Improving the effectiveness of distance education for farmers

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PLEASE NOTE

The greatest amount of care has been taken while scanning this thesis,

and the best possible result has been obtained.
We breathe the same air, but do we perceive the same world? Whether we are farmers or distance educators or anybody else, is it worth thinking about the process by which we create a meaningful, coherent world for ourselves?
I am an adult educator; my business is helping adults to develop their cognitive skills within a broader process of personal growth. Whatever their work or personal interests might be, it is natural for adults to have an interest in expanding the horizons of their knowledge; this can include knowing about their knowing—that is, about being reflexive thinkers. Is it possible to understand understanding? In the traditional scientific method, and in everyday problem-solving, the normal procedure is to place one’s object of inquiry under a real or metaphorical microscope and observe it until we make sense of it, see how its constituent parts relate to each other. We can’t quite do that with meaning making. As we attempt to understand what we are doing when we attempt to understand what we are doing, we find ourselves in a vortex, and we step back for fear of spinning giddily into orbit, losing grip of the gravity of rationality.

The idea for this research project grew out of the experiences of a farm management distance educator. Just as species survive by watching where they’re putting their feet and what’s on the horizon, I have tried, in this thesis, to remain alert on both scales—paying attention to the challenges of the daily routine, and reflecting on the structures surrounding and the theories offering explanations of that routine.

By various measures, the sum of human knowledge is growing faster now than at any other time (in any counterpoint to the contraction in biodiversity). In parallel with the knowledge explosion, many aspects of life that previously were indigenous to particular cultures are now becoming influenced, then controlled, by international, ‘global’ forces, whether economic or political, cultural or religious. We live in a world whose face will never stay the same.

As the observable world grows and grows more complex, the perspectives of the human population reflect this global state of flux. This being so, the fundamental educational challenge for teachers and learners at the turn of the third millennium, Common Era, might be framed in this way:

How can we develop the mental readiness for a world that is becoming understood in ever richer, ever-subtler ways? How will we cultivate the mindfulness and the mode of mental operation to which we orientate ourselves in an increasingly-complex and unpredictable world, and thereby retain a sense of meaning and identity for ourselves? Doesn’t this question lie at the heart of the problem of human adaptation and survival?

If I can maintain adaptation in my world by continuously refining my meaning making, both as a distance educator and a person, and if my farmer clients can do the same in theirs, we will be better placed in our respective fields to stay abreast of things, even if the gameplay in each of our multiple worlds evolves beyond recognition.

I would like to record my gratitude to various people who formed part of the context for this inquiry. My academic supervisors at the University of Western Sydney, Hawkesbury, Dr Roger Packham and Professor Richard Bewley, gave me encouragement and confidence to keep pushing back the frontiers of my questioning and critique. Cameron Archer, Principal, and Brian Walsh, Manager Continuing Education of C B Alexander Agricultural College, Tocal, helped me gain approval from NSW Agriculture for this research and gave encouragement. My co-researchers, Mark & Vernetta Dunson, Prue Marshall, and Noel & Sue Unwin, found time for me and my project within their busy rural lives, and in a real sense helped form the direction that this inquiry was to take. Finally, my wife, Margaret, and my children, Emma, Christopher and Clare, accepted the impact of this project on our family life. I thank them all as deeply as I know how.

Declaration: Apart from use of terms that have gained general adoption within the literature, I acknowledge all my sources wherever I am aware of drawing upon them. This work has not been submitted for a higher degree at any other institution.

Anthony McKenzie
This study represents an attempt by a distance educator at C B Alexander Agricultural College to find ways of improving the quality of its farm management distance education program. It describes an action research project in which the Principal Investigator and his co-researchers—a group of students enrolled in the Farm Management Certificate Course—simulate a distance education process as a springboard into collaborative and critical reflection.

The study describes the present operations of the NSW Agriculture Farm Management Certificate Course and gives a critical overview of the current approach to course development. It draws on relevant professional literature to provide a theoretical basis for its critique of the curriculum. It asks whether inclusion of an epistemological development variable in course design could help the College more closely meet the needs of its clients.

Rising out of this critique of existing practice, the thesis charts a quest by coresearchers for growth in understanding, by critical self-reflection, through dialogue. It proposes a theory of open system inquiry as a tool to help curriculum developers, distance educators, and all aspiring open system learners to develop a personal praxis of open system inquiry in their vocations and in their lives.
Part A:

Grappling with the nature of the problem
A conversation begins

This study will have a number of threads. The Principal Investigator is a distance educator at C B Alexander Agricultural College, Toowomba, Queensland. The title of this volume suggests, my research project arises out of a desire to improve the effectiveness of courses offered to farmers through the Farm Management Home Study Program of NSW Agriculture.

An action research methodology was adopted, and over a four-year period, a diverse reading program was carried out, sparking off a deeper critical reflection on my professional practice. Out of this work a possible line of inquiry emerged, and a group of co-researchers, students from the Farm Management Course, were invited to participate.

The hypothesis: In this study I am setting out to show that open system learning is an approach to study, to work and to life that helps teachers and learners become more context-sensitive, gives them a richer sense of what is going on, and helps them remain adaptive as conditions change. It offers the adult or distance educator a perspective for evaluating professional practice, and a template for action.

I will argue that distance education programs for farmers can be enriched—made more effective—through the application of open system learning theory (and the model within it). Applications of these insights to other higher, vocational and lifelong education programs may also suggest themselves.

The hypothesis provides us with criteria for judging how we may improve the effectiveness of distance education for farmers. By specifying outcomes both for distance learners and teachers, we will be in a position to judge the potential influence of open system learning throughout the distance education process.

In Part B I shall discuss the action research paradigm, and show how this inquiry took form in response to the particular methodology followed; or rather, I will demonstrate how the methodology and the subject of inquiry unfolded together.

The hypothesis just presented holds a certain meaning for me, and even on its first reading, it will signify something to you. What I mean by open system learning is quite abstract and (once the language is mastered) quite simple. It is one of those constructs that need to be grasped in the round, so to speak. We will get to know about open system learning over the course of this study.

I will not, therefore, commence by defining my terms, and if necessary, I ask for your forbearance. This study will be something of a journey of discovery, a journey we will take together, in the course of which I wish to open up for you a world of thought. As we continue together, excerpts will crop up—like world of thought—that you might want explained. Sometimes I will elaborate there and then, and sometimes, like now, I will count on your forbearance until we arrive at the more fitting occasion for their explanation.

