Think Piece
Learning to Think Differently

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Introduction

If I have correctly interpreted the intentions of the organisers, the concern of the 2007 World Environmental Education Congress is not learning for accommodation to the dominant direction of change in the world today. It is rather a concern for learning to challenge the direction of this change, for learning how to visualise an entirely different trajectory, and for learning the skills and developing the courage needed to pursue such a vision effectively. By the term 'dominant direction of change' I refer, of course, to the cumulative and ever-accelerating effects of economic globalisation, social disintegration and ecological destruction that go by the names of 'development', 'modernisation' and 'trade liberalisation'. Education in support of this dominant direction of change aims at producing a standardised, technically-competent and pliant individual for global business and a mass of enthusiastic consumers. Most educational scholars today participate in parts of the existing educational system that promotes this agenda, be it school or university. We are all products of this system and we work within it. Hence our thinking is often circumscribed by the assumptions underlying that agenda. Addressing the 2007 World Environmental Education Congress theme 'Learning in a Changing World' more thoughtfully (as was the invitation for submission of these 'Think Pieces' for the *Southern African Journal of Environmental Education*), however, signals our intention to question these assumptions.

In effect, environmental educators have been questioning the assumptions of mainstream contemporary global culture for the past three decades. We broadly agree among ourselves that environmental education and education for sustainable development are, above all, about 'learning to think differently about the world and ourselves'. But what exactly does this phrase mean? What is involved in learning to think differently? In my opinion, we have not yet really come to grips with these questions.

Still, I would say that our joint efforts over the past 30 years (since Tbilisi) have brought us to the possibility of truly understanding what it means to think differently and how we might achieve it. There have been a number of promising ideas, but we have not really followed through on them. Take Stephen Sterling's concept of third-stage learning that questions existing assumptions (Sterling, 2001; see also Sterling, this edition) and Edmund O'Sullivan's concept of 'transformative learning' (O'Sullivan, 1999). To follow these up we need to pursue our enquiries at a deeper and more comprehensive level than hitherto. What are the assumptions we need to question? What is the process by which transformative learning occurs?

Judging by the historical record, transformative learning is a process that has occurred

spontaneously in Western civilisation at certain times of critical social change in the past – in Greece of the 4th and 5th centuries BC and in Western Europe in the 17th century AD. How exactly did it happen then? Is this what is beginning to happen in contemporary global culture today? What exactly is happening today? In this paper I would like to address these questions, at least in a preliminary way.[1] This might help in defining an agenda for further work.
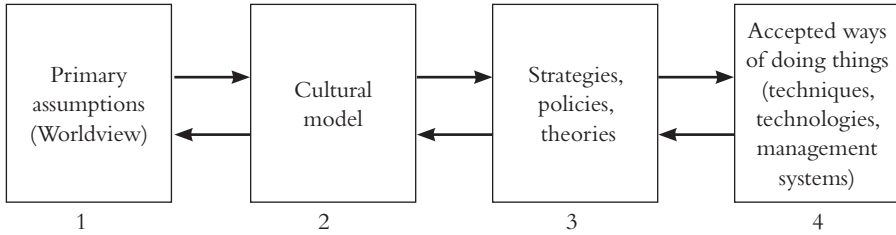
Definitions

To facilitate a meaningful discussion of what is involved in 'learning to think differently', or transformative learning, we need an adequate terminology. This terminology is slowly emerging in educational circles today and as a result we are as yet unable to fully think constructively about this issue and to communicate with each other effectively. 'Thinking differently' means using altogether different basic concepts, and also a different mode of thinking than the exclusive logical, discursive mode we use at present. The term 'basic concepts' refers to those primary assumptions we make about the nature of the world and ourselves. It must be emphasised that these are assumptions, and not matters of fact; they are speculative assumptions about how the world might be. They are our answers to what I term the perennial questions. These questions are: What is the world like? Who am I? What is real? Contemporary global culture is based upon the answers to these questions that the European Enlightenment thinkers formulated in the 17th century. With this Enlightenment worldview unravelling before our eyes, we need to ask these questions again and seek to answer them afresh. This is widely recognised today, but for the lack of an adequate definition of the word 'assumption' progress is blocked.

