What's the brain got to do with education?

October 29 2007

Quite a lot -- according to teachers in a recent survey commissioned by The Innovation Unit and carried out by researchers at the University of Bristol. Although current teacher training programmes generally omit the science of how we learn, an overwhelming number of the teachers surveyed felt neuroscience could make an important contribution in key educational areas.

The research was undertaken to inform a series of seminars between educationalists and neuroscientists organised by the Teaching and Learning Research Programme (TLRP) and the Economic and Social Research Council (ESRC).

Dr Sue Pickering and Dr Paul Howard-Jones, at Bristol University's Graduate School of Education, asked teachers and other education professionals whether they thought it was important to consider the workings of the brain in educational practice. Around 87 per cent of respondents felt it was. Teachers considered both mainstream and special educational teaching could benefit from the neuroscientific insights emerging from modern scanning techniques, such as functional magnetic resonance imaging (fMRI).

The researchers also investigated where teachers got their knowledge about neuroscience from and what impact, if any, it was having on their classroom practice. Some teachers already use so-called 'brain-based''teaching methods in their classrooms. These include initiatives such as Brain Gym and methods intended to appeal to different brain-based learning styles (e.g. visual, auditory and kinaesthetic learning - or

VAK). Although the scientific basis of these methods is highly contentious, many teachers said they had found them very useful, particularly when children were less receptive to more traditional teaching methods. One respondent said such approaches "improved the success of the teaching and learning" and led to "happier children who are more engaged in the activities".

However, teachers are concerned to find out more about the science of the brain. In follow-up interviews, one teacher described her frustration when scientists identified serious flaws in the brain-based teaching method she had been using: ".....we've been a bit misguided about that sort of thing haven't we - but not having the time to verify it for ourselves, we have no choice....."

Dr Paul Howard-Jones, who is leading several research initiatives in this area and co-author of the report, said: "Much of what teachers perceive as brain-based teaching, such as educational kinesiology, is promoted in very dubious pseudo-scientific terms and we still don't really know how, and even if, it works.

"Other programmes, such as those involving learning styles, draw on some meaningful science but, when children get labelled as "a visual learner" or "an auditory learner" and are only ever taught in either a visual or auditory way, then the science is being seriously over-interpreted and misapplied. The good news, however, is that efforts to bridge the gap between neuroscience and education are debunking many of these ideas, and opening up fresh opportunities for valuable and exciting initiatives that are both scientifically and educationally sound."

Although there is concern about the seriously contested science used to promote current brain-based learning programmes, teachers are clearly strongly supportive of future collaboration between neuroscience and education and keen to keep in touch with the latest developments in this

interdisciplinary field. The findings from the research suggest that communication with practitioners may become a key factor influencing the success of attempts to enrich classroom practice with scientific understanding about the brain and mind.

Source: University of Bristol