Although the writing and the reading of this thesis are separated in time and space—I am here, and you are there—I have a sense that a unique engagement is already starting to unfold between me, these words, and you. For me, this is a common experience. As a writer of distance education materials, it is my constant challenge to captivate my reader into his or her own learning odyssey. My clients are adult, lifelong learners, and we get nowhere together until they regard the odyssey as their. Not only must they be in charge of the direction and depth of their inquiry; I
encourage them also to be critically self-reflective learners, observing and appraising the processes they are engaged in. When developed in this way, each distance teaching-learning engagement can be unique, and the words, the line of thought, are what create the association between writer and reader. To quality distance teaching and learning, the text or the media image becomes the meeting ground of minds; a relationship establishes, understanding is shared, learning grows.

My concern at present is to secure your forbearance on the approach and style being followed in this dissertation. Clearly, a Masters degree dissertation is not a distance teaching exercise. This text is being influenced not only by my bank of ideas and my custom—ways with language, but also by the formal, functional relationship that I as candidate have towards you as examiner. Although I won’t know your reactions to my line of thought for some time yet, this text, this meeting ground of minds, has taken on the initiative to lay the groundwork of our inquiry, and to invite you also to think of this as a journey together. One of the things we will explore later is how a text may be structured such a way as to call forth the emergent learner within the reader. In many subtle ways, a writer can use text to create a world of thought. It is a mark of the skill of the distance teacher that the one, to some extent fixed text can trigger a rich and personalized learning experience for readers of diverse outlooks, abilities and dispositions.

I have been reflecting on the nature of the present document against a backdrop of my distance teaching texts. I have acknowledged that these two forms of writing are quite different. And yet... and yet... I have a sense that my text here is reaching out to you, just as I want it to do in a distance teaching-learning engagement. I am not relying here on establishing the equivalence between the two forms of writing; I am not arguing by analogy. As we pursue this inquiry, we shall see how the recognition of patterns, including recurrent patterns—text A and text B, for instance—constitutes a powerful method of meaning making, of reaching new understanding.

In a journey of this kind, an emergent learner will be active in both of us. It was only after I put these words aside for the night that I could come back to see that an emerging line of thought has the power to goad us both on. Of course, growth in a reader’s understanding of a writer’s emergent world of thought typically takes place over wide expanses of time. It is a process that can involve

- a prior state of relative ignorance or incoherence
- effort to concentrate on thought inspired by a new stimulus
- times of blockage
- times of reflection and of searches back into deep memory
- creative flashes of insight
- consolidation and retaping of ideas
- incorporation of the new understanding into an enlarged global understanding.

The soundness of these generalizations will be put to the test as this study unfolds. For now, let’s recognize that we are using words to search and sift through issues that have been dissected and analyzed many times before. We won’t be held to account just yet for cursory references to this or that proposition. It is in the nature of this kind of Inquiry—open system learning—to steep ourselves first of all in the deep end, and to enjoy being there. Deep approaches to learning take time. As we shall see later, according to the open system learning model, patience and acceptance are prerequisite qualities, without which the traveller discovers he or she is on a journey to somewhere else.

In this study, we will occasionally confront the expressions ‘line of thought’, ‘pool of thoughts’ and ‘world of thought’. Line of thought is simply the writer’s ordering of ideas. Language, unlike visual images, communicates in a linear progression, though once a sentence is read, the ideas enter the pool of other thoughts, where it can be combined into patterns of any kind. World of thought may be used in different ways, but the term has a different meaning from pool of thoughts. (Again, we acknowledge our need to use picture language.) I will use the expression ‘pool of thoughts’ to describe the sum of the thoughts of an individual’s lifetime, most of them long-forgotten, out of conscious access most of the time. ‘World of thoughts’, however, is an abstract term; it stands for a cluster of ideas which cohere around and within a given subject. We shall
see over the course of this study that world of thought is a pivotal notion in open systems learning. A world of thought may be emergent in the public domain—as in the case of a growing new field of knowledge; or within individuals—which is another way of describing the changes occurring during learning.

I have already suggested that we are on a journey together in a shared quest for growth in understanding, and that in a journey of this kind, an emergent learner will be active in both of us. As writer, as deliverer of the line of thought, I have acknowledged that the process of text composition can be a learning experience in itself. At the growing tip of the line of thought, one or more ideas appear spontaneously, each one offering itself as the best direction, the next best idea for the composition to flow into; sometimes the author can do no more than sit back and marvel at what is disclosed, especially if one allows time for mulling and gestation. For now, this all-too-brief glimpse of the writing process is all we need.

Now we step back for a more immediate, procedural question. Is it appropriate for me, in a Master of Science degree dissertation, to adopt such an informal tone, or use language in figurative or imprecise ways? I plan to show that creating a world of thought can be a work of great subtlety; indeed this unfolding world of thought appears to have the delicacy of a flower. A shared quest for growth in understanding of this delicate world requires communication of a particular kind; I have decided to attempt my challenge in a style that is already taking a life of its own.

Why should the evocation of a world of thought require subtlety? How could a world of thought have the fragility of a flower? The answer lies in what we mean by ‘thought’. In this study I follow Dohrn, Factor and Garrett: ‘We are using the word ‘thought’ here to signify not only the products of our conscious intellect but also our feelings, emotions, intentions and desires. It also includes such subtle, conditioned manifestations of learning as those that allow us to make sense of a succession of separate scenes within a cinema film or to translate the abstract symbols on road signs along with the tacit, non-verbal processes used in developing basic, mechanical skills such as riding a bicycle. In essence, thought, in this sense of the word, is the active response of memory in every phase of life and virtually all of our knowledge is produced, displayed, communicated, transformed and applied in thought. (Even that which we call rational thinking can be seen to consist largely of responses conditioned and biased by previous thought (Dohrm et al. 1991)).

Regardless of the kind of task facing us when we are learning, we each approach the task with our own tried and true methods of meaning-making, and we engage in the task as constituted in individuals; from the inside, everything we experience—ideas, sensations, emotions, memories—is undifferentiated in the present moment. (It is later, on reflection, that we sometimes untangle things.) Once we appreciate the complexity of what is going on in both the writer and the reader during a shared quest for growth in understanding, the delicate flower metaphor takes on a meaningful association, on a deeper level than that of rational analysis.

