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# WAYS OF KNOWING, CULTURE, COMMUNICATION AND THE PEDAGOGIES OF THE FUTURE

Paul Wildman and Sohail Inayatullah

This article focuses on how cultures are embedded in diverse ways of knowing and how individuals teach (formal, action research, spiritual) and learn the world (action, science, technique or gnosis) differently. We present case-studies or stories of teaching and learning futures and futures generations. These stories tell the fundamental difficulties we face in teaching, communicating and learning across civilization, profession, worldview and pedagogical style. We offer a futures method, causal layered analysis, as one way to enter different knowing spaces. The educational challenge ahead of us is to pass on the rich diversity of culture and ways of knowing to future generations. Copyright © 1996 Elsevier Science Ltd

## Skenarios or scenarios: authority and participation

'Skenarios', he said! 'Not scenarios'.

I stayed standing, slightly stunned but not totally in shock. Earlier the same participant had challenged my use of the word, 'eutopia', questioning how someone from a non-European tradition could dare 'speak' Latin (actually Greek).

'Skenarios', I asked?

'It is an Italian word', he said forcefully.

Paul Wildman is in the Faculty of Education, Work and Training, Southern Cross University, PO Box 157, Lismore, NSW 2480, Australia (Tel: 61-66-203820; fax: 61-66-221830; e-mail: pwildman@scu.edu.au). Sohail Inayatullah is in The Communication Centre, Faculty of Business, QUT, Gardens Point Campus, Brisbane, Queensland 4001, Australia (Tel: 61-7-3864-2192; fax: 61-7-3864-1813; e-mail: S.Inayatullah@qut.edu.au). The authors would like to thank Tony Stevenson, Merv Wilkinson and Pat Kelly of Queensland University of Technology for comments on earlier drafts of this article.

This was a point of decision for me. Should I (Sohail Inayatullah) continue our agreement among the faculty to listen to each cultural perspective, honour their worldview, and softly look for agreement? I had this found model, based on action research and entered into the World Futures Studies Federation (WFSF) lexicon by secretary-general Tony Stevenson, quite attractive.<sup>1</sup> It placed the burden of learning on the student, with the direction of the workshop (or class) constantly changing based on their intellectual and emotional needs. The traditional hierarchical division between faculty and student also tended to disappear as by the end of the workshop all became fellow travellers learning from each other. The underlying view of education in this model is that knowledge resides in each one of us, it is to be brought out. We are not empty vessels that need to be filled by pedantic lecturers; rather, the lecturer is facilitator, helping the participant, student, uncover her or himself. Mastery of the self and the environment which creates the self is more important than the storing of particular information within our brains about self and environment.

In my initial experience of this method of teaching at the 1992 WFSF/UNESCO futures course in Bangkok, Thailand, I was convinced it would not work. I was more accustomed to the role of the professor as expert—knowledgeable of the entire literature, all the various theories, and confident in his expertise. While the course began that way, on the fourth day, Tony Stevenson turned the course over to the students in anticipation of making them full-fledged participants, owners of the course. He had asked me the night before if this was a good idea. I had responded that Asians, who comprised the majority of students, would be unwilling to enter such a process. They would stay silent, preferring traditional hierarchical authority and knowledge structures. Moreover it might even be rude to act in this way since it would break the barrier between student and lecturer. Stevenson said he would try anyway.

As Tony Stevenson gave the course to them, there was stunned silence. No sounds, no hands raised. The tension kept rising. Finally, one person, an Australian naturally, raised her hand and the discussion began. Within a half hour, the remaining three days of the course had been filled with workshops, participant-led seminars, and night meetings. The result was an explosion of creativity, largely possible because Stevenson was patient, not letting the silence disturb the pregnant pedagogy.

### **Strong theory v participatory process**

This was a turning point in my view of education moving from a position that strong theory mattered more than participatory process, to one where both should be in balance with each other. While I had always believed in workshops after lectures so as to flesh out what the content meant to each person, I was not used to the conceptual shift of having students transform into course directors, into letting them define the process and create their own pedagogical structures.

However, the Italian student at the Andorra course mentioned at the start of this essay, did not appreciate these gestures of equality, of participation. He, and his fellow graduate students at the Gregorian University in Rome, believed that the professor and student were inextricably linked by history, by the tradition of classical philosophy where learning occurred through a Socratic dialogue between master and student (or professor and student), and by the belief that truth sprang outwards from Europe. Naturally they refused to acknowledge our role as professors, since we were not European nor did we

appropriately act the role of learned persons. For instance, we wore symbols that suggested a relaxed atmosphere of learning, loose shirts rather than suit and tie. For them, if they were to learn, that is, situate themselves in 'studentness' we had to situate ourselves in 'professoriness'. Our refusal to dialogue at that subtle level convinced them that we were pretenders, and that only their own futurist professor was worthy of their respect. Consequently when she finished her day session at the course, they proceeded to read her book while others lectured. The first indication that they existed within the larger shared knowledge space we were intent on creating came when one Italian student contested my use of the term 'eutopia'. The second indication was when my pronunciation of scenarios was disputed.

My decision as to how I should respond when 'scenarios' was replaced with 'skenarios' was not an attempt to refute that there are many ways of knowing, of spelling, of reading the real; in fact, this was exactly what they were finding problematic:

'I call them skenarios', I said loudly. 'We use scenarios in a different way, in a critical way'.<sup>2</sup>

He stayed quiet and within minutes he, as well as his fellow Italians, began to participate in all general discussions as well as small group sessions. The books of their Italian professor ceased to be the signs used to show their defiance. They had accepted that authority could reside in different spaces, and thus, paradoxically by choosing to exert my authority, my closed definition of the future, I had allowed the future to become open, the future as a shared space had been created. By challenging the participant, by being authoritative, learning was thus made possible. If I and others had stayed in a dialogue mode, the course for many participants would have ended there. They wanted some authority to set the boundaries, the guidelines, as well as contour the field: to define what is conventional and what is outside the paradigm. They did not want an entirely open structure, at least not at the beginning of the meeting.

