Towards a More Comprehensive Understanding of Human Learning

Philosophers and pedagogues have been intrigued for centuries by the interplay of nature on nurture in the development of human learning, but until the 1980s scientists just did not have the technology to see inside the living brain. The same surge in man's understanding of technology has transformed traditional ways of working in the past twenty years, and opened up enormous opportunities for creative people who could "think both inside and outside the box."

With the launch of such slogans as "From Teaching to Learning" by the MSC in 1987 the search began amongst employers for learning strategies that "went with the grain of the brain". Within the research community in the US (which, because of its sheer size, set a worldwide agenda) cognitive scientists have come to resent the increasingly high profile of neurobiology. Neurobiologists themselves, aware that the more they learn from their studies the more there is still to learn, are reluctant to make general statements on a subject as broad and complex as learning. However, neither cognitive science nor neurobiology are willing to consider the claims of evolutionary biology/psychology which, form the early 1990s, maintained that "evolution is the explanatory principle that connects all biological phenomena, including culture, into a seamless whole.....nothing in biology makes sense except in the light of evolution. And human learning is, certainly, in biology". [Paul Ehrlich's Human Nature, Genes, Culture and the Human Prospect, 2000]

In late 1995 a group of researchers from diverse disciplines - policy advisors, educationalists, and insightful people - began a series of six three-day conferences at Wingspread in Wisconsin, USA, that initially involved some 60 people from 14 countries. They sought to create a Synthesis of a range of research in cognitive science, psychology, neurobiology, pedagogy, evolutionary studies, cultural anthropology, systems theory, and the impact of economic structures on people's lifestyles. They intended to tease out what might be the policy implications of such a synthesis.

As the convener of the group, I was initially worried that we would not be able to see the wood for the trees. As a group of honest (but sometimes overtly sectional in their interests), well-intentioned specialists trying to understand something bigger than their own discipline, some participants likened our problem to looking at a painting by the Impressionist George Seurat - let's say, Sunday Afternoon on the Island of la Grande Jatte. Look very closely and you see a mass of
disconnected dots of contrasting colours, but move away and a beautiful picture emerges as the
dots disappear. Our synthesis would require, we thought, the ability to continuously change our
focus.

The Wingspread conferences brought me invitations to numerous other conferences where
earnest educationalists invited neurobiologists to solve their problem: with the Dana Foundation
in Denver; in Tokyo with the Asian Development Bank; in Paris with OECD; in London with the
RSA; in Washington with the National Research Council; and in Ottawa with the Canadian
Institute for Applied Research. Invariably these meetings failed to establish very much common
ground.

Three times I heard people refer to a useful analogy from Indian mythology. Once, long ago,
three blind men were asked to feel and describe an elephant. One, quickly feeling its trunk,
assumed it was an enormous snake; another ran his fingers around one of its legs and thought it
was a tree; while the third felt its floppy ear and thought it was a giant leaf.

In our synthesis we had to understand enough of each of the disciplines to see how each
contributed to a bigger picture; it was the bigger picture that a convocation of specialists seemed
simply unable to see.

I agree with many of the neurobiologists who say that it will be many years, if ever, before we
have a complete theory of human learning. However I think that we are misguided to look for the
kinds of proof that science normally accepts. Our canvas is far too broad; our insights range from
the most qualified to the least specific.

We should, I submit, be looking at 'the circumstantial evidence' - a term borrowed from the legal
profession which involves "indirect evidence founded on circumstances that limit the number of
admissible hypotheses" [Shorter Oxford English Dictionary]. Synthesis is not the lowest common
denominator that self-centered disciplines will agree to with ill grace; synthesis is what the wise
man sees when he stands back and focuses on the whole picture.

The attached ten paragraphs were the best shot I and the Initiative were able to make when
asked in January 2001 by the Policy Unit in Downing Street what all this actually means....and to
do so in a way that no more than ten minutes reading would make clear.

John Abbott

5th February 2001