Is there any wonder I said this before? "A shared quest for growth in understanding of this delicate world requires communication of a particular kind; I have decided to attempt my challenge in a style that is already taking a life of its own."

As this study unfolds, you may find yourself wishing you had some idea of where we are going. According to the conventional wisdom in distance education literature, a distance learner is helped if, periodically, the writer provides advance organizers, that is, verbal or graphic indicators of what lies ahead and how the present subject matter relates to later sections of work. It is natural for readers of any text to expect some clues to help them orientate themselves. However, as you get further into this study, you will see why, on a quest of this nature, the reader needs to adjust to the sensation of being immersed in the deep-end. If you need a reminder of where we are, it is enough for now to know—as the footnote at the bottom of the page tells us—that we are grappling with the nature of the problem."
Let’s come back down to earth. One of the guiding principles of this action research program is that the inquiry be based on and committed to the real world—in this case, the distance education program in farm management operating from C B Alexander Agricultural College, Tocal, in the Hunter Valley of New South Wales. In this article I shall describe the operation of the Farm Management Certificate Course, and try to show how the big issues in this research project have their roots in the learners and teachers themselves, and in their interactions.

What are these courses? How do they operate?

The Home Study Program was launched in 1970 with the advent of a certificate-level home study course in farm management. In 1977 a companion course in farm office management was introduced. The Farm Management Course, originally a three-year, part-time program, was condensed into two years in the late seventies. Over the years there have been over 9,000 enrollments in these courses. (Each enrolment in a Level 2 or Level 3 course is counted separately.) Incoming students choose between farm management and farm office management in the first year of study; if they wish to continue in the following year, they enrol in the Farm Management Level 2 Course, and on successful completion of this course, are awarded the NSW Agriculture Farm Management Certificate. Since 1994, this award has enjoyed accreditation by the NSW Vocational Education & Training Accreditation Board (VETAB) as a Certificate 3 course. In 1996 it will be reaccredited at Certificate 3 and 4 levels, and articulation will be provided into the College’s forthcoming Diploma program.

In order to ground this inquiry in the real world, let’s take a look at the group of students attending a 1995 residential school. There were about 42 students enrolled in one of the Level 1 courses who attended a three-day Farm Office Management Course residential school in Orange in September 1995. Females are more numerous than males in the office management course, and males predominate in the farm management course. A minority of total enrolments attend residential schools each year; note however that non-participation in schools is not under inquiry in this research project.

Before we look at some information obtained from participants at the school itself, we are able to get a background profile of these students from course enrolment information. In figure 1 we take a look some background information for one of the school participants.

1 The history of the Farm Management Courses is documented in O’Neill, B (1988), NSW Agriculture & Fisheries Home Study Programs: Origins and Development. Miscellaneous Bulletin 5, NSW Agriculture & Fisheries, Orange, NSW, ISSN 0955-7162. Details of student profiles and course organization are given in:

Figures 1 and 2 provide the following information about students attending the 1995 office management course residential school:

- Part (a): sex
- Part (b): year of birth (left extremity of bar line)
- Part (c): level of last formal education:
  - $\text{e}$—lower secondary school
  - $\text{E}$—completed upper secondary school

![Figure 1: Sample student profile from enrolment information, Farm Management Level 1 Courses, 1995](image)

![Figure 2: Sample student profiles from enrolment information, Farm Management Level 1 Courses, 1995](image)

*Improving the Effectiveness of Distance Education for Farmers*
Part (c) Level of last formal education

Part (d) Percentage of time spent on farm activities

Part (d): percentage of time spent on farm activities.

In figure 1, from information supplied at course enrolment, we see that student S1 is female; she was born in 1940; she completed her last formal education in 1957; she completed lower secondary schooling; and she estimates that she spends 10 per cent of her time on farm activities.

When we turn to figure 2, we learn something else about student S1. As a member of the first cluster of school participants (grouped vertically), on enrolment she classified her farm role as owner/manager. Students S1–S14 are

Part A. Grappling with the nature of the problem
NOTE: A LIF-O-TT COPY OF FIGURE 2 IS PROVIDED IN THE POCKET INSIDE THE BACK COVER.

owner/managers: S15–S36 are sons, daughters or spouse or partner of owner/manager; students S37–S38 are employee; and students S39–S42 are not engaged in farming.

C. B. Alexander Agricultural College is able to use information of this kind when planning courses for the farming community.

Because of the small sample size, we aren't in a position to draw any statistically valid inferences from the data. For the open system learner, what this information does—context of our present inquiry—is to create a backdrop of a particular quality or hue. When we view figure 2 as a pattern, or a picture of intersecting patterns, we are reminded of the complex individuals each horizontal data set describes. It is of small significance that we might have obtained hundreds of other quantifiable responses if only we had asked more questions. What is of much greater interest to the distance teacher is the whole person that lies behind each data set.

May I interject briefly in my own line of thought here? We are presently inspecting information available on a sample student population for the Farm Management Level 1 Courses. The information itself, and also the process of presenting it, are significant for us in our quest, within the context of this study as a whole. If the logic of its relevance is obscure at present, we remind ourselves that logic can be a forest; sometimes it needs to be perceived from a certain distance, in order to see the pattern crystallized in perception.

Our emerging world of thought is about open system learning, and it is being expressed through a logic appropriate to the subject. When engaged in open system thinking and open system learning, we make intuitive assumptions about what is a landmark in our surroundings, and what is background, or context. What we are presently immersing ourselves in is context. 

WE PAINT A BROAD-BRUSH BACKDROP, FROM WHICH OUR SUBJECT WILL SLOWLY EMERGE...

Every reader will approach figure 2 from a particular standpoint. First of all, questions will arise suggested by the surface appearance of this data. Here are two that occur to me:

- Given the very limited size of the sampling, which characteristics of this student group support our preconceptions of student background? Which aspects of this background information would we find especially noteworthy from the point of view of course planning?
- Could there be uncertainty in the demarcation between the owner/manager group and the spouse of owner/manager group? Would some of the married women in group 2, for instance, have put themselves in group 1 if the group name was owner/farmer owner/manager? (That is, did some joint owners choose group 2—wife of owner/manager?—because they think of their husbands as 'the manager'?) What kind of discourse would we be engaged in if we asked the married women in groups 1 and 2 to find their common ground?