The lesson was that dialogue as a method only works in certain conditions, that educational techniques require active sensitivity on the part of the 'educator' even as he or she attempts to undo this category as well. Participation and authority have their own appropriate levels, the skill is to know when to use which. This requires cultural sensitivity and cultural insensitivity: knowing when to respect boundaries and when to push boundaries.

### *Silence and creativity*

Henry Kariel, post-modernist and Professor of Political Science at the Department of Political Science, University of Hawaii, once entered a classroom, sat down in his appointed chair and remained silent. Students asked him to speak but he refused. They asked him why he was silent, but again he stared back without expression. His silence led to anger by the students, believing Kariel too lazy to teach. But through each comment he stayed mute, allowing the theories of conspiracy, innuendo, attempts to ascribe intention to him, to ascribe intention to each other, to the university in general, to continue unabated. By the end of the 45-minute class, all were engaged in active dialogue on the nature of pedagogy: on who is allowed to speak, who is silenced by education, what discourses create the category of talker/listener; lecturer/student; and knower/ignorant. They had begun to notice that learning resided in them.

However, Kariel's method, while provocative, certainly cannot be used in every cul-

tural site. In *modern* Pakistan or India, students would have just left the building, for example. But this for Kariel would have been an appropriate response as well, it would have made clear that students attended lectures to gain particular technical information from the professor and not to engage in a practice of mutual learning.

However, in *traditional* Pakistan or India, Kariel's approach would have been seen as a Sufi or Tantric practice, as a way to disturb conventional understandings, to call into question the path of learning, to contest who is *pir/guru* and who is disciple. Modernity (with capitalism monetizing the economy), however, has transformed that type of learning to a more technical, skilled based approach, where the end result is merely the passing of a national test so that a job can be attained.

The tension in the futures course described in Andorra raises the question of how to teach the future in conditions when the future is not uniform and where there are many stages of history present or many cultures simultaneously active. This is made even more complicated by the nature of teaching the future.

### *Futures studies in search of a doxa*

In traditional disciplines, even as post-modernity undoes defining and organizing narratives, there is a *doxa*—certain classic accepted texts that must be read—that must be adhered to. Futures studies, in general, and futures generations research, in particular, does not have these boundaries yet. It is transdisciplinary, in search of an interpretive community, its knowledge base just being defined,<sup>3</sup> who the futurists are still in contention. Is futures studies a science or an appendage to strategic planning? Should futures studies be technical, concerned with forecasting or cultural, concerned with recovering the future from the instrumental rationality of modernity? Or is futures studies primarily a movement, an attempt to keep futures pluralistic, to keep the future open, less concerned with academic treatises and more with social action? Or should future studies be specific in its orientation as in future generations research, which seeks to sustain and transform social conditions for the rights of future generations (humans, animals, plants, as well as metaphors, or cultural lore)? While there have been many attempts to map the field, the field still remains contentious with no hegemonic paradigm defining it. This makes teaching the future difficult. It is made more so in that 'the future', nebulous as it is, is culture-bound. Finally, those who actively participate in teaching the future exist in global space, as futures studies is one of the few global disciplines, living and flourishing outside conventional national and international boundaries of state and knowledge. The how of teaching the future then forces one into many academic, cultural, and historical frameworks. This is enriching for practitioners and problematic, since all certainties are undone by the varieties of frames that create and process what it is that is taught and learned.

### **Language, metaphors and learning**

'But who would want to live in a metaphor of the future in which the future was entirely open', said the Pakistani participant in response to the vision of the future as the metaphor of an expansive ocean.

'The metaphor of an expansive ocean has no direction', said a woman in *burqua* sitting in the back of the room.

I had given the students of this futures workshop held in Islamabad, Pakistan in March 1995,<sup>4</sup> the classic four metaphors of the future. The first was the dice, representing randomness; the second was the fork in the road, representing choice; the third was river rapids spotted with rocks on every side, representing danger and opportunity; and the last was the expansive ocean representing total choice, unbounded opportunities.

Earlier in a UNESCO/WFSF sponsored workshop on the futures of education held in Suva, Fiji in 1993, the Pacific islanders had argued that none of these metaphors at all represented their traditions, even the aquatic ones. They gave two alternative ones. The first was a coconut tree. One had to work hard to climb up the tree, but at the top were ample rewards. This was clearly the influence of Protestant Christianity on the islands, it seemed to me. The second was of sitting on the passenger seat in a car driven by a man with a blindfold. This of course represented the island's interaction with modern Western capitalism, a perception that they were not in control of their destiny.

In contrast to these outer metaphors, an Indian participant at the second WFSF Bangkok Asia-Pacific futures course in 1993 suggested the onion as a more appropriate metaphor. Reality, in this view, has many layers. Our task as humans is to peel away the layers, discovering new levels of reality, until all is peeled away, and the empty infinity of the *atman* is revealed to us. A Filipino participant suggested a less spiritual metaphor, the coconut. The coconut was hard on the outside (in response to the cruelty of the world) but soft on the inside (our inner tender spiritual selves). The coconut also has many uses: it can be eaten, its juice drunk and its husk used and recycled for a variety of agricultural and industrial purposes. It was a metaphor for all seasons, all futures, if you will.

These and other examples made it clear to me that our language, our metaphors of the future, are culture bound. To merely use the classical model as in many future educational books: dice, road, river and ocean, is severely limited.

