged to design alternative experiments to explore their hypotheses about the best conditions for reproduction.

By successfully linking between concrete and abstract, specific and general, the familiar and the academic, teachers skilfully prepared the ground for bridging ideas into new contexts. Pupils were invited to suggest new applications for the theories they had learnt.

Multiple intelligences in practice

Our school tradition places extraordinary emphasis on verbal communication. Exposition combined with questions is the prime form of teaching, and writing the means of demonstrating what you have learnt. Primary school children soon understand that the chief way to show you understand is to write about it, and, implicitly, that poor writing skills means a lack of intelligence. This is often a critical problem for students from working class and ethnic minority backgrounds, and may be particularly affected by the slower maturation of boys.

Through his concept of multiple intelligences, Howard Gardner (1993) makes it more difficult to assume that some children are simply incapable, and challenges educators to find new routes to successful learning.

The Children's University and the University of the First Age, founded in Birmingham for primary and secondary pupils, have a particular interest in exploring diverse sensory channels and forms of representation. This can be be seen not only at the universities' special events, but also in schools through superlearning days which make a highly creative use of the concept of multiple intelligences. In Golden Hillock School, Birmingham, a class of 14-year-olds were having difficulty distinguishing between the message of a text and the style used to convey that message. The teacher switched from studying the book *War of the Worlds* to watching the film *Startrek Insurrection* to explore how particular techniques, within a genre, are used to suggest ideas to the audience. They discussed dramatic shifts in the music, the images of a blissful rural community (children playing, mothers baking bread), the use of camera angles to engender fear, the cliched semiotics of good and evil, innocence and villainy. They recalled the music in *Jaws* and various horror films. (Wrigley 2000: 139)

Many primary school teachers are concerned that the literacy hour tends to divorce the written from the spoken word and from experience. Two teachers in Whetley Primary School, Bradford, worked hard to reinforce such links wherever possible. On one wall, a giant map had been painted of a remote Scottish island, based on the story of *Katy Morag and the two grandmothers*; on the opposite wall was a map of Bradford, with many photos taken on class visits. In another classroom, the teacher was using a newspaper report which she had written about the Loch Ness Monster. These young Asian pupils were struggling to understand the origins of an eyewitness-quotation. Some suggested the teacher-as-reporter had found the news in the library, or seen it on television, until one boy realised she might have interviewed someone at the Loch. The teacher quickly switched to a role-play in which this boy played the eye-witness and the others the reporters, using glue-pens as microphones. This developed spoken language, but also interpersonal and intra-personal intelligence. By this means, the two-dimensional text was unpacked and transformed into the four dimensions of time and space. Creative and performing arts had a prominent place throughout the school, and visual and dramatic activities were frequently used across the curriculum. (Wrigley 2000: 115)

Gardner's current work, as part of Harvard University's Project Zero team, provides further illumination. He is now building on his multiple intelligences insight by connecting it with the concept of *situated learning*. This has the potential to transform teachers' understanding of the relationship between symbolic representations and participation in activities, and to question the patterns of teacher dominance in classroom learning.

'Learning is something you do to children'

This ironic comment from one teacher sums up some of the pedagogical issues for a dominant mode of school improvement. Traditional styles of teaching as transmission have been reinforced by the accountability regime, leading to high-pressure injection of inert knowledge, rather than active engagement of the learner. Caroline Lodge argues that the learning process is seriously affected by our ways of referring to it.

Her research reveals two major discourses among both pupils and teachers: learning as *work*, and learning as *performance* (Lodge 2002). Learning as performance is focused on 'getting ticks, putting more in your head, pleasing the teacher'. For those who see learning as work, the prime focus is on task completion, and improvement is seen as doing *more*. Both perceptions affect the learner's concept of what it means to improve, which is why so many attempts to involve pupils in evaluating or redrafting their own work have limited success.

An alternative discourse drawing on 'richer and more complex models of learning could be discerned struggling against the more dominant discourses. The rich discourse of learning is relational, post-structural, organic and draws on narratives.' Its key features are:

- *connectivity*: the ability to make connections between one's learning, previous learning, the learning of others and learning in other contexts

- *learner responsibility*: the capacity to negotiate the curriculum, to plan, organise and review their progress and set new goals

- *collaborative learning*: the ability to take different roles in collaborative activities, and to develop new understandings from dialogue

- *activity in learning*: the ability to engage in a variety of learning tasks through active engagement with others, learning resources and processes

- *meta-learning*: knowledge of a range of strategies, the ability to reflect, monitor, evaluate and plan different approaches. (Lodge 2002:23)

Most students tend to see learning as:

- getting more knowledge
- memorising and reproducing
- applying facts or procedures.