I wish to suggest that there are two types or levels of assumptions that must be distinguished: primary and secondary. Primary assumptions are answers to the perennial questions. The answer to the question 'What is the world like?' must necessarily be framed in terms of speculative definitions of each of the basic categories of thought: matter, life, time, space, causation, the person and knowing. These answers are then assembled into a logical and coherent system. Secondary assumptions are derived deductively from the primary assumptions and are the guiding principles for a cultural model. Examples of secondary assumptions are 'competition' and 'sustainability', concepts that figure in the contemporary global cultural model and in the alternative model that is struggling to be born, respectively. These concepts depend for their legitimacy on the primary assumptions about life, matter, causation and the person in their respective worldviews.

This distinction between primary and secondary assumptions can be expressed in terms of a diagram that depicts the relationships among 'worldview', 'cultural model', 'policies/programmes/theories/projects', and 'practice' (Figure 1).

The new system, or worldview, is initially formulated (Stage 1) without explicit reference to experience; that is, it is freely speculative. Subsequently, it may be necessary, in light of experience, to revise these assumptions or at least our formulations of them. This is indicated in Figure 1 by the double-headed arrows; i.e., the process of creating a new worldview is an iterative one. The final test is always that of adequacy in practice (Stage 4). The transformative learning process includes all four stages in Figure 1.

Figure 1. This diagram shows how a worldview translates into accepted ways of doing things, and how failure of these accepted ways of doing things feeds back to the stage of the worldview, modifying it

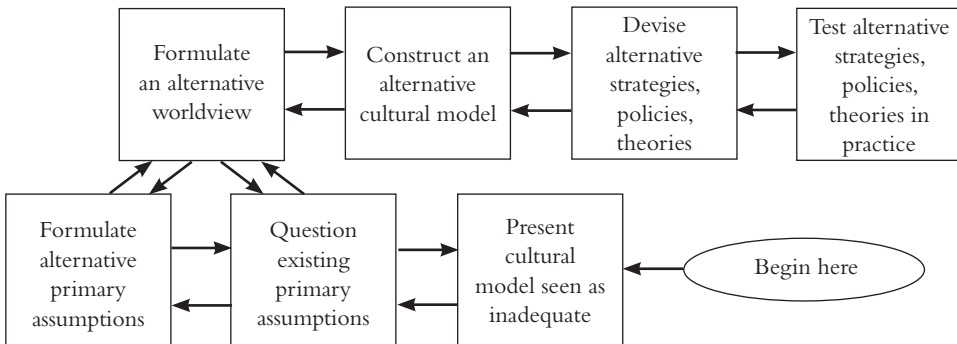| Primary assumptions (Worldview)	Cultural model	Strategies, policies, theories	Accepted ways of doing things (techniques, technologies, management systems)
1	2	3	4

(Source: Jackson, 2003)

In attempting to define the basic categories of thought afresh, we are brought up against the limits of the logical discursive mode of thought that characterises Western civilisation since Hellenic times. We begin to understand the need to supplement this with the ability to grasp complex concepts intuitively. The means of articulating such intuitions is the language of metaphor, of myth, characteristic of non-Western and pre-Hellenic Western civilisation.

The Process of Learning to Think Differently

In the foregoing discussion of terminology the transformative learning process has been sketched in outline. It is now necessary to consider how the actual process occurs. A schematic description of the process is suggested in Figure 2. A number of transformative learning experiments have been conducted (see, for example, O'Sullivan, Morrell & O'Connor, 2002; O'Sullivan & Taylor, 2004), but when considered in relation the generalised description in Figure 2, it is clear that all of them have been incomplete, most notably in giving no attention to primary assumptions. The very aim of transformative learning, however, is the creation of an alternative worldview.

Figure 2. This diagram describes the transformative learning process. Alternative practices are devised and tested. The results then feed back into the process, confirming alternative assumptions, or indicating the need for still further thinking

Formulate an alternative worldview	Construct an alternative cultural model	Devise alternative strategies, policies, theories	Test alternative strategies, policies, theories in practice
Formulate alternative primary assumptions	Question existing primary assumptions	Present cultural model seen as inadequate	Begin here

(Source: Jackson, in press)

Transformative learning occurs in three distinct phases: (1) the recognition of cognitive dissonance; (2) 'standing outside oneself'; and (3) testing. This overall process occurs in the individual, although it rarely happens in isolation from society. Transformative learning is most effective when it occurs in small, highly interactive groups. As these small groups interact with other such groups, in ever-widening networks, a point is ultimately reached where a critical mass of people have begun to think differently. A cultural transformation then occurs as a matter of course.