At a 1994 futures visioning workshop in Penang, Malaysia,<sup>5</sup> these limitations were further exposed. The dice, while adequately representing randomness, misses entirely the role of the transcendental as a type of superagency. The river, while appearing to represent choice, does not capture the importance of the group or larger community Asian societies are often embedded in when they make decisions. The ocean, while representing unbounded possibilities misses the role of history and deep social structures, of fate and power. While the image of the river rapids with its dangerous submerged rocks represents well the need for information and swift decisionmaking so as to avoid dangers and take advantage of opportunities, but it does not provide metaphorical entry for guidance from others: leadership, family, or God. Surprisingly, the metaphor that did emerge from discussion there with Malay Muslims was the 'snakes and ladders' game, that is, life's ups and downs are based on chance, and when one goes up, one should be ready to fall at any moment. While appearing to be fatalistic, the resolution of this metaphor of the future was faith in Allah, as the deeper reality on which one must rest one's self on.

### *Creating metaphors*

Earlier, at the 1995 Pakistan course, I asked the Pakistani woman wearing the *burqua* which metaphor she then preferred. There was silence. While it was easy to deconstruct the metaphors of others, this group had a more difficult time creating their own meta-

phors. Visual space was not an easy entry point. This was not a surprise to me as Islam heavily emphasises the logical and rational dimension of individuals, in contrast to Pacific Islanders, who are rich in their ability to offer visual metaphors. However, both workshops in Islamic nations—Malaysia and Pakistan—while perhaps not visually rich were rich in telling stories in metaphors, in folk stories. The equivalence of these different ways of knowing is articulated by Paul Wildman in Appendix A, where it is argued that the first is left-brain structure, literal-oriented, and the second is right-brain pattern and symbolic-oriented. Both are ways to give meaning to reality, with quite different social results.

While teaching futures in a culturally homogenous group appears not to have cultural difficulties, in fact, it too is a challenge since individuals themselves know the world differently. For example, using the Myers-Briggs paradigm, we know that some individuals are intuitive, some are rational; some are internal and some are external. Using the astrological paradigm, individuals perceive the world differently depending on their sun and rising sign as well as the stars in their career, love and mission houses. This astrological factor, while far richer than most modern psychological paradigms, is stronger as an influencing variable, when individuals believe in the astrological discourse.

Personality and astrological types are further complicated by basic ways of knowing and the cultural styles alluded to above. This essay now moves from my experiences in teaching the future to mine and Paul Wildman's<sup>6</sup> attempt to develop models to capture some of these differences. Wildman is as concerned with the social action that results from teaching and learning as he is with the process of education itself. Moreover while my frame is often academic, Wildman is concerned with organizations. His question is how do individuals learn in organizations and how can we transform organizations to make them more future-conscious, more participatory, and thus more chaotic (in the sense of disordered order, having structure and openness simultaneously)?

In exploring systems of praxis/social action as well as in various forms of pedagogy, we have found that the influence of what may be called the 'background frame of reference', mindscape, or paradigm<sup>7</sup> is of significant importance in determining the sorts of and style of pedagogy as well as resultant social actions involved and their effectiveness. Of particular importance are the mindscapes of those who have designed the particular system, as well as the relationship between mindscape and culture. They directly influence the way we see and relate to the world and in turn lead to further actions that build towards particular futures and can offer reflections that can lead to theory development. The next section reports on Wildman's work and on our joint research in applying it to the futures field. While the earlier section focused more on workshops, the 'classroom' setting if you will, Wildman is more concerned with pedagogy in organizations as well as the broader issue of how organizations themselves learn.

### **Knowledge clusters—control or development?**

By framing knowing within certain clusters of what can be known, it is hoped that practitioners undertaking university and organizational education will more readily be able to reference and value their particular mental paradigm, their piece of the jigsaw puzzle, as well as consider them in the design of overall decision-making processes. This is then a call for clean epistemological accounting, while it is impossible to speak from a neutral space, it is possible to speak for a position of confession (even as that too is bounded by frames outside our knowing ability).

On one hand this sort of academic predigestion of knowledge into byte-sized clusters can be seen as part of a 'control curriculum' contract with the silent Professor Kariel, as discussed above. Alternatively a 'development curriculum' approach can be used where a question to be addressed is developed primarily by the student, knowledge is not pre-organized digested, and the student goes on a voyage of discovery and critical inquiry, only then clustering the knowledge in ways to develop her understanding of how to respond to the initial question.

The central focus, as developed above, is well said by the following words of Gabner: 'The ways we reflect on things and relate to each other are rooted in our ability to compose images, produce messages and use complex symbol systems. A change in that process transforms the nature of known affairs'.<sup>8</sup> Issues of social action and praxis are a crucial part of effective theory building about the future, particularly how we envision future generations and how we research and teach the future. However they often remain largely unacknowledged processes.

### **Analysis and synthesis**

Indeed my (Paul Wildman) research and involvement in social action and community development has shown that a particular, that is to say, modern, Western thinking style or mental paradigm tends to emerge as critical in influencing the sorts of action outcomes. However, I have found that this paradigm excludes others and makes praxis and social action often impossible, change agents feeling paralysed, cynical of the failure prior and likely into the future. This is largely a result of the Western frame: the Western 'scientific' type of mind. This predominant thinking style is based on analysis where facts and figures predominate and has come to be called 'the mind of the ratio', that is, *analysis*.

Many other cultures however have thinking styles that incorporate either ways of thinking, for instance myth<sup>9</sup> and metaphor. These have generated successful societies and economies which have lasted millennia. Myth, while giving meaning, allows reality to be more easily negotiated, allowing for a universal of humanity, but as well for differences in language, history, that is, cultural expression. This second thinking style may be called 'the mind of the symbol'; it is *synthetic* and in particular relates to many Asian cultures, for example, Japan, India (and in the Pacific Island example used above), and in various historical periods in every culture. In particular, differences emerge in thinking styles between broadly definable Asian and Eurocentric cultures (for example, Nipponic, Teutonic, Indic, Islamic, Sinic and Anglo-Saxon).<sup>10</sup> This then echoes the work of Tony Judge, who is concerned with how metaphors can create change processes and ossify organizations. If we use analysis we will rarely be able to create new guiding metaphors that can capture the richness of our differences, of our disharmonies. Indeed, as Judge has recently argued, the task in organizations and in teaching environments should not be the search for a common philosophy, general agreement, but to harmonize our differences, to allow our fundamental disagreements to help solve problems, instead of attempting to recreate a primordial unity.<sup>11</sup>