Only a few see it as:

- understanding
- seeing something in a different way, and
- changing as a person (Marton *et al*, 1993).

These last three descriptors represent deeper learning - making meaning, interpreting events and constructing knowledge or understanding.

The dominant discourses of *work* and *performance* favour learners being seated, isolated, silent and writing. Pupils counterpose 'sitting down and writing' to more active forms of learning:

> We're not sitting at tables and writing. You can talk and that.

Their preferred learning involves social interactions, which partly explains why it is seen as advantageous.

The pressures to get work completed can contradict quality. Teachers are driven to set deadlines and push for a greater quantity of neater and more accurate writing, and few students interviewed thought of improving the quality of their work in terms of the quality of thinking or concentration.

School improvement: a new focus on learning

A surprising feature of most of the early literature on school improvement was its virtual neglect of teaching and learning. Although teaching is mentioned in almost every list of Key Characteristics of more successful schools, the literature has been virtually devoid of either description or theory. This was probably inevitable, in the late 1980s and early 90s, given a new emphasis on the importance of whole-school factors. This has recently been changing.

A good example is Bruce Joyce and Emily Calhoun's collaboration with David Hopkins; together they have produced two companion volumes, one focusing mainly on pedagogy (1997) and the other on school development (1999). However, there is still a lack of coherence in this approach, as the models presented in the former volume constitute separate patterns to be learnt and are not sufficiently related to any overarching theory of learning. Louise Stoll and Dean Fink's book on school improvement (1995) includes a list which helpfully fuses cognitive processes and emotional attitudes:

- abstraction – the capacity for discovering patterns and meanings
- systems thinking – to see relationships between phenomena

- experimentation – the ability to find one's own way through continuous learning
- the social skills to collaborate with others
- creative problem solving
- the use of advanced organizers
- graphic representations
- metacognition.

Perkins' *Smart schools* (1992), which builds upon the concept of distributed cognition to discover new ways of developing schools as places for learning, is complemented by Senge's *Schools that learn* (2000) with its emphasis on learning for school development. Stoll, Fink and Earl's *It's about learning – and it's about time* (2003) brings the two issues together.

In the USA, the large voluntary networks of Essential Schools, Accelerated Schools and so on are based around a striving for deeper learning. The New Basics project in Queensland seeks to align new models of curriculum, pedagogy and assessment; its twenty 'productive pedagogies' emphasise engaged and reflective learning.


Substantive conversation: In classes with substantive conversation there is considerable teacher-student and student-student interaction about the ideas of a substantive topic; the interaction is reciprocal, and it promotes coherent shared understanding. Features include:

a) intellectual substance

b) dialogue – the sharing of ideas which is not completedly scripted or controlled by one party

c) logical extension and synthesis

d) a sustained exchange.

