Opinion:
Preparing worldviews for uncertainty

By Dr Robert Kay, University of Technology Sydney.

Introduction

The greatest challenge to our resilience is the worldview through which we think about and approach uncertainty. Most people would say they have never had a lesson or course on what their worldview is or what an appropriate worldview should be in relation to uncertainty. Perhaps some tertiary courses on philosophy or the arts are about as close as most of us will get. However this assumption would be wrong. For most of us raised within a Western education system, we have been given twelve to thirteen years of worldview training in the reductionist paradigm – a paradigm, that has brought many advances, but it will be argued is inappropriate for dealing with the uncertainty associated with issues of national security. This paper explores what an alternative system would require.

What is a worldview?

By worldview I'm referring to the multitude of filters and assumptions that drive our day to day decision-making. It is a function of both our make-up and experience, and it impacts everything we do. In the literature it has variously been described in terms of cognitive styles (Cotgrove, 1982., Miller, 1985), personality types (Myers, 1980), constructs (Kelly, 1955), and paradigms (Kuhn, 1970., Guba,1990).

At a high level, the underpinning assumption that drives the Western educational model is reductionism. Reductionism presupposes that the best way to solve a problem is by breaking it down into its component pieces and that by then understanding the nature of the parts the problem will be solved. Taken a step

further we draw hypotheses about the behaviour of the parts which are tested, and if the results bear out, the knowledge has been validated and becomes a truth.

Science of course is based upon this assumption and in general humanity has done pretty well out of it – depending upon your particular values about quality of life and the future of the planet. So it is only natural that a systematic model of education should follow this approach. Organised education is only another form of human organisation after all, and in the Western world has largely mirrored the industrial revolution and the Taylorist models that underpinned it when developing its education systems.

Over twelve or so years of schooling, our minds are gently conditioned to think in terms of the parts, to focus on the parts as a natural way of doing things, to structure knowledge into discrete bits that can be transferred. Consistent with this worldview is the development of distinct disciplines to the study of different things—specialisation. This specialisation, particularly within academia has been done so effectively that the notion of multi-disciplinarity has become a discipline in itself! (Brocklesby, 1996).

National security and disaster management has naturally followed this path and the worldview associated with it. On one level this is ok, particularly as it relates to less complex risks/threats, where there is little uncertainty involved, however for larger scale problems a more holistic/systemic approach is required.

Educating for uncertainty

It is interesting to think about where the word emergency actually comes from. It is drawn from the Latin Emergens (Anon, 2010). This is the same root as for the word 'Emergence'. The study of emergence however comes out of a completely different paradigm—that of systems theory and complexity. The underlying paradigm here is that the whole is greater than the sum of its parts, and that only by looking at the whole can we understand the problem properly. This is interesting in terms of educating for uncertainty.

Firstly, if the study of emergence is more relevant to an understanding of uncertainty and emergencies, then training and development programs for emergency and disaster recovery need to support the development of a systemic not a reductionist worldview.

Secondly, how do you design development programs to facilitate the development of a more systemic worldview, whilst still providing the necessary content? Most people would suggest that they learn the most about their profession either through real world experience or through exercises & scenarios. From a curriculum development point of view they are describing problem-based or experiential learning models—nothing out of the ordinary here. What is often not discussed, however, is the design of educational experiences where the learning outcomes are not limited to procedures, rules and actions associated with the process of response and recovery, but to the actual worldviews of the participants.

William Perry's (1968) study of graduate students remains one of the most significant pieces of research in this space. Perry observed that students move through 3 broad phases involving 9 stages of change to their worldview and learning approach when the learning environment that is provided, challenges their existing assumptions.

In short Perry observed that most students begin with a worldview that is largely black and white, there is a right and wrong way to do things (which varies little from context to context). Furthermore the key source of truth about an issue is the teacher/authority figure. Perry termed this phase dualism.

As the student experiences progressively more unstructured complex problems, where their right or wrong view of the world doesn't work quite so well, they are left searching for direction. They reach out to the teacher (as the key source of authority) for more structure and they begin to lose motivation. This manifests itself in a kind of learned helplessness attitude to their project and continuous recourse back to the teacher for more detail about what they should be doing to solve the problem. Unfortunately, from a learning point of view, many educators respond to this need by providing the desired structure because it actually forms an important part of their own identity as a teacher—they need to teach. What the student needs, however, is facilitation.

Over time, and increasingly complex unstructured experiences, the student reaches a point where it's fairly clear that their current worldview is not up to the job. The world is not the neatly structured environment they thought it was when they started out on their journey. They realise that there are alternative truths to the ones that they hold onto. They realise there are multiple versions of the truth but don't yet know how to select the most appropriate one. Perry terms this second phase 'multiplicity'. The teacher doesn't have all the answers and has been found wanting on multiple occasions.