But this is difficult to do since, in using learning processes, we consciously and unconsciously use our 'maps of the world', ie our mental paradigms or mindscapes, to help make the world real for us.<sup>12</sup> These mindscapes take on meaning on the one hand by helping us to understand 'facts and figures' and thereby navigate through the world, and on the other by linking us to, as it were, a broader culturally relevant symbolic view

of the world. In this way the mind of the symbol and the mind of the ratio can work together. Indeed, it emerged that for some authors these links can be such that the role of myth can be equated with that of general theory in empirical science, as for example in the works of Reason and Hawkins.<sup>13</sup> For example, there is an equivalence between theory and myth; paradigm and archetype; typology and saga; case-study and story; and themes and metaphor. One comes from a rationalist Western world focused on analysis, the other from a more historical, indigenous synthetic world, where the world is grasped in its entirety, and not reduced. This equivalence is important to note in that it allows both perspectives to be valued (using the language of the former) and valued (using the language of the latter). This is illustrated in Appendix A.

Futures studies and futures generations research, of course, is far more sensitive to the role of myth and symbols, it is that which often creates the future at the deepest level, which inspires us to continue, to act so as to ensure that these myths and metaphors will remain alive and thus contribute to the cultural landscape of future generations. But this has not been the total story of futures studies, much of it has been focused on predicting the future and using these predictions to create a more stable technocratic, rationally controlled world, the iron cage of bureaucratic rationality, if you will. However, most current futures research is an attempt to escape this straightjacket, using the future to rethink the present and to create refuges of thought, not contaminated by modernity. Of course the best futures studies would ideally bring in all these different perspectives, being able to move in predictive, cultural and critical frames all the time touching on theory, data and values, to be sensitive to the different ways we learn from each other and know the world.

However, while myth building is central to most futuring, in most instrumental modes it is obviously lacking. Often rationalist, literalist and dichotomous (either-or, black-white, right-wrong, good-evil etc) thinking predominates. There seems to be little room for myth or magic in this world of empirical science, other than as a flickering image on a TV screen,<sup>14</sup> video games or virtual reality. The economic strategic significance is multiplied and the deeper significance is lost. Even, or shall we say, especially at the level of science, most scientific research is concentrated on hard science with its test tubes and computers,<sup>15</sup> even though leading-edge research institutes such as the Santa Fe Institute believe that chaos and complexity theory lead us eventually back to metaphor.

### **Paradigms and cultural knowledge frames**

While certainly an overused word, it is important to go back to its definition: a paradigm may be understood as, 'a collective way of seeing the world and includes the entire constellation of beliefs, values, techniques, shared by members of a given community'.<sup>16</sup>

Time and time again in our experience, we have found people wanting us to supply the questions for which there are ready-made answers. For instance, every problem/question looks like a hammer when all you have is a nail.<sup>17</sup> Participants, and indeed people generally, seem to have great difficulty thinking outside the box.

Given this definition what actually comprises a paradigm and what are the similar issues that are addressed differently in different paradigms? Passfield,<sup>18</sup> Bawden and Macadam,<sup>19</sup> as well as others, have identified some four characteristics of a paradigm. These characteristics, not in any order of importance, are outlined in *Table 1*.<sup>20</sup>

Paradigms are not only personal or social lenses that we use to shape the world,



TABLE 1. MENTAL PARADIGM CHARACTERISTICS

Characteristic		How this aspect of the paradigm works	Ways of knowing
No	Aspect		Overview
1	Intervention/social matrix	Ways of acting/networking in the world	Doing/relating (techne)
2	Naming	Ways of thinking and reflecting on the world	Thinking (scientia)
3	Existence	Ways of being in the world	Being (praxis)
4	Worldview	Ways of seeing the world	Seeing (gnosis)

Source: Wildman, *op cit*, reference 20.

they are also paradigms of how we think. Maruyama has identified four such mindscapes, paradigms or collective ways of thinking: these are hierarchical, individualistic, network and synergistic. Further, Galtung identifies four broad intellectual styles that represent these mindscapes—Teutonic, Gallic, Saxonian and Nipponic—that ‘generally’ relate to these ways of thinking in the order presented here. In addition, Inayatullah has written about the Indic and Islamic and knowledge frames. Please note, however, these linkages are indicative only and are not meant in any judgmental or empirical manner.

We can see how the individualistic is related to the Saxonian; the hierarchical to the Teutonic; and network to the Nipponic. The synergy mindscape can occur in any culture, in any approach once other mindscapes are under threat. Synergy or bifurcation allows a new level of learning, an extraparadigmatic process to develop. What this model alerts us to is that different civilizations construct not what they learn and how they do differently, but the framework, the organizational technology in which this is done.

At one level, while it is important to be sensitive to the knowledge style of a particular culture, this does not mean all knowledge styles are the same. Indeed, in differing conditions some are clearly superior to others, given various criteria. For example, top-down hierarchical Western approaches may not be able to perform economically as well in a complex and fundamentally uncertain post-industrial environment compared to a synergistic (Nipponic) one that emphasizes lateral connections and consensus. Witness the emergence of the Asian tiger economics over the past ten years compared to the rather lacklustre performance of many Western economies. In the case of pure research however where the power of sequential analysis, deduction and original (and often individualistic) is crucial, the Western mindscape may well outperform the Eastern. For instance on a per capita basis the USA has been awarded many times more the number of Nobel prizes than Japan. The cost of consensus is difference, of misunderstandings, that can thereby produce novelty, as Peter Allen and other complexity theorists have argued.<sup>21</sup> However, the rise of East Asia is also based on the relatively low military expenditures and substantial social and educational expenditures. The former as a result of historical reasons, World War II and the latter based on the Confucian emphasis on learning and knowledge.