Cognitive dissonance

Cognitive dissonance (Haigh, 2001) occurs when the facts of contemporary experience contradict expectations based upon our inherited assumptions about the world and ourselves. This is often very painful, emotionally and intellectually. Understandably an attempt is made to relieve the tension by dismissing the inconvenient facts, or explaining them away. The threat to existing intellectual and power structures is met by them with waffling, 'greenwashing', and by the invention of oxymorons like 'sustainable development'. However, with some individuals, in some circumstances, when the intensity of cognitive dissonance reaches a threshold level, a breakthrough is achieved to the next stage. A person accepts the fact that the only real way to relieve the tension, to resolve the contradictions, is to pause to examine his/her assumptions. In explicit transformative learning exercises activities can be planned that increase the intensity of cognitive dissonance by highlighting the contradictions and by exposing the manoeuvres by which the mind seeks an easy way out.

Standing outside oneself

This expression refers to the ability to recognise, describe and critique our inherited assumptions – to 'standing outside ourselves', so to speak, looking in with cool objectivity. It is not easy. These assumptions are largely unconscious, and are therefore not seen as assumptions, but simply as a true picture of the world 'as it really is'. Here a group learning exercise is invaluable; it gives us the encouragement, security, and a glimpse of ourselves through others' eyes that are necessary to explore effectively our most intimate attitudes and their determinants.

If critical examination of secondary assumptions leads to the conclusion that they are defective, and if this is followed up by a similar examination of the primary assumptions behind them, leading to the conclusion that these too are defective, the stage is set for a consideration of possible alternative primary assumptions. Such alternative assumptions may be formulated *de novo* or they may be traditional assumptions – reformulated if necessary. The attempt must then be made to coordinate these alternative assumptions into a logical and coherent system – a worldview.

Testing

Like the previous phase, this phase too consists of several distinct tasks. The first is to deduce appropriate policies/programmes/theories/projects from secondary assumptions which can be tested in practice. The feedback from such testing must then be critically evaluated. The test practice can be considered successful if it solves a hitherto insoluble problem. (Some

problems may actually disappear even before testing begins since in terms of the new secondary assumptions they are no longer seen as problems.) If the feedback is negative it is then necessary to back up and reconsider policy/programme/theory/project formulations, or even further to reconsider secondary assumptions – and maybe primary assumptions too. As was said earlier, transformative learning is an iterative process.

Transformative Learning in Post-Colonial Societies

The 2007 World Environmental Education Congress is being hosted for the second time in a post-colonial country (first Brazil in 2004, and now South Africa in 2007) with a relatively greater representation of post-colonial societies. It is appropriate, therefore, to consider the special problems of transformative learning in such societies, and also the opportunities they present. In Western societies the learner is confronted with two worldviews. The first is that which underlies the contemporary global cultural model, and the second is that which is implied by the many alternative secondary assumptions that he/she finds resonate positively within him/her. As such, the learner must struggle to recognise, articulate and critique all these assumptions, inherited and alternative, primary and secondary, and then pass on to creative speculation. In post-colonial societies the challenge is more formidable still. Learners here must similarly and simultaneously deal with their traditional, inherited cultural model and its supporting worldview.

The problem is that traditional cultural models have been discredited and ridiculed by the Western colonisers of these societies and thus delegitimised. Incentives were also offered to those who could successfully take on board the cultural model and worldview of the colonisers, and so help them with their work of colonisation. This occurred in those colonies where the colonisers' aim was primarily economic exploitation for the benefit of the colonisers – as in India. Where the aim was settlement, the situation was worse. Indigenous peoples were killed off, dispossessed of their natural resource base and segregated – as in North America and Australia. This was traumatic for indigenous people, and the result was personal and social disintegration. Of the two, the challenge before the victims of settlement colonisation is far greater.

I have sketched the two extremes of the colonial experience to highlight the issues involved. In some instances the situation appears to have been a mixture of these two types of colonisation and is consequently more complex.