Questions like this naturally arise out of the information presented. But there are deeper questions to consider. Has the design of the graph influenced the kinds of questions we want answered? (We reflect on this now because, as aspiring open system learners, we should approach all appearances critically.) Figure 2 conveys some information sequentially when studied horizontally (from left to right): sex of student, year of birth, year of last formal education, level reached in last formal education, and percentage of time spent on farm activities. When the figure is viewed as a whole, we additionally see the vertical grouping of students into their four 'farm role' groups.

Six sets of data, configured in one of limitless possible combinations.

We each have our own customary ways of evaluating things. Bearing in mind that evaluation of one's own work can be severely blinkered, 1 nevertheless list several questions that need to be asked:

- What other meaningful configurations of these six data sets could have been presented?
The primary characteristic for sorting students was farm role; the secondary sort was by year of birth. (Students are first sorted into farm role groups 1-4; within each group, they are ranked by age.) Sex of student wasn't used for sorting, yet it was positioned as the first characteristic across the row. How is our global view of this sample student group influenced by:

- The linking of characteristics within the sub-graphs? (i.e., farm role and percentage of time spent on farm activities were combined in a sub-

More tangible, less tangible

As a culmination, in a sense, of this research project, I set out to use the residential school to look beyond the information on students held by the College. On the second day of the school, a series of participatory activities was mounted; students were placed in groups, and circulated from one activity to the next. One of the six activities on the schedule was my workshop, titled Learning is a lifelong journey. By the end of this study we will be in a good position to consider how the research project, still in progress at the time, influenced the nature of questions that were posed for students in that workshop.

During the activity on lifelong learning, I asked participants to locate themselves on two different dimensions. I called these the North-South axis and the East-West axis. The axes were presented as the left and top edges of a rectangular playing field. This created a system of grid references, enabling the learner to find his or her position on the playing field/lifelong learning. For our present purposes, we will not be concerned with the positions of 42 students in a two-dimensional space; we will however consider various patterns that their responses create. We will also see what happened when students were asked to have 'second thoughts' about the positions they had initially selected.

As we are about to see, the issues at stake on each continuum were likely to be novel, or even odd questions for farmers to make self-reflective and abstract judgements about. I am not implying that farmers are different from other adult learners. However, I believe that the issues were sufficiently abstract and personal in nature to require sensitivity in the way the exercise was presented. For this reason I recorded responses anonymously. This is unfortunate in the sense that we are unable to correlate these responses with the background data presented in Figure 2. However, having kept the responses anonymous, although one participant reported later that he or she felt like a guinea pig, I was relieved that 41 did not.

This exercise furnishes what I call impression data. It is legitimate, within the social sciences, to explore all kinds of measurable features of human populations, including the patterns created when groups of people give their intuitive impressions. What we are about to do here is observe the phenomenon of how farmers students successfully carry out a self-reflexive exercise. We don't know the process by which students chose a location on each continuum; we simply know they did. We return to the issue of the firmness of this impression data shortly.

We look first at the East-West continuum. There were 11 available positions along the continuum. The western extremity represented this position:

For the next five years I would like to do everything possible to develop my technical, business and computer skills. My aim is to
secure the survival of the family farm and achieve some measure of financial security for family members.

The eastern extremity represented this position:

I am more than a farmer and a family member. I want to develop my powers of reflection and judgment in all the important areas of my life. While I'm in farming, my goals are to become a cleverer farmer and a more fulfilled person. The key to both is continued growth in understanding.

An intermediate or mid-point position was also articulated:

I want to be focused and organized in the way I go about developing my vocational competence, but at the same time, I would like to develop those parts of me that haven't been cultivated as well as they could.

In the following discussion, I refer to this dimension as students' field of concern. The western extremity shows a sharply-focused field of concern, or desired destination, in their farm management studies; the eastern extremity shows a much wider field of concern. Students who steered towards the east were happier, in varying degrees, with the very general catch-all statement to be found there.

In figure 3, responses to this question are shown. Of 11 available positions on the continuum, 10 were used. These locations are displayed as 10 sets of horizontal lines; the number of lines in each set show the number of students selecting that position. The western extremity students are the bottom group, narrowly-focused on their target or goal (Place name 1); each ascending group has a wider target (Place names 3-11).

Note how evenly the responses are spread, apart from a concentration of 2 students in position 8 (clearly drawn in the direction of the catch-all, wide angle position), and the vacant second position.

The other dimension studied in this activity was the North-South continuum. Again, there were 11 steps on this continuum. The northern extremity offered this viewpoint:

The southern extremity offered this position:
I am in a perfect position to decide what my own strengths and weaknesses are; as I see it, I'm the only one who can really know where I should be going in my lifelong learning. I am independent and secure enough in my thinking to be responsible for charting my own course.

The intermediate position was presented in this way:

There are probably advantages of easier access and motivational support by enrolling in a formal course; but on the other hand, I value my independence as a learner just as highly as getting a qualification.

This dimension may be called students’ preferred conditions for education. Students who steer towards the northern position might be said to have a stronger predisposition to institutional learning; those who align more with the southern position may be said to have a stronger predisposition to self-direction in learning. Institutional learning is specified in the northern extremity statement, but the intermediate position refers to an advantage of a formal course which, the respondents realize, is an implied element in the northern extremity comment—It is a formal course which:

- offers an official qualification, and
- gives one a chance to prove oneself.

In figure 4, student selections in both dimensions are given. Perhaps the most striking thing about figure 4 is the broadly even spread of responses across both dimensions. We can reorganize the two data sets and arrive at a similar picture. In figure 5, bars again show the dimension on which student responses are sorted; this time, bars show students' fields of concern, and stars, their preferred conditions for education.

![Figure 4: Distance learner predispositions: perceptions of one’s preferred conditions for education (bars) and one’s field of concern (stars) sorted by preferred conditions for education.](image1)

![Figure 5: Distance learner predispositions: perceptions of one's field of concern (bars) and one's preferred conditions for education (stars) sorted by field of concern.](image2)
These graphs are presented not because they lead to any sophisticated analysis of student perceptions; remember that we are immersed in the deep end of a search, and we are patiently waiting for patterns to start emerging. One of the matters we are concerned with at the macro, thesis-wide viewpoint, is how the recognition of patterns constitutes a kind of meaning-making. Perhaps we will find that in cognition, as in perception, discernment of patterns, of relationships—of meaning—is gradual. For the sake of testing a hunch, we must ask ourselves to pattern-gazing.