### Indic and Islamic knowledge frames

The Indic mindscape has dimensions that blend Eastern and Western knowledge styles. It is hierarchical, with knowledge from above (the guru or god and most recently the

civil servant technocrat) and it is individualistic (in that eupsychia is far more important than eutopia). It is certainly not horizontal (witness the caste system), however social action is collective, even though reality is cyclical, all collectivities rise and fall, and thus, the importance of individual enlightenment.

In this sense, the future in the Indian context becomes much more individual-based, not in the commercial sense of individual advancement but in the sense that a utopia will be based on individual transcendence (going so far as to argue that if one person becomes enlightened, his/her future generations will also gain spiritual salvation through that action). Social structure is a far more difficult idea to get across in the Indian framework, except for the fossilized idea of caste.

In contrast, the Islamic mindscape is far more collective; indeed the Prophet's mission was to create a civilization of unity, under Allah. The basis of this civilization was to be text, developed through *ilm*. In this sense, Islamic civilization is hyper-rational. Rationality focused on the text creates a society of interpreters, less concerned with creating new forms of knowledge, especially as civilization declined. However, unlike Western science where values are divorced from theory and data, Islamic science has always attempted to keep the larger civilization values of unity, trusteeship, submission to Allah as central to the project, even if during the past 600 years of decline, imitation and reaction to the near West, rather than creation have been the norm. Colonialism has added a dramatic dimension to both knowledge styles, with truth only so if someone from the West says it, or someone in a position of state power: the chief minister or a professor. Folk wisdom has increasingly been removed, with schooling formalizing bureaucratic and national knowledge. Rote learning has become the norm, indeed, the requirement of nation-building. Teaching the future becomes far more challenging in these two contexts. In the Indic, because future generations are personalized and in the Islamic because authority is centralized. However, since the collective is so central in Islamic thought, the idea of future generations fits perfectly into the cosmology, far more than Western traditions.

## Place and spirit

Moving to East Asia, interestingly one of the principal differences between East and West, according to Maruyama,<sup>22</sup> is the 'spirit of place'. For the Japanese, each locality has a 'mononoke' which relates to that place's 'uniqueness' is quite 'spiritlike', undifferentiated and undefined. Later it is distilled and condensed into the rocks, creatures, and other lifeforms specific to that place. This is similar to the 'spirit of place' of many indigenous cultures for example the Australian Aboriginal<sup>23</sup> 'sacred sites', literally meaning a conjoined spiritual and physical place. At these sites the mind of the ancestors, their thought processes, their dreams are manifest in the present.

In this way spirit and place, that is, mind and matter or subject and object are inter-related. Consequently, for the Japanese, through mononoke there is little opposition between mind and matter. This allows for things such as co-existing alternatives, paradox, multiple meanings, and even deliberate incompleteness. Importantly, rather than focusing on components themselves, the Eastern view seeks a relationship or pattern between the components. This approach leads, for instance, to a focus on relationship rather than on individuals, as well as harmonization of heterogeneity (diversity) rather than centralizing conformity through some sort of homogenized master plan.

Maruyama,<sup>24</sup> in an interesting aside, suggests that apparent lack of energy in the West for small-is-beautiful (including such things as organizational design, community economic development and its unfortunate concentration on macroeconomic theory) may be the inability of the West's hierarchical paradigm to incorporate synergistic systems based on local small-scale myths and stories. This reinforces the point that the West may be at its epistemological nadir, having lost its mononoke, no longer able to dance or dream, and afraid of its myths.

In contrast, the Indic system is able to deal with contradictions, indeed, revels in many ways of knowing, many systems of logic. The task is not to convert but to uncover the 'hindu' or the 'atman' in each person. While ideally this would lead to a more negotiable style of teaching in both the Nipponic and Indic system, the demands of modernity, of nation-building have created systems where respect for elders, where hierarchy of knowledge is far more important. Still, the strength of both these approaches is that truth is layered: not right or wrong, but with many levels. Some levels focus on the physical, some on the unconscious of the mental, others on the collective unconscious and still some on the spiritual.

But there is an important difference between place for the Aborigine and for the Japanese. For the Japanese, place is ritualized and miniaturized, and indeed culturally commodified: the tea garden might exist in a shopping mall, only to remind of history and spirit, but it is still shopping that we must do, it is still the self that must be consumed. The dream is a Western capitalism that is better than the West, not an alternative rendering of value, money, of economy, as is expressed in the sacredness of space for the Aborigine. For the indigenous, for the yogi, space is a refuge, a sacred place that brings on another time.

In this sense teaching the future, particularly teaching about future generations, needs to be space-sensitive. Where courses are held, how buildings are designed, are not trivial matters of detail but grander matters of feeling at 'home' in a foreign world. Courses or learning experiences must then be able to look at how space and culture is distributed, and how spaces create a different view of the future.

### **Applying mindscapes**

Thus, our ways of knowing, paradigms, mindscapes, all force us to be more sensitive to: different ways of thinking; how different cultural backgrounds can influence this; and, most important, our own mindscape and to value differing mindscapes.

What then is needed is that practitioners of the future first uncover their own paradigm, their own cultural background. Based on this, considerable synthesis is possible. For instance, synthesis between thinking and doing, between mind and matter, between subject and object and between, for instance, mindscape and social action. This raises possibilities for contributions to methodological development through praxis and action-oriented systems such as action research, which embrace thinking and doing while simultaneously acknowledging the harmony between mind and matter.

Such synthesis however does not yet seem to be appearing in mainstream university courses or organizations in general. If anything, it seems that greater and greater levels of detached analysis are emerging. While futures studies continues to grow, its focus on transdisciplinary ways of learning and teaching is still threatening to traditional academic departments and knowledge frames. The search for rigour is also often the call for

the elimination of difference. Certainly this seems the case in our predominantly 'Saxonic' culture as well as in consensus and hierarchical cultures. It is only in an environment of synergy, perhaps the action learning approach, that differences become used to create new levels of understanding.

