Style without substance

Teachers are hungry for more information about the brain – how it works, the best way to stimulate intelligence and what methods make learning effective. In a recent survey for the Teaching and Learning Research Programme, the UK's largest investment in educational research, nine out of 10 teachers thought that a knowledge of the brain was important or very important in the design of educational courses.

The research programme published a commentary last month, *Neuroscience and Education: Issues and Opportunities*, which examined some of the areas where neuroscience is having an impact on education. However, it also showed that attempts to introduce these approaches in the classroom have so far been of mixed quality, relying too little on the evidence and too much on "impressive-sounding, but scientifically questionable formulae", in the words of Professor Ian Diamond, chief executive of the Economic and Social Research Council.

Over the next six weeks, the *Brain & Behaviour* pages will be exploring some of the areas covered by the commentary. Today, **Susan Greenfield** looks for the scientific basis of learning styles – and finds it isn't there

GETTY

they kinesthetic learners – or just learners?

Do you classify your pupils on the basis of whether they prefer to receive information through the sense of sight, sound or touch? Do you, in other words, label their preferred learning style as visual, auditory or kinesthetic (VAK)?

The practice remains popular among teachers and is often seen as a key part of the drive towards personalised learning in education.

Unfortunately, from a neuroscientific point of view, it is nonsense. Humans have evolved to build a picture of the world through our senses working in unison, exploiting the immense interconnectivity that exists between the senses in the brain. It is when senses are activated together – the sound of a voice in synchronisation with the movement of a person's lips – that brain cells fire more strongly than when stimuli are received apart.

At a recent meeting of MPs and my fellow peers, we heard that the pedagogical rationale for employing VAK learning styles also appears to be weak. The seminar heard that after more than 30 years of educational research into learning styles there is no independent evidence that VAK, or indeed any other learning style inventory, has any direct educational benefits, suggesting valuable time and resources are being wasted.

Yet something must be happening in the classroom to sustain these practices. Steve Higgins, Professor of Education at Durham University, highlighted why this might be the case. "Using VAK learning styles can help teachers focus on how their pupils learn. It can support more effective teacher-pupil interactions and provide a welcome opportunity to try innovative approaches in the classroom. The feedback teachers get when they try out these ideas just reinforces the belief that VAK is effective and powerful."

Suggesting that many of these benefits are supplementary to the practice of VAK itself, Professor Higgins adds: "Instead of teaching students according to their prescribed learning style, many teachers simply use VAK as an opportunity to deliver a good multi-modal lesson – with connections made between written texts, diagrams or pictures and spoken words – something which has been recognised as good practice for years."

Teachers' enthusiasm for VAK learning styles, and other "brain-based" ideas, demonstrates their willingness to explore how new findings from scientific research can be applied to develop their practice. This enthusiasm is well-founded, as research in neuroscience and psychology has the opportunity to shed light on some of the central processes in learning and education, including literacy, mathematics, memory, motivation and creativity.

However, the traditional gap in language and philosophy between education and science has meant the ideas which permeate into education are all too often uninformed by the best scientific evidence.

The challenge that lies ahead is to open channels for teachers to get access to relevant and accessible research from the brain sciences. This would provide a much more productive means of meeting the learning needs of our children than VAK learning styles ■

Baroness Susan Greenfield is professor of pharmacology at Oxford University and director of the Royal Institute of Great Britain

References

1. Kayser, C. Listening with your Eyes (2007) *Scientific American Mind* 18(2)20-21

2. Coffield, F., Moseley, D. E., & Ecclestone, K (2004) *Learning Styles and pedagogy in post-16 learning: A systematic and critical review*, (Report No. 041543). London: Learning and Skills Research Centre

3. Pickering, S.J. and Howard-Jones, P.A. (2007) Educators' views of the role of Neuroscience in Education: A study of UK and International perspectives. *Mind, Brain and Education* 1(3)

Download *Neuroscience and Education* at www.tlrp.org