Intangible... and rubbery too

Now let's see what happened when students had second thoughts about the positions they had selected on these two dimensions. I asked what their responses might be if they were asked where, 'in a week or so's time', they would position themselves on both dimensions. No reason for a possible change of heart were suggested; students were simply reminded that we can sometimes be influenced by factors we aren't fully aware of. If their first gut reaction had any chance of slippage in the course of a week or two, I wanted to know what would be the direction and extent of slippage.

Second thoughts about field of concern

We immediately see that in graph (a), there is a kind of diagonal pattern consisting of small horizontal markers and longer vertical lines. There are 42 markers, which represent the locations students chose on the field of concern dimension the first time they were asked. The far left marker has no tail, indicating that the student stayed in the same location when asked a second time. Students 2 and 3 (moving across the graph from left to right) have tails trailing from location 1 (extremely wide field of concern) to location 7 (narrowly intermediate position on this dimension). There were 12 students (29 percent) who moved 'up' the continuum to a wider field of concern, 14 (33 percent) who moved 'down' to a sharper focus field of concern, and 16 (38 percent) who were stationary. Various other analyses could be made of these responses, especially when correlated with second thoughts on the other dimension; however, such analysis will probably not help us with our inquiry. Open system learners, like gold prospectors, follow the most promising stream.

Second thoughts about preferred conditions for education

The lower graphs (b) and (d) present student responses to the second thoughts question about their preferred conditions for education. In this case, it is the right, not left hand graph that shows a diagonal pattern. (We see a diagonal pattern of response in graphs (a) and (c) because in both cases, data is sorted or ranked by the data contained within them.)
Figure 6: Distance learners' second thoughts about their fields of concern and their preferred conditions for education (more)

Part A. Grappling with the nature of the problem
In graph (d), we find that eight students (19 per cent) moved 'up' the continuum, showing a stronger predisposition to self-direction in learning than previously; 12 students (29 per cent) moved 'down', showing a relatively stronger predisposition to institutional learning; and 22 (52 per cent) did not move.

Cross-tabulation of results

The two left hand graphs are sorted by field of concern, and therefore the far left marker in graph (a) and the far left marker in graph (b) both report on the one individual. We find that whereas both she didn’t have a second thought about choosing the widest field of concern (graph (a)), there was a modest move towards institutional learning in preferred conditions for education—whatever the reason.

By following the shaded vertical stripes we quickly get an impression of:

- initial responses of each student on both dimensions
- the slippage characteristics of each student’s second thoughts, including direction and extent of slippage.

By showing the two-dimensional data using two different sorting criteria, we are able to pose our own inquiries of the data sets and get an impression of the people behind the data. It is as if each composite symbol in these graphs, comprising marker and tail, gives us an impression of a whole person through a tiny keyhole. No, let’s be more precise; a symbol represents a fuzzy set of predisposition and self-awareness information on the student it represents.

No, more precisely again: the form, position and orientation of each symbol creates a partial and fuzzy picture of the student concerned—quantified results from intuitive student impressions. By combining the form, position and orientation information, we find that the majority of symbols are unique. Now symbols in graph (a) are replicated in graph (b), but in a different order. The same is true of graphs (c) and (d). By matching individual symbols in (a) and (c), or in (b) and (d), we not only have information about the intensity and robustness of their intuitive self-appraisal on these two dimensions, and how they roughly compare in these attributes with the rest of the cohort; by finding the new positions of symbols in their adjacent graphs, we also get an impression of how far individuals move sideways (in relation to the group as a whole) when ranked by different criteria.

Let’s suppose I am running a group activity for these students, and I want to gain a deeper appreciation of my learners. I examine graphs (a) and (c), and try to see where student S1 at the left extremity of (a), for example—extremely wide field of concern—has moved, in relation to the group as a whole, when ranked by the other sorting criteria—preferred conditions for education. He or she moved from rank position 1 in (a) to position 19 in (c). Students S2 and S3 moved from positions 2 and 3 in (a) to positions 10 and 37 in (b).

We already knew from (a) and (b) that these three students had quite different reactions to the second thoughts exercise. S1 had minor slippage in (b) and none in (a); S2 and S3 had moderate slippage in (a) but none in (b). Now that we’ve located them on graphs (c) and (d), we have a weak but discernable indication of how these three students might relate to the rest of the student group whenever the factors captured in the two measured dimensions become relevant to their interaction.

If, in relation to one question, I am situated towards the median point in a population, I may think of myself as being in broad harmony with the group on this matter. If I hold a more extreme position on another question, my mode of relating to the group becomes more complex. If, in the passage of time, my positions on such questions change, and other group members change theirs also, we realize how fluid and multidimensional interactions can be.

In another time and place, the experimental techniques described here might well be refined and administered to good advantage for the purposes of our present inquiry, however, as already stated, we are not concerned with obtaining a statistical profile of students engaged in the farm management home study courses. This article forms

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put of the first part of this dissertation, in which we are "grappling with the nature of our problem". (I also said earlier, by way of interjection, that what we are presently immersing ourselves in is context.)

At this point in our journey it is timely to acknowledge the Commonwealth Government's National Training Reform Agenda, and in particular, the competency-based training model of vocational education, as these frameworks have had a fundamental role in the structuring of the firm management home study courses. We draw these threads into our yarn in the next article.

Part A. Grappling with the nature of the problem

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3 The terms education and training will appear frequently in this study. There is often vigorous debate about the nature of the two processes, and how the terms should be used. It is appropriate in this study to refer to the firm management courses as educational activities because the theory that underlies them is derived from an educational conceptual framework. We use the expression competency-based training, or CBT, because these are widely accepted forms. As we will see in this study, it is possible for an educational curriculum to use the mechanisms of competency-based training as part of a broader-based educational engagement with students. For a vigorous discussion of vocational training in the context of the national training reform agenda, see Darrick, J. (1994), "Postmodern doubts and 'truths' about training", in Studies in Continuing Education, Vol 16, No 2.
Introduction

In this article we consider how the NSW Agriculture Home Study Program presently prepares its farmer clients for the rigours of farm management in an unpredictable environment. First, however, it is necessary to seek some clarity on the concept of "curriculum.