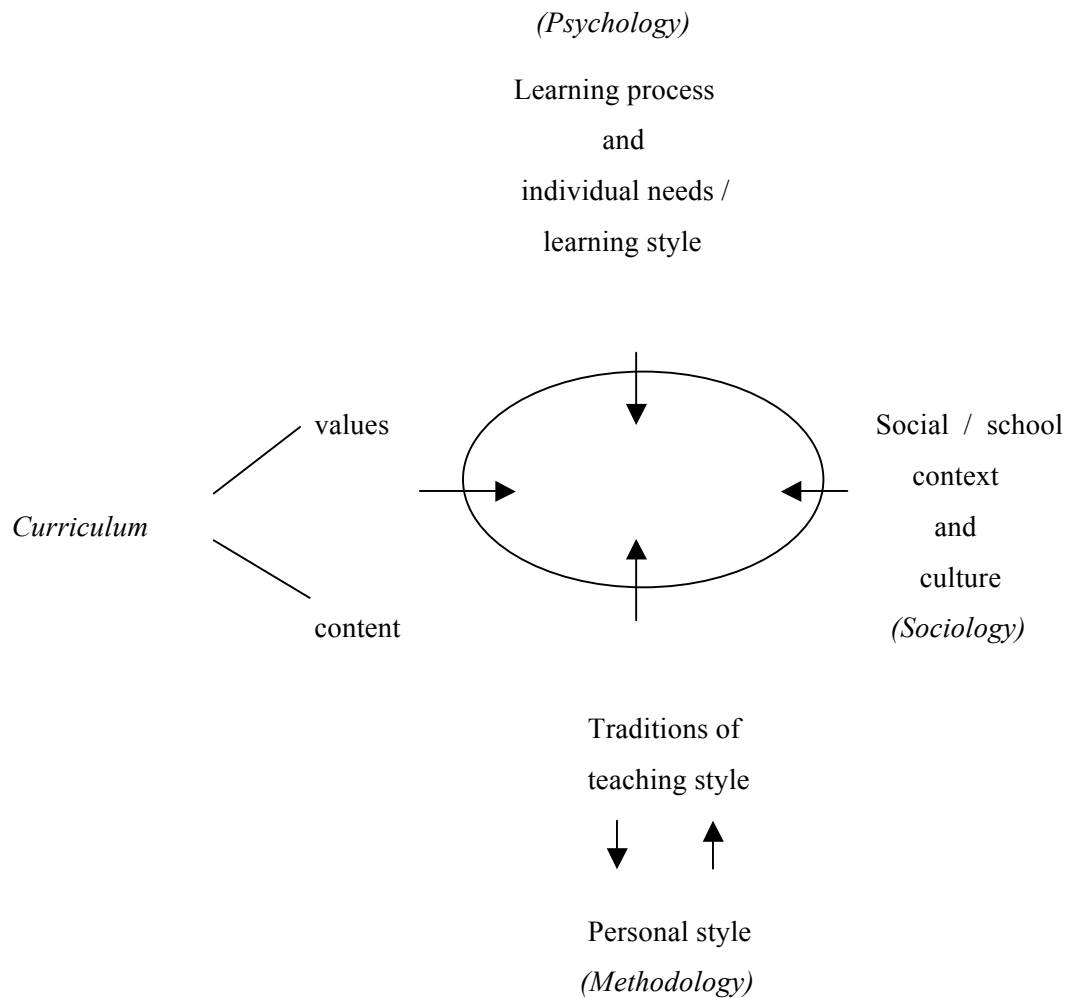(Education Queensland website)

Each of these *productive pedagogies* is presented through an explanation, a 'continuum of practice' which provides a means of auditing current practice, and a descriptive example. There is a social and moral coherence about this project, which simultaneously deals with cognitive and affective development, and seeks to promote a response to a rapidly changing world which is based on principles of social justice and citizenship.

In Europe, the concept of 'pedagogy' is central to school development. This has helped to avoid a divorce between School Improvement as a study of processes, school cultures and change management, and other fields of educational studies such as sociology, psychology and pedagogy. It is important to understand that in many European countries the concept of pedagogy means more than just teaching methods; it requires an articulation of educational aims and processes in social, ethical and affective as well as cognitive terms, and involves reflection about the changing nature of society or the value of human existence. This contrasts with Anglo-American conceptions of 'methodology' which have often been too linear, as in Tyler's content – teaching – assessment model:

Content

↓

Methods to 'deliver' it

↓

Test it
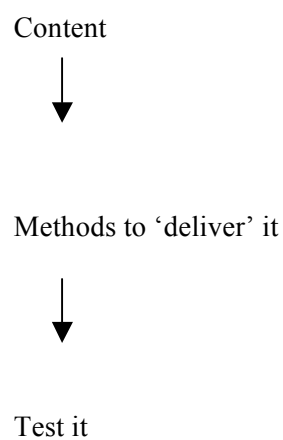
Teaching and learning involves a more complex, dynamic and contradictory interplay between:

- curriculum as values as well as content
- inherited patterns of teaching, along with the individual teacher's personality and preferred styles
- the school ethos and environment, interacting with the culture of the wider society
- a general theory of learning, and individual learners' preferred learning styles.

(Psychology)

Learning process

and

individual needs /

learning style

values   Social / school

context

Curriculum   and

culture

content   *(Sociology)*

Traditions of

teaching style

Personal style

(Methodology)

This model of pedagogy can be adapted to a range of different situations and texts, for example a newspaper editorial or a television programme. In these cases we often find an alignment between the different elements. In the popular television cookery series *The Naked Chef*, for example, Jamie Oliver's casual but fast-moving personal style combines with curricular values of openness and flexibility (not fussing about the finer details) to reach out to a postmodern audience with a constant desire to try out new things but not much spare time. The alignment is much harder to find in schools, where rigid time frames, authoritarian relationships and an over-tested content-heavy curriculum clash with adolescent lifestyles and youth culture. Attempts to transform learning based on new understandings of cognition are repeatedly undermined by existing school structures (the organisation of time, space, people and resources).

It is difficult to see how school improvement can move forward without analysing and recognising these contradictions. Further progress towards the 'learning organisation' and school development which is open to alternative futures requires a coherent rethinking of pedagogy.