We have sought to demonstrate that an important influence on the way we are now, and the way we will be in the future, is the way we think, ie our mindscapes. Those committed to developing positive futures through praxis and social action can, we believe, enhance their effectiveness by respecting these ways of thinking and in particular their own way of thinking. So we can be made aware of how our piece of the jigsaw puzzle can help make the big picture.

One method that is exemplary in this regard is causal layered analysis. However, as argued above in the case of participatory (action) learning, all methods have their appropriate uses. The challenge is to be eclectic in the use of various methods, not in the epistemic frameworks they both create and are created by.

### **Causal layered analysis (CLA)**

Causal layered analysis attempts to explore the different levels of an issue or problem bringing the many discourses that create the real. Causal layered analysis asserts that how you frame a problem changes the policy solution and the actors responsible for creating transformation. Borrowing from the work of Rick Slaughter,<sup>6</sup> we argue that futures studies should be seen at many holistic levels and not just at any one particular level.

The *first* level is the *litany* (trends, problems, often exaggerated, often used for political purposes) usually presented by the news media. For example, it could be declining enrolments in an educational institute. Events, issues and trends are not connected and appear discontinuous. The result is often either a feeling of helplessness (what can I do?) or apathy (nothing can be done!) or projected action (why don't they do something about it?).

The *second* level is concerned with *social causes*, including economic, cultural, political factors (and short-term historical). It is usually articulated by policy institutes and published as op-ed pieces or in not-quite academic journals. It could be in the enrolment example, that faculty are too busy doing research, that there is a job boom and students prefer to work rather than sit in institutions. It also could be that the pool of students has declined. The solutions that result from this level of analysis are often those that call for more funding, for more research. If one is fortunate then the precipitating action is sometimes analysed. At this stage, taking a critical view one could explore how different discourses (the economic, the social, the cultural) do more than cause the issue but constitute it, that the discourse we use to understand is complicit in our framing of the issue. This adds a horizontal dimension to our layered analysis.

The *third* level is deeper, concerned with structure and the discourse/cosmology that supports and legitimates it. The task is to find deeper social, linguistic, cultural structures that are actor-invariant, such as centre-periphery relations and the anarchic interstate system. At this level, it could be that conventional education no longer fits the job market or that conventional education no longer fits students' experience of the world that they might get from community associations or high-tech TV. The solution that emerges from this level of analysis is to rethink the values and the structure of the educational institution, to revision it. One could at this level, develop a horizontal discursive dimension

investigating how different paradigms or worldview (and related ways of knowing) would frame the problem or issue. How would a pre-modern world approach the issue of teaching and learning (learning in communities, through more spiritual approaches that revive the ideas of initiation into meaning and culture systems that current educational institutes lack—merely an application form suffices, for example)? How might a post-modern? (perhaps focused on distant learning?)

The *fourth* layer of analysis is at the level of *metaphor and myth*. These are the deep stories, the collective archetypes, the unconscious dimensions of the problem or the paradoxes. In the case of the issue of education, it is, does schooling free us or is it merely social control? Should education still be based on the Newtonian Fordist model of the factory or is education about transcendence, the return to mission, the re-enchantment of the world. At this level, the challenge is to elicit the root myth or metaphor that supported the foundation of a particular litany of issues.

Causal layered analysis (CLA) asks us to go beyond conventional framings of issues. For instance, normal academic analysis tends to stay in the second layer with occasional forays into the third, seldom privileging the fourth layer (myth and metaphor). CLA however, does not privilege a particular level. Moving up and down layers we can integrate analysis and synthesis, and horizontally we can integrate discourses, ways of knowing and worldviews, thereby increasing the richness of the analysis. In addition, what often results are differences that can be easily captured in alternative scenarios; each scenario in itself, to some extent, can represent a different way of knowing.

#### **Four ways of knowing (at least!)**

To conclude, it may be useful at this point to integrate the above points by distinguishing between different ways of knowing or learning and to translate these into different types of strategies for organizations seeking to become learning ones. These ways of learning are respectively doing, knowing, being and seeing. (They were introduced in *Table 1* and are explicated in Appendix B):

- The itch to do (techne): the practical knowledge I use to do things—practical knowledge—knowledge or skills for doing. Broadly similar to the litany level in causal layered analysis (CLA).
- The itch to know (scientia): the propositions that I use to explain my world—propositional or scientific knowledge—knowledge for knowledge’s sake. Broadly similar to the social causes level in CLA.
- The itch to be (praxis): the way I am as I live my life through these changing times—experiential knowledge—knowledge for being. To transform social conditions. Broadly similar to the cosmology level in CLA.
- the itch to see (gnosis): the ability I can develop to understand symbolically with my heart and my head, ie insight-metaphoric knowledge—knowledge for seeing or intuiting, ie to think with one’s heart and feel with one’s head. Broadly similar to the myth level in CLA.

The balance between these four ‘types’ of learning as presented in *Table 2* and the strategies that are used to present them to students are the subject of strong debate within learning organizations throughout the world.

In WFSF courses, I (Sohail Inayatullah) have found that some students have no pati-

TABLE 2. COMPARING PARADIGMS, CAUSAL LAYERED ANALYSIS AND WAYS OF LEARNING

Paradigm		Mindscape	Causal layered analysis	Ways of knowing
<i>No</i>	<i>Aspect</i>			
1	Intervention/social matrix	Individualization	Discourse/cosmology	Doing/relating (techne)
2	Naming	Hierarchy	Social causes	Thinking (scientia)
3	Existence	Synergistic	Metaphors/myth	Being (praxis)
4	Worldview	Network	Litany	Seeing (gnosis)

Source: developed by Wildman and Inayatullah.

ence for theory—they want to get on with, to discover the bottom line, to transform the world. Other students find both technical and theoretical information of very little value. They are there to learn about themselves and others; they are in search of a moment of *satori*.