In 1982, Lees, Da Roza and Carey published Competence and Curriculum: A Study of the National Agricultural Education System. That study was a milestone report for its time, notable for the way it synthesised its historical, national, multi-disciplinary analysis with a real world focus—its concern for the actual needs and concerns of farmers. It took the form it did because of the circumstances of the day—the Rural Adjustment Unit, University of New England, argued—and the Commonwealth Government, the funding body, agreed—that structural adjustments were needed within agricultural industries, but that the agricultural education system was not providing the type of training needed by an adjusting agriculture1. The present study attempts, in its own, low-budget way, to engage with the same dilemma—developing our notion of a farm management curriculum attuned to the circumstances of today and responsive to the needs of real people.

Since Lees et al published their volume, the Australian Commonwealth Government has given effect to its competency based, National Training Reform Agenda, and by 1993, TAFE level providers—including CB Alexander Agricultural College, Tocal—were grappling with the challenge of embedding their vocational courses with changing industry needs. In 1993, at a National Assessment Research Forum, Gregor Ranney spoke on "Competence, excellence and curriculum", in which he described the outcome of quality curriculum design and development as...

1 Lees, J W and others (1982), page i
structured learning experiences designed with reference to both occupational requirements and the needs of different learners, aimed at assisting people to attain skills as efficiently and effectively as possible. The quality of the learning program will determine the breadth and depth of competence the student achieves and thereby their future adaptability, flexibility, interpersonal skills and so on. (Ramsey 1993).

Curriculum: an umbrella term

In some quarters, in everyday usage, the term ‘curriculum’ refers narrowly to the system of classifying the relevant subject matter for teaching and learning; but for us, curriculum is more. In this study we will take curriculum to refer to the theory and practice of an education system. Anything that influences the quality of teaching and learning within that system, and anything that impinges on the system’s ability to regulate and reform itself, is part of its curriculum. We will see in the course why such an expansive definition of curriculum is justified in the present inquiry.

Leaving aside behaviourist conditioned-response experiments, teachers accept that every teaching-learning event is special: each engagement is different in some respect or other; contexts never remain static. Our umbrella curriculum will be very wide; it is to be the legitimate field of inquiry for all possible variables, even within one vocational area. The curriculum developer will never understand everything: in a curriculum document, the final word can never be stated.

Perhaps we should briefly consider, in a theoretical way, the idea that curricula (according to our definition) are never complete. Elements that are tacit (unrecognized), implicit (taught but not explored), or covert (kept out of view), belong to what has been called ‘the hidden curriculum’. Hidden curriculum can have various connotations in the literature, but it will frequently include what is referred to as ‘hidden agenda’, a popular colloquialism suggesting a sinister intent. Of course, my hidden agenda doesn’t exist until someone attaches that label to my behaviour. The behaviour is there, it just hasn’t been named yet.

Although ‘hidden curriculum’ gained currency in the context of school education, it is a notion that we may profitably add to our open system learning lesson. ElizabethValiance argues that writers attach a wide range of connotations to this term, and its related expressions:

- hidden curriculum can refer to any of the contexts of schooling, including the student-teacher interaction, classroom structure, the whole organisational pattern of the educational establishment as a microcosm of the social value system;
- hidden curriculum can be an ascription of processes operating in or through schools, including values acquisition, socialisation, maintenance of class structure;
- hidden curriculum can embrace differing degrees of intentionality and depth of hiddenness as perceived by the investigator, ranging from incidental and quite unintended by-products of curricular arrangements to outcomes more deeply imbedded in the historical social function of education (Valiance 1983, pp10–11).

As Valiance implies, analyses of this kind may be made at the level of individual teaching-learning transactions through to the broadest socio-political context of education provision. A teacher or family can be more or less conscious of a curriculum’s hidden elements, and make moral judgments about it with greater or lesser independence.

Part A: Grappling with the nature of the problem

For Ramsey, achieving the goal of the reform agenda—improved workforce skills—depends on the quality of the skills acquisition processes. “In the case of skills acquisition through formal education and training, it depends on the quality of the provider’s curriculum” (p2).
THE APPEAL OF ALWAYS SEARCHING FURTHER

I have suggested that 'curriculum' encompasses everything that affects the quality of teaching and learning, but that we will never arrive at a full understanding of all the variables. Is there anything to be gained by always searching further? Am I simply playing verbal gymnastics? Why include in a definition elements that we cannot specify? Should we use a Utopian, phantom construct—the all-inclusive curriculum—as the foundation stone of this discussion?

In this study I have calibrated 'curriculum' to the all-inclusive extremity of possible definitions. I stake a claim on this all-embracing, holistic definition in the belief that our ultimate purpose will be served if we have some comprehensive ideal to help us further our critical reflection on practice. Once we accept that there will always be some things that aren't declared (and are in this sense 'hidden'), we create a restlessness, a momentum to search for those elements waiting to be understood and expressed—an emergent curriculum. Accepting this dynamic, and allowing it to inform everything I do, is a guiding principle in all my course and curriculum development work.3

The desire to conceive an all-inclusive curriculum is evident, for example, in Boone's conceptual programming model of curriculum development in adult education (Boone 1985), see table 1.

Towards a 'competent farm manager' fostering system

Earlier I wrote that course providers were grappling with the challenge of matching their vocational vocational courses with changing industry needs—a process of providers engaging with their clients. In this section we think about an upward matching of curriculum design with the Commonwealth Government's priorities.

Vocational education and training in Australia in the 1990s has, overwhelmingly, been conceived and designed in terms of the Australian Commonwealth Government's competency-based, National Training Reform Agenda. An overview of the rationale, the conceptual framework and implementation guidelines of this policy is found in National Competency Standards—Policy and Guidelines (National Training Board Ltd 1992).

In the farming sector, education and training providers face a number of particular challenges. Some years ago it was reported that Australian farmers on average had attained noticeably lower educational levels than farmers in other developed economies. We've already seen the educational background of the 42 students at the 1995 Farm Office Management Course residential school (figure 2), although this tells us nothing about farmers not involved in vocational courses.