For the student, this phase is not pleasant and in fact is both demoralising and stressful. Many students suffer from a lack of motivation and begin to drift. Coming to the conclusion your worldview doesn't work is not a happy place to be. Psychologists call this cognitive dissonance. This is a time of great indecision. Do you let go of the worldview that on one level has served you well, knowing that things will never be the same, or do you stick with what you know, even though deep down you know it won't work for the problem you're dealing with? The ability to facilitate students through their cognitive dissonance is actually critical to the effectiveness of the educational program as it relates to the ability of graduates to manage in uncertain circumstances. This is not something that can be faked through the teaching process, "the student must have the opportunity to experience the epistemological dilemmas that characterise each stage [of Perry's model] as his or her own personal dilemmas."(Salner, 1986. p.231). Unfortunately, to my knowledge, educational programs rarely if ever talk about this dimension of education, let alone have programs in place to help the teaching staff develop their ability to facilitate it.

Significantly, Perry observed that most students leave tertiary education without reaching the third phase of his model, or what he termed a 'contextually relativistic' view. From a contextually relativistic position students no longer consider all views as equal and base their decisions on evidence rather than the 'gut feel' of the multiplistic position (Culver & Hackos,1982).

Conclusion

The significance of Perry's observations in terms of educating for uncertainty are profound. Firstly, they suggest a significant movement towards experiential education models as a way of providing students with the necessary complexity of experience through which to challenge their incumbent worldview. Secondly, they highlight the challenges for teaching staff, in terms of a new set of skills in which they are typically not trained.

Lastly, they raise concerns about the recruitment of key roles in national security and disaster management. Not all people make the shift towards a more systemic view, and as such will continue to operate with inappropriate paradigm.

References

Anon, (2010), *http://www.etymonline.com/index. php?term=emergency*

Brocklesby, J. (1996), *"Becoming Multimethodology Literate: An Assessment of the Cognitive Difficulties Involved in Working Across Different Paradigms." In: Multimethodology: Towards the Theory & Practice of Combining Methods, edited by J. Mingers, & A. Gill, Wiley*

Cotgrove, S. (1982), *Catastrophe or Cornucopia, Wiley, New York.*

Guba,E. (1990) *The Paradigm Dialogue SAGE Publications, Inc. Newbury Park, California.*

Kelly, G.A. (1955), *The Psychology of Personal Constructs, John Wiley & Sons, London.*

Kitchener, K. (1983), *"Cognition, Meta-cognition & Epistemic Cognition," Human Development, 26 pp. 222-232*

Kuhn, T. (1962), *The Structure of Scientific Revolutions, University of Chicago Press, Chicago.*

Miller, A. (1985), *"Cognitive Styles & Environmental Problem Solving," International Journal of Environmental Studies 00. pp. 000*

Myers, I.B. (1980), *Gifts Differing, Consulting Psychologists Press, Palo Alto, CA.*

Perry, W. (1970), *Intellectual and Ethical Development in the College Years: A Scheme Holt, Rinehart & Winston, New York.*

Pope, M. & Denicolo, P. (1989), *"Developing Constructive Action: Personal Construct Psychology, Action Research and Professional Development." Paper presented at the Symposium on Action Research in Higher Education. Brisbane 20-23 March 1989.*

Salner, M. (1986), *"Adult Cognitive & Epistemological Development in Systems Education," Systems Research 3(4), pp. 225-232*

Varela, F., Thompson, E. & Rosch, E. (1991), *The Embodied Mind: Cognitive science and Human Experience, MIT Press, Cambridge.*

Wilkinson, W.K. (1989), *"A Contrast of Perry & Royce: Implications for the Study of College Students Epistemological Orientations," The Canadian Journal of Higher Education 29(2), pp. 87-95.*

About the author

Dr Robert Kay is a Co-founder of Incept Labs, a company providing research and strategic advisory services in education, innovation and risk management. He is also an Adjunct Professor at the University of Technology, Sydney.

He was formerly the Head of Strategic Innovation at Westpac Banking Corporation and worked in organisational change and IT strategy at Bovis Lend Lease. He has also held senior academic positions at UTS and the International Graduate School of Management at the University of South Australia.

Australian Government

Attorney-General's Department

Australian Emergency Management Institute

2011 Emergency Management Volunteers Summit

30 - 31 MAY 2011
RYDGES LAKESIDE HOTEL, CANBERRA

The Attorney-General's Department, with the support of the Australian Taxation Office and in partnership with the Australian Emergency Management Volunteer Forum, is holding the third Emergency Management Volunteers Summit on 30-31 May 2011.

Up to 450 emergency management volunteers from across Australia will attend the Summit, which will be held at the Rydges Lakeside Hotel in Canberra, and will coincide with the United Nations *International Year of the Volunteer Plus 10.*

The Summit will:

- showcase and discuss best practice in the national emergency management volunteer sector

- demonstrate Australian government and non-government support for the emergency management volunteer sector

- discuss/update key issues affecting the Australian emergency management volunteer sector, and

- update on the progress of the National Volunteer Action Plan for the Attraction, Support and Retention of emergency management volunteers.

A copy of the program with information on how to nominate to attend the Summit will become available January 2011 at www.ema.gov.au/volunteers.