Trying to balance various learning needs through a mixture of formal lectures, small groups, and informal ‘free’ time is also problematic as some find lectures too pedantic, others find small groups too revealing and fuzzy (garbage in, garbage out), and still others, find free time too chaotic, believing it to be ‘a waste of time’. Transferring ownership to students themselves thus is one of the brilliant contributions of participatory action learning. That is, let those who are there to learn design their own pedagogical structure. In terms of the discourse of future generations, this means that we have to find ways to include future generations, themselves, in present decision making, they should not be an external party, rather they (or their concerns) should be part of the process of designing the future. The struggle, as articulated above, is how to let others own and participate in the future when conceptions of ‘ownership’, ‘participation’, and ‘future’ are different.

The general trend, however, has been that as theoretical knowledge has continued to expand, more and more theory has been incorporated into ‘curricula’, usually at the expense of ‘practica’. In this way learning has become increasingly theoretical (concerned with scientia, for instance at universities) and focused on external reality which increasingly engages the students in learning by displaying (externally and expertly defined) competencies through things such as competency based training. Here, the students’ experiences are largely irrelevant to the curricula. For us this represents humanity’s struggle to ignore the internal subjective world and may well explain why we know more about the moon than the oceans.

At the same time, the practical is framed in overly localistic and value-free terms, unaware of different cultures and individuals constitute what it means to be realistic.

Inappropriate pedagogy effectively disengages the student from the ‘internal’ journey of immersion in the mystery of self, that is to say, the student’s life is not of significance to the curricula. This disengagement has often resulted in the emergence of technical institutes. Clearly futures studies has attempted to solve this problem, mixing theory with values and visions. But this resolution should remain, particularly with future generations research: it must be committed to both how individuals see their world and give meaning to it, as well as external content which can inspire, help them rethink their values.

In all this, we believe that by linking thinking and doing as traditional universities

and vocational education do, without reference to inner seeing, ie insight, the vital link between praxis and gnosis, has tended to get lost.

Unfortunately, so much of today's pre-programmed 'skill development' seems inimical to these unfolding, creative organic, developmental and intuitive ways of learning that, we believe, are crucial to meet the challenges of a post-industrial age. In this teaching the future must be holistic, seeing the future as a process, not a particular technique, a bag of skills, that must be imparted to the uninitiated (although certainly, skill learning is one dimension of this). We thus need to understand the paradigms that we are in and be willing to exist in different knowing spaces. Among these ways of knowing is the future, not as a way of predicting, but in itself as a way of being: futuring if you will.

## Conclusion

We maintain that individuals seeking to create a positive future will need to apply the creativity of all those involved in their pedagogical environment. Teaching situations must include their students as part of their course (and this means being authoritative at times as well, as with the scenarios story). In turn this will mean recognizing and incorporating all four ways of learning (especially praxis and gnosis) within this future process. This is going a step beyond action learning in that process itself is seen to be historically and culturally specific, moreover, the politics of process are often left unscathed, participation becomes the unfilled rhetoric at one level; and at another there is inappropriate participation, when nested hierarchies are needed that account for the vertical differences between persons and organizations.

Fortunately, there are individuals and organizations which want to focus on the future, not merely to gain expert opinion on opportunities and dangers, but to transform their ways of knowing to be more future-focused. Doing this, as we have argued, requires more sensitivity towards our respective mindscapes, their resultant ways of knowing and implications for our futures than we have ever had before. Future generations require no less from us.

## Notes and references

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3. Through efforts such as Rick Slaughter (ed), *The Knowledge Base of Futures Studies* (Melbourne, DDM and Futures Study Centre, 1995).
4. Sponsored by the Pakistan Futuristics Institute.
5. See Sohail Inayatullah, 'Futures visions for Southeast Asia; some early warning signals', *Futures*, July/August 1995, pages 681–688.
6. He bases these on years of experience in the government sector as well as teaching distance learning at Southern Cross University, Lismore, Australia, where he is responsible for teaching the MA futures unit as well as assistant professor in the Faculty of Education, Work and Training.
7. See Peter Reason and John Rowan, *Human Inquiry: A Sourcebook of New Paradigm Research* (Chichester, Wiley, 1981).
8. Gabner, 'Communication: society is the message', *Exploration in Communication*, 1(1), 1974.
9. For instance, see the brilliant works of Joseph Campbell, *Myths to Live By: How We Re-create Ancient Legends in our Daily Lives to Release Human Potential* (New York, Viking, 1972).
10. Borrowing from Johan Galtung, 'Structure, culture and intellectual style: an essay comparing Saxon, Teutonic, Gallic and Nipponic approaches', *Social Science Information*, 20(6), 1981, pages 817–856.

11. E-mail transmission, June 1995, from Tony Judge to Sohail Inayatullah. See Tony Judge, 'The aesthetics of governance in the year 2491', *Futures*, May 1991, pages 426–436.
12. See Magorah Maruyama, 'Mindscapes and science theories', *Current Anthropology*, 21 (5), 1980, pages 589–600.
13. Peter Reason and P Hawkins, 'Storytelling as inquiry', in Peter Reason (ed), *Human Inquiry in Action: Developments in New Paradigm Research* (London, Sage, 1988), pages 79–101.
14. Witness movies like *The Never Ending Story* and *Peter Pan* which are about people (usually male) discovering importance of the symbolic or magic side to their character and world. Under all the layers of civilization, discovering the magic and critical importance of myth so long excluded from our thoughts remains important. Consequently we have sought to explore the importance of myth and mental paradigms.
15. Indeed some 50 of the 51 Co-operative Research Centre grants in Australia have been allocated to 'hard science'. See Phil Neck, 'Discussions in developing a regional development CRC grant application for Southern Cross University', Lismore, Southern Cross University, 1994.
16. Thomas Kuhn, *The Structure of Scientific Revolution* (Chicago, IL, University of Chicago Press, 1970), page 15.
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20. Paul Wildman, *Communities Working and Learning* (Brisbane, Queensland University of Technology, 1993, Doctoral Dissertation). An explication of the philosophical, epistemological and methodological underpinnings of a community economic development process that seeks to increase sustainable local employment and training opportunities by linking local economic development and community development through action learning and action research.
21. See Mika Mannermaa, Sohail Inayatullah and Rick Slaughter (eds), *Coherence and Chaos in Our Uncommon Futures* (Turku, Finland, Finland Futures Research, 1994).
22. Maruyama, *op cit*, reference 12, page 598.
23. See the brilliant Robert Lawlor, *Voices of the First Day: Awakening in the Aboriginal Dreamtime* (Vermont, Inner Traditions, 1991).
24. Maruyama, *op cit*, reference 12, page 599.
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Appendix A

