Sustainable teaching:
Case studies at RMIT University
October 2010

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I teach Environmental Chemistry, Theoretical Chemistry and Scientific Skills and Communications into the Bachelor of Environmental Science and the Bachelor of Applied Science (Chemistry).

To me, sustainable development means on-going; replacing what is extracted, and maintaining a balance. However, I’m not entirely comfortable with the term as it doesn’t have a universally accepted meaning.

My philosophy is equilibrium; that says it all. For example, mining is unsustainable because the resource is finite; it cannot be replenished. Wood chipping is potentially sustainable as the raw material can be replaced, yet to maintain equilibrium, the pollution and habitat loss it causes must be addressed.

Universities can promote sustainable development and make a difference through their teaching. For me it is about passing the world onto a new generation of custodians. Our graduates have the understanding to restore the damage done by current and previous generations, and with this they can also avert mistakes which could impact future generations. We are seeing more international students particularly from China and a handful from South America and Africa in our program. The pollution situation in their home countries makes studying environmental science very relevant. When people understand the basic science they can make a difference.

The degree I teach into is structured into three main areas:

- fundamental science skills
- the science of the natural environment
- the science of the degraded environment.

We show students the environmental impacts, positive and negative, and then encourage them to think about simple ways to reduce the negative impacts. We measure what should be there and what is there to determine the ‘disturbance from the norm’ and then suggest ways to redress the balance.

Solutions are not always straight forward. As well as protecting the environment, solutions must also be economically viable to be sustainable. But it can be done. For instance the worldwide phase-out of CFCs in the late 20th century shows that once commodities become scarce, alternate environmentally friendly technologies evolve and can be viable. Science understanding has a key role in creating sustainable solutions.