

The Way Ahead

(Article for the T.E.S. November 2004)

I covered a Maffs class today. I've had this low band Year 9 a few times. We get on well 'cause I'm only a supply teacher and therefore as fick at Maffs as they are. And today they had their Autumn test. Here is the first question:

A shape has 4 right angles.
It has 4 straight sides of equal length.
It has 2 pairs of parallel lines.
Draw what the shape could be.

Over half the class were puzzled or got this wrong. Can you believe it?

I therefore tried to imagine what had been going through their 14 year old minds.

Well, first there's all them words. I have to decode *shape, angle, right, parallel, equal*. Then there's the problem of picturing 4 of one thing then 4 of something else and trying to see them in relation to each other. What's 2 pairs? Is that 4? OK, now what was I thinking of when I started this question? I can't hold in my mind or organise all the problems that language - not Maths - but language throws up. Maybe English comprehension is part of the test. I don't know.

At any rate, the Maths was not the problem, because when, after the test, I said, "*Draw and label a square,*" they did it instantly.

Now, as a fun quiz question, the Autumn test item works well, because a conundrum is the sort of tease we look forward to. But the Year 9 class were annoyed and depressed by it. They wanted self-confidence not prizes. Abstract or elaborately linguistic question setting is a recurring hazard for the vulnerable adolescent. The work set can look as if it is straining to give the impression of "raising standards" while in fact it depresses

performance by creating pointless confusion. I am also concerned that the question-setter's perception of intelligence is so limited. Let the following example show you what I mean.

Graham is a chatty, cheeky 14 year old and often helps his friend, Robert. Robert says nothing and believes he's stupid, but he can take an engine apart and put it back together in minutes. They both had a Maths exercise to do on Ratios. The text book demonstrated the procedure then had two sets of questions - one in sentences and numbers and the other using shapes and numbers. We talked it through. Then I read out the questions. For the first (verbal) two, Graham shouted out the right answer; for the next two (shapes) Robert got in first and was correct. I mixed the questions up and found that the outcome was the same. When looking at blocks of shapes, Robert got it right and was quicker than Graham; with the sentences, Graham did best. So the way the question was set crucially affected the outcome. They have different brains and neither is inferior to the other - yet Graham will seem more intelligent in school. Robert will persistently look stupid because his processing of data is spatial rather than linear. Hence the mechanical gift. I glanced through the Maths text book and found that most of the questions favoured linear processing - a tiny minority favoured spatial. The same with exams. What will Robert be working with in the outside world? Mainly spatial processing. Yet we are constantly failing the Roberts in education. And it is avoidable.

In another part of the school, however, a tiny and unintentional counter revolution is taking place. Year 7 are studying Learning Styles. For one lesson a week they are discovering the terms Visual, Auditory, Kinaesthetic and applying them to descriptions of their own preferred ways of learning. Howard Gardner's Multiple Intelligences are releasing them from a narrow concept of I.Q. or SATs Levels to celebrate their individuality and offer them a sense of their potential. What cannot be denied is that the kids are enjoying these lessons. And that is - almost - a sufficient justification for them, because anything that turns pupils on to learning must be of value. There are a few reservations about all this that I'd like to deal with before suggesting that it is, if it grows, a sign of an inevitable return to child-centred education, albeit in a new form.

First, the very popularity of the Gardner M.I. theory is in itself a reason for caution. David Milliband thought he might look cool using the concept to defend the A'Level grades earlier this year. He, of course, had only a political purpose in co-opting the theory. To actually understand M.I, let alone critiques of it, did not come within the orbit of his interest. He just threw the term in as one of several random ways for a politician to field awkward questions in a five minute interview. Even the best theories and practices can be abused. Another possible abuse is to sell M.I as the definitive description of intelligence. Gardner himself was originally wary of using the term “intelligences” and toyed with “faculties, gifts, abilities, competences and forms of knowledge”. And it is difficult to see beyond its a priori classifications to a proper biological definition. Gardner’s own background in the Developmental Psychology of Piaget and in the Arts would seem to reinforce our own need for caution when we come to teach M.I. as Science.

However, even if it is a myth, or inaccurate, or even wrong, we cannot argue with its usefulness as a tool in the classroom. I have covered a couple of Learning Styles lessons and found children of all types to be enthusiastic and focused when listening, or researching, or completing assignments. The subject plays to an adolescent strength: what Gardner would call “Intrapersonal” intelligence - the self-absorption, and navel-gazing of kids in this age bracket that we oldies find so irritating. But what a great springboard it is for simple investigations in Science and the brain, synonym work on the terms, character studies and the discovery of vocabulary and related literature, maths work in questionnaires and the analysis of results, etc, etc! A kind of synthesis is achieved between the learner and the subject, in contrast to the dictated curriculum we attempt to force on them at present. And if we offer M.I merely as a useful working hypothesis (or “construct”) we are, as teachers, promoting a healthy scepticism, encouraging research, proceeding, in the words of Edward Said, “with minds that are open and tentative and not closed and definitive.”

What are the implications of M.I influenced study? First, it supports a growing common-sense awareness of how different we all are as learners. Joseph Hellige (1987) found, through experiment, that although both hemispheres of our brains received the same information from whatever we were experiencing at any one time, the interaction between

the hemispheres in processing that information was quite different from one person to another. This suggests that if schools adopt a one-size-fits-all approach to learning, then it is bound to be inefficient. Also, the testing that goes on favours linear thinkers rather than spacial ones. The Roberts cannot access the stuff we offer and yet they are in some sense highly intelligent.

We have to adopt a more scientific approach to teaching. We have to, as John Holt said, “... *learn about our students...They have to teach me before I can begin to teach them.*”

Maria Montessori early in the last century based her methods on the careful *observation* of children before working out what could be taught. Her methods led her to create an environment that was stimulating and organised, but gave each child as much freedom to choose as possible. The exercise of choice has a double benefit: it teaches the students responsibility and it allows them to discover the most efficient way for their individual brains to assimilate and analyse data. The teacher here becomes more of a facilitator than a dictator.

Modern “strategies” may look scientific, but they are, in fact, so inflexible and authoritarian that they hinder real learning and do not allow the Roberts any recognition, let alone rewards. The last ten years have proved to be a disastrous step backwards in education with Gradgrindian facts or phoney “skills” being poured into children for exams and tests - a “closed” rather than an “open” learning system. Today, Gardner’s theory (and it originated as long ago as 1983) could be shifting our focus. More and more we are hearing the phrase “learning how to learn” and being told, by Tony Buzan and others, that this is something schools are not yet equipped to do well.

Can schools change? I think they are doing so. A lot of money has, thank goodness, gone into Special Educational Needs. Staff in these areas are bringing insights about Dyslexia, Dyspraxia and Asperger’s Syndrome into the mainstream. One growing idea is that we all lie on a spectrum of one or more of these conditions. Kids enjoy studying all this too and are often relieved to be able to define themselves in these terms. It advisable to be sceptical about labels as such, but they can lead into deeper, broader

studies of behaviour and intelligence. For example, the study of brain waves could help our understanding of Attention Deficit Disorder and make us see that kids are restless because their natural brains operate mainly on Alpha brainwaves and school is persistently demanding concentration levels that require the higher energy use of Beta brainwaves. It is the spatial/linear problem in another form. This area of study should make us more objective and skilful as teachers and it can lead the students into a new form of self-respect and productive self-analysis. Anger-management courses in Student Support centres are leading the way with this. Whether we like it or not, general awareness of brain function is growing. The study of learning styles could induce schools to celebrate our individual differences. They must certainly adapt to accommodate them.