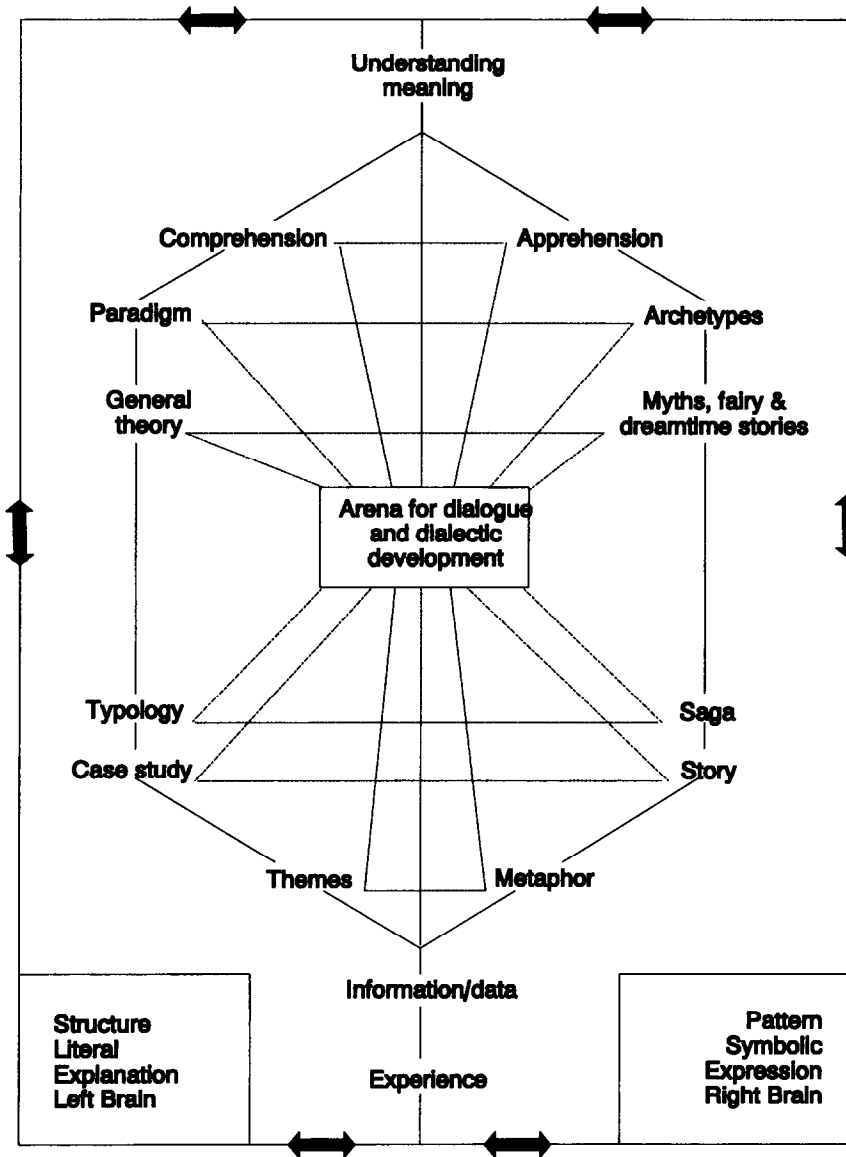


Figure A1. Myth and theory: a dialectic equivalence.

Note: This is a dialectic within which learning occurs

Source: Wildman, *op cit*, reference 20, based on Reason & Hawkins, *op cit*, reference 13.

Appendix B Overleaf

## Appendix B

TABLE B1. 12 LEARNING ISSUES COMPARED ACROSS FOUR WAYS OF LEARNING

<b>Issues</b>	<b>Techne (1)</b>	<b>Scientia (2)</b>	<b>Praxis (3)</b>	<b>Gnosis (4)</b>
Learning type	Learning by doing	Learning for knowing	Learning for being	Learning for seeing
Focus	External technical reality	External objective reality	External/internal being?	Internal (self)
Knowledge produced	Practical	Propositional	Experiential	Metaphorical
Structure	Crafts	Subject disciplines	Issues	Stories
Teacher's role	Master	Expert	Facilitator	Storyteller
Teaching strategies	Practical demonstrations	Lectures on theory	Real world projects	Walkabouts/experience
Research style	Applied (developmental)	Basic (experimental)	Action (participative)	Comparative (reflective)
Role of researcher	Producer of solutions	Producer of knowledge	Co-creator of improvements	Immersed in stories/feelings/relations
Research goal	Workplace solutions	Abstract knowledge	Local theory and action for change	Insight
Basic philosophy	Utilitarianism	Positivism	Constructivism	Esotericism
Focus of reflection	What can I now <i>do</i> ?	What do I now <i>know</i> ?	Who am I <i>becoming</i> ?	Who am I <i>now</i> ?
Occupation	Technician	Scientist	Pracademic	Sage
Mindscape	Hierarchical	Network	Individualist	Synergistic
Causal layered analysis	Social causes	Litany	Discourse/cosmology	Metaphor/myth
Paradigm	Intervention/social matrix	Naming	Existence	Worldview

Source: Wildman, *op cit*, reference 20.

Note: these categories are indicative only and not mutually exclusive.