



## **The Wow Factor – VELS in Action**

### **Melbourne scientists demonstrates integrated study at school and science at work**

***Have you ever thought that educational theory was behind the times or off the mark?  
Eroia Barone-Nugent discovers some Melbourne scientists that are here to prove you wrong.***

Over the past couple of years the greatest initiative in Victorian education has been the introduction of the Victorian Essential Learning Standards. Also known as VELS, this initiative seeks to promote the integration of curriculum areas via varied teaching methods across disciplines. This has proved to be a courageous move for Victorian teachers in an environment of predominantly uni-dimensional discipline teaching in the tertiary education system. Though this initiative has been embraced by the wider teaching community there is clearly a need to develop new curriculum to engage students in the broader multidisciplinary way of thinking.

When students go into science, the majority hones into a particular area of biology, physics, geology etc, but hardly ever integrates thinking across disciplines, or even thinks about questions from a wider perspective. Eventually communications between disciplines happen, because after all, this is the nature of science, but it does take time. VELS, recent introduction in secondary schools to years 7 – 10, is teaching students to think across subjects, and in a broader and more creative way. However, years 11 and 12 students remain less integrated and university education, on a whole, is not interdisciplinary at all.

So it was with enormous pleasure, and with a revived enthusiasm for the science community, that I attended the forum for Biophysics, *Facilitating X-ray Biophotonics – Physicists and Biologist Working Together*, held in Melbourne by homegrown scientist who overtly and without fear spear-heads the next generation of science in this country, and some might say, in the world.

On our doorstep, the world's leading scientists in the areas of chemistry, physics and biology, areas that can at first be considered somewhat alien, merged their awesome abilities. These men and women converged on the problem of how to find the atomic structure of various kinds of proteins, each knowing they cannot make such rapid advances of enormous medical importance without the other. And here lies the difference - there was no waiting and hoping that serendipitous communications might occur, no whimsical wishing that if only things were different faster progress might be fashioned through slow-forming friendships or fortuitous marriages – though there did seem to be plenty of the latter.

No, the Australian Research Council, the Victorian State Government and a number of Melbourne universities have supported brilliance in the form of the integrated approach by the Centre of Excellence for Coherent X-ray Science, to lead the world into the next generation of science.

Now, when I return revived to the science classroom next week and teach biology or chemistry or units of junior physics I can confidently, and with enormous pride, say that the integrated VELS curriculum has hit the bull's eye and that Australian science is at the frontier of these collaborations being a reality in the science community.

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