



Our certain future? The transformation we have to have

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Our future is not uncertain. What is certain that there will be a major transformation in the way people live and work, and our planet as we know it will become a very different place. Climate change, population growth and critically low levels of non-renewable energy sources are three key factors that are shaping our future. We do, however, have a degree of control over that future - if we are proactive in our transformation.

The action we take will influence that certain future. Firstly, action towards transformation will need to take place at two levels - local and global. Secondly, action will need to take place in two time frames: immediate and long term. Immediate actions include what we do every day in the ways in which we work and study and live our lives. For the long term transformation, attitudinal and behavioural changes are required. At Charles Sturt University one initiative that has the potential to make a significant long term difference is the CSU Curriculum Renewal Program. The curriculum students study is the beginning of the transformation in attitude and behaviour that will determine the path they choose. Through education, via technology and the curriculum, we have the potential to shape students' learning experiences students and to prepare them for their roles in effecting the transformation we have to have.

Key words: transformation, curriculum renewal, technology, sustainability, climate change, resources

Introduction

Our future is not uncertain. It *is* certain that there will be a major transformation in the way people live and work, and our planet as we know it will become a very different place. Climate change, population growth and critically low levels of non-renewable energy sources are three key factors that are shaping our future. We do, however, have a degree of control over that future, if we are prepared to plan our transformation, rather than just react to circumstances. The paths we pick will influence that certain future.

The certain future looks something like this.

Climate change scientists now confidently predict that the next twenty years will see unprecedented increases in atmospheric temperatures, resulting from human caused introduction of greenhouse gasses into the atmosphere (International Panel on Climate Change 2007). Even if we were to stop further emissions from the burning of fossil fuels, the ongoing effect of the last two hundred years of global industrialization will continue to push temperatures up at a rate far higher than at any other time

(Masters and Burt 2010). This will disrupt weather making it more variable, with more severe storms and droughts (NSW Government 2010).

Higher temperatures have wide ranging effects including sea level rises and storm surges (Hansen 2009). Temperature changes bring increased agricultural risk, bleach coral reefs in the tropics and cause collapse in sea productivity in high latitudes. Climate change can have widespread effects on human health such as increasing risk of tropical diseases and deaths related to extreme heat and colds. Local climate change determines the types of crops that can grow, not to mention the effect on remaining native vegetation.

The entire global economy functions on extremely low cost and non-renewable sources of energy. We are approaching a peak oil crisis. Peak oil is that point in time when the maximum rate of global petroleum extraction is reached, after which the rate of production enters terminal decline (Wikipedia 2010). The net effect of the peak oil issue is that a major spike in energy costs of all types is inevitable within the next generation and that the continuation of current energy use practices is untenable (International Panel on Climate Change 2007; International Panel on Climate Change 2010).

Basic food supply at a global level is experiencing inevitable increases in costs and a reduction in reliability and productivity. Globally, the combination of factors contributing to this include: a decrease in the dependability of irrigation water supplies, depletion of groundwater reserves, decreasing availability of, and associated cost increases in, phosphorus based fertilizer (Brown 2009).

Our certain future is that if we continue the way we are currently living and managing our physical resources and social interactions, we will be unable to adequately support our population in its current growth curve. The transformation we have to have needs to be more than simply 'going green' or talking 'sustainability'. As educators we have a responsibility to put our students (and ourselves) in the best possible position to design a path to a transformative future that will benefit them, their community and the planet as a whole.

There are a number of ways in which we can prepare ourselves and our students to play our parts in the transformation needed to take control of our certain future. Firstly, these efforts will need to take place at two levels - *local* and *global*. Secondly, the efforts will need to take place in two time frames: *immediate* and *long term*.

Immediate actions include what we do every day in the ways in which we work, study and how we live our lives. 'On the ground' sustainability actions should take place in every learning space (physical and virtual), every office and at CSU a variety of initiatives are being driven from the highest levels in the university. Fundamentally, however, in order to make a long term difference i.e. to effect a transformation, *we need permanent changes in attitude and behaviour*.

CSU has approximately 6,500 graduates per year across all its courses. The curriculum students study is the beginning of the transformation in attitude and behaviour that will determine the path they choose. The curriculum should go some way towards assisting students to develop skills and knowledge that will equip them to take control of the transformation they need to have. The initiative that has the potential to make the most long term difference is the CSU Curriculum Renewal Program. This program requires that all courses are re-designed over time to help students to develop develop skills and knowledge in a number of key areas within the context of their discipline (Bradley 2008). These areas include: sustainability, ethics and global citizenship, internationalisation and cultural competence.

Technology supporting education provides a means of access to a global knowledge base and a means for global communication and will thus play an important role in effecting the transformation we have to have. Used wisely, the ability for education, global communication and social networking towards the 'common good' could be a very powerful force. It is, however, a fine line between using technology for good - education, lobbying towards a sustainable future etc. - and using technology to promote messages that derail such efforts. On a practical note, in our consumer societies our dependence on technology and the rapid rise in the use of personal learning systems and mobile devices is potentially a major strain on our depleted non-renewable resources. (Hansen 2009)

Conclusion

Although the transformation we have to have looks bleak, we do have the means by which to take control of that transformation to some extent. Through education, via technology and the curriculum, we have the potential to shape students' learning experiences students and to prepare them to take up their places in the world.

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