3 I first recognised the emergent quality of a curriculum in a scheme within the Farm Management Courses to cater for the particular learning needs of a group of Aboriginal students. See McKenzie (1992).


5 See, for example, Hawkes and others (1974).
### Planning

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<td>• Philosophy</td>
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<td>• Objectives</td>
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<td>Understanding and commitment to the organisation's structure</td>
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<td>• Roles</td>
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### Design & Implementation

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<td>Translating macro needs into macro objectives</td>
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<td>Developing plans of action</td>
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<td>• Translating needs into teaching objectives</td>
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<td>• Specifying learning experiences for each teaching objective</td>
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<td>• Developing plans for evaluating learner outcomes and assessing experiences</td>
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<td>Developing and implementing strategies and techniques for monitoring the plans of action</td>
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<td>Developing and following through on plans to recruit and train teacher-learner resources</td>
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<td>Monitoring and reinforcing the teacher-learner transaction</td>
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### Evaluation & Accountability

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<td>Assessing program inputs</td>
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<tr>
<td>Using evaluation findings for program revisions, organisational renewal, and for accounting to public/parent organisation, funding sources, the profession, and where appropriate, the governance body</td>
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**Table 1:** Boone's conceptual programming model of curriculum development in adult education  
Source: Boone (1985)

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**Part A. Grappling with the nature of the problem**
Unit 1: Review the strategic directions of the business
- Determine sustainable and desirable directions and outcomes of the business for the long term.
- Assess the environment external to the business.
- Assess the status of the land resources.
- Prepare a property management plan.
- Determine and analyse the resources available to the business.
- Select enterprises to be pursued.
- Select and establish on appropriate business structure.
- Arrange plans for estate transfer and management succession.
- Develop plans for retirement.

Unit 2: Market products

Unit 3: Administer the business

Unit 4: Develop, implement and review a business plan

Unit 5: Manage business capital

Unit 6: Manage the production of pastures and crops

Unit 7: Manage livestock production

Unit 8: Manage the production system

Unit 9: Manage physical and natural resources

Unit 10: Organise and manage human resources

Table 2: Example of the hierarchical relationship between units of competence and their constituent elements of competence in the national competencies in farm business management

Source: Rural Training Council of Australia Inc. (1993)

Lees and Reeve (1994) describe several factors tied to Australia’s social and cultural history that have inhibited the participation of farmers in formal courses. These factors stem partly from the culture of Australian farmers and partly from the kind of courses traditionally offered to intending farm managers. In article 2 we looked at Farm Office Management student preferred conditions for education (figure 4), and noted the roughly even spread of responses from our 42 students, indicating a continuum between these predisposed to non-institutional, self-directed learning and those predisposed to non-institutional, self-directed learning. We did not investigate further, but it may be that a stronger predisposition to self direction in learning says less about attitudes to institutional courses of study and more about the individual’s deeply-rooted, culturally-mediated repertoire of interactions with the world.

Before we narrow our focus to the question of educating for competence in farm management, there is something further to note about the training reform agenda. Viewed in a generous light, it is a shared vision, drawing together governments, policy makers, educators and their institutions, unions and employer organisations. Many different perspectives are brought to bear, and therefore many different vocabularies are drawn together to articulate the vision. Seen in this light, we should recognise, beyond the glimmers of a nationally-endorsed, competency-based system of articulated vocational training courses, a genuine desire to achieve best practice at every level of the system, meeting the needs of workers, industry, and therefore, the nation.

The term used to name the goal of the training reform agenda is skill formation. As Laurie Field notes, ‘skill formation’ is a holistic concept that includes ‘education’, ‘personal development’, ‘formal vocational training’, ‘on-the-job learning’, and ‘experiential learning’ (Field 1990). Against such a multi-subs-cultural backdrop, the Rural Training Council of Australia Inc. developed and published its National Competency Standards for Farm Business Management (Rural Training Council of Australia Inc 1993).

The National Competency Standards for Farm Business Management have been written in a way that makes them relevant within all livestock, cropping and horticultural enterprises. Regardless of the type of production, all farm businesses operate substantially under the same taxation and legal constraints. In recognition of this, and through consultation with over 40 rural industries, a composite, generic set of skills of competence was adopted nationally. As we see in table 2, competencies are classified into broad areas of skill (units of competence), and their component sub-skills (elements of competence). Although this table only shows the elements of competence for unit 1, all ten units have subsets.

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RECOGNISING LEVELS OF ACHIEVEMENT

In compliance with the national agenda, the national competencies in farm business management were married with the Australian Standards Framework (acronym ASF). The Framework is a kind of template which classifies workplace competence into eight ascending levels of difficulty and responsibility; these are known as ASF levels. ASF levels 1–4 correspond to various kinds of farm worker; farm managers operate at levels 5–6. There are no activities listed in these competency standards at ASF levels 7–8. The Framework, as it applies to the National Competencies for Farm Business Management, is shown in table 3.

The national vocational training system has been revised through adjustments to the nomenclature and standards of various educational awards; thus different qualifications are identified as being appropriate to employment at each ASF level, and course providers are licensed to issue awards at appropriate levels. The Farm Management Certificate Course offered by Correspondence from C B Alexander Agricultural College, Toowoomba, is presently accredited as an ASF level 3 program. When due for reaccreditation in 1996, an upgrade to Certificate 4 status will be sought for the second year of the course, with an optional exit point after the first year program with a Certificate 3 award. It is fair to say that in the case of the Farm Management Certificate Course, the competencies addressed range from lower level book-keeping skills to higher level, complex conceptual operations. The course operates in such a way that students can meet requirements at various levels of difficulty—in most years, the higher achieving students demonstrate competence, according to Framework definitions, at ASF 6 level ("manager with full production, marketing and financial responsibilities"). However, the course was not deemed to have reached a Certificate 5–6 status. Explanatory circumstances may have included:

- the course's relatively short duration in nominal student study hours
- its historically-based Certificate nomenclature, before the era of the Australian Standards Framework