By and large the traditional worldview of the people subjected to economic colonialism was not destroyed but merely overlain by the modern Western worldview in which they chose, for their own survival and wellbeing, to participate. Development, modernisation and now globalisation are, decades after political independence, still reinforcing the Western cultural model and worldview in this way. To articulate and then critique their traditional worldviews in the face of this is extremely difficult for most people. They are ambivalent, uneasy with the Western worldview, and at the same time see conforming to it as in their own immediate best interest. Nevertheless, their traditional worldview is intact, even if submerged, and the increasingly apparent dysfunction of the contemporary global culture model is providing an incentive to step back and contemplate alternatives – of which one is clearly their own

traditional one.

The people who suffered settlement colonialism, by and large, were never allowed or encouraged to participate in the culture of the colonisers. Their attitude to the Western cultural model and worldview might be said to have been predominantly one of incomprehension and dismay. Fortunately, some of their old stories remained in the memories of the older people. These are slowly being resurrected and their relevance today is being discussed. In this these communities are being encouraged by a few of their own people who somehow made the transition to mainstream culture, and by a genuine interest being shown by people of the mainstream who are questioning the contemporary global cultural model.

In summary, increasing numbers of people in post-colonial societies are now clear that the Western cultural model has no future for them, or for the world at large. But their traditional models, unless they are intelligently, imaginatively understood, seem irrelevant. The language of myth must be (re)learned. Given this understanding their traditional worldviews can effectively be searched for concepts that are relevant to their immediate context. That context is both local and global. They can in this way recover their own cultural identity, exorcising the last debilitating effects of the colonial experience, while at the same time making a vital contribution to the transformation of the worldview of global culture, based until now exclusively on the Western Enlightenment model.

Transformative Learning in Practice

As I see it, cultural transformation involving a radical change in worldview is a natural, spontaneous phenomenon that occurs at certain times in history. Now is one such time. All of us will inevitably be involved in it. The question is: do we participate in the process with understanding and so, perhaps, facilitate it, or do we resist and so intensify the damage and suffering that inevitably accompany it? Facilitation takes the form of conscious transformative learning, carried out at both personal and group levels. I suggest that the model of the transformative learning process briefly presented in this paper can lead to a clearer understanding of what is happening, and thus enable us to accept it, and can also guide us in designing and conducting explicit transformative learning exercises.

A generalised transformative learning course outline (Table 1) is suggested as a basis for mounting exercises in various contexts. A given course can begin at Step 1, or at a later step, depending on the initial position of the learners for whom it is designed. Thus, learners who have never experienced cognitive dissonance should begin at Step 1. Activities are designed to enable them to recognise contradictions in contemporary life and to prevent them from explaining such contradictions away. Those learners who have already done this on their own can start off at Step 2 – in which learners are confronted with contemporary everyday problems that are insoluble in terms of the worldview they now assume, and so intensify cognitive dissonance. For those who are already involved in designing policies/programmes/theories/projects based on alternative secondary assumptions, it is enough to begin at Step 3.

Table 1. A general transformative learning exercise format

Step 1	Creating cognitive dissonance
Step 2	Confronting insoluble problems
Step 3	Identifying and defining secondary assumptions – present and alternative
Step 4	Primary assumptions in the background – identifying and describing them, both existing and alternative
Step 5	On to testing
Step 6	Handling feedback

A transformative learning course needs to be tailored to the context of learners. Thus a course for agricultural scientists would be different in detail from those for business consultants, environmental educators, and illiterate rural people.

The transformative learning course facilitator must be steeped in the context of the specific group involved. Further, he/she must have a clear understanding of the theory of transformative learning and must have served as an apprentice in transformative learning exercises. 'Training up' transformative learning facilitators may not be possible. A competent facilitator requires intuition, quick response and adaptability; to suppose that these can be imparted in a conventional training course is unrealistic. These are skills that can only be learned on the job.

Notes on the Contributor

Michael G. Jackson was a professor of agriculture and sometime director of research at the G.B. Pant University of Agriculture and Technology at Pantnagar in Unttarakhand State in India. He took early retirement in 1982, went to live in a rural, mountainous area of the state and devoted time to the work of the Uttarakhand Environmental Education Centre in Almora where he took part in designing and testing school environmental education courses. He came to environmental education through observing the adverse environmental, economic and social effects of the Green Revolution on rural communities. A related interest is in sustainable agriculture, and a collection of his essays on this topic, *The Ecological Village*, was published in 2005 by the Other India Press. Email: mgordonjackson@yahoo.co.in.

Endnote

1   For a more comprehensive and detailed account see Jackson (in press).

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