<table>
<thead>
<tr>
<th>ASF level</th>
<th>Work structure</th>
<th>Units of competence</th>
</tr>
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<tbody>
<tr>
<td>6</td>
<td>Farm manager with full production, marketing and financial responsibilities</td>
<td>National Competency Standards for Farm Business Management 1, 4, 5, 8 and 6 or 7</td>
</tr>
<tr>
<td>5</td>
<td>Farm manager with production/marketing responsibilities</td>
<td>2, 3, 9, 10 and 6 or 7</td>
</tr>
<tr>
<td>4</td>
<td>Farm employee</td>
<td>Separately accredited standards in various agricultural sectors:</td>
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<tr>
<td>3</td>
<td></td>
<td>• pigs</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>• poultry</td>
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<tr>
<td>1</td>
<td></td>
<td>• dairy</td>
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<td>• horticulture</td>
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<td></td>
<td></td>
<td>• cropping</td>
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</table>

Table 3: The nationally endorsed competencies in farm business management related to an idealised schema of responsibility levels in the farm work force

Source: adapted from Rural Training Council of Australia Inc (1993)

Because the Tocal Certificate in Farm Management requires that students carry out a sophisticated analysis of whole-farm profitability—to ASF level 6 standard—while only gaining accreditation at levels 3–4 (once it is re-accredited), we can only conclude that the idealised template of the Australian Standards Framework may not mesh exactly with real life. National frameworks tend to use orderly structures and mechanisms that can be efficiently administered; we need not be surprised that they won't always neatly accommodate the chaos of the living.

No, neat schemas and messy worlds won't perfectly accommodate each other. Peddie (1993) argues that, notwithstanding the profile of indicators specified in the New Zealand National Qualifications Framework,

Part A. Grappling with the nature of the problem
classifying the levels of modules (or courses) can be fraught with problems. He takes the hypothetical case of an intermediate unit on sales techniques. In the New Zealand framework, communication skills required at both levels 3 and 4 are specified as ‘basic written, good reading’. He suggests that the lack of mention of oral communication is explained by a quick look at level 2 (NZNQF), where the indicator statement is ‘well-developed interpersonal understanding’.

In the real world of Peddie’s example we find some actual retailers; an amorphous mass of actual trainee salespersons; and an undeniable need for the trainers to have communication skills—of some description. Beyond this clearest statement, the nature of the training needs—overall, and in individual cases—is much less clear. So, when nominating a particular level for the module on sales, the standards body may well select level 4 because the module is deemed to be more advanced than an earlier, level 3 module. Peddie claims that it is quite unwise as to whether we can validly determine universally acceptable levels of difficulty or complexity in areas like sales. It may well be argued that, just as in teaching, very different types of sales people regularly conclude major deals with very different types of client, regardless of whether there do exist super sales people who can offer aspects of their personality to suit the client at a moment’s notice (ibid, p 4).

Both the New Zealand and Australian frameworks are hierarchical—higher levels subsume the levels below them. In Peddie’s example, the level 2 indicator of total interaction skill is an assumed competency in the standards for all higher levels. Peddie’s paper offers a critical analysis of various central features of a national, competency-based vocational qualifications and training system. It is not our intention in this study to carry out such an analysis, as our interest lies elsewhere. However, two of Peddie’s ideas will, in due course, have relevance in our inquiry:

- When designing vocational education or training programs, we cannot escape the fact that the degree of difficulty of a module will vary from learner to learner, depending on their individual characteristics, abilities and experience, regardless of the Framework level at which a course is registered.

- Through every form of standards-based assessment lie expectations and experiences of what ‘typical’ learners (or workers) can and cannot achieve. The word typical refers in this case to learners of whom those on standards-setting bodies have actually had experience, or perhaps just how they think about learners at that ‘level’. Standards are always set in large part by reference to what equates to norms of (expected) learner behaviour. There is, consequently, both a conceptual and actual link between competency-based assessment and norm referenced assessment (ibid, p 3).

When Peddie refers to ‘norm referenced assessment’, he challenges the conventional wisdom among advocates of competency-based training: they oversimplify things when they say the yardstick of job performance is not influenced by comparison of one worker or student with others. The required level of ‘job performance’ is a blurred standard, influenced by the ‘norm’—the work standards of the whole worker or learner population; and by course accreditation committees, required to classify courses according to the Framework, with—in the final analysis—only their personal repertoires of scaling judgments to refer to.

One final point: Peddie refers to ‘norms of expected learner behaviour’. Whenever an assessment takes place, either on or off-the-job, it is an assessment of what the worker or learner is capable of in the assessment environment. This can be a far cry from how that worker will perform in the real world. (This theme is discussed in Davison 1994.)

We are about to look more closely at the training design phase of the competency-based approach to training. We move on with an open mind about what CBT and the national training reform agenda have to offer, but already we have a sense that to be fully effective, our curriculum may have to be larger than the CBT model proposes.

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* This is not the place to enter a discussion on the evolution of an alternative to ‘norm referenced assessment’ within the literature—‘ criterion referenced assessment’. This is available in Masters (1992). Masters’ paper uncovers the weaknesses of frameworks of precision that are implicit in some competency-based curricula, and describes a shift to the more promising notion of ‘a probabilistically-interpreted competency continuum’.

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Improving the Effectiveness of Distance Education for Partners
COMPETENCY BASED TRAINING

Within the competency based model of training, the identification of competencies needed to perform 'the job' effectively is only a beginning. It is then the task of the training provider to develop a training program, based on education or training theory, and aimed at equipping the trainee with the identified competencies. This will often be achieved through a combination of workplace and off-the-job activities.

The farm management courses, like other competency based programs, are organised around learning outcomes that are derived from the industry competency standards. An outline of the process of competency based training course development is given in Lees and Reeve (1991).

IS A COMPETENCY BASED APPROACH SUFFICIENT?

The national competencies convey a picture of competence in farm business management that would seem to address the needs of farmers with a sharply-focused field of concern:

For the next five years I would like to do everything possible to develop my technical, business and conceptual skills. My aim is to secure the survival of the family farm and achieve some measure of financial security for family members (see figure 3).

However, as we vividly saw in article 2, only those three out of our 42 residential school participants took this extremely positive; the others were spread quite evenly throughout the continuum towards a much broader field of concern.

Is a competency based approach a sufficient framework when designing courses to foster competent, effective, self-fulfilled farmers? As a distance teacher with responsibility to my farmer clients, I must question whether the set of national competencies in farm business management is rich enough to enable all those farmers with wider fields of concern to move forward in the direction of their choosing, however fuzzy their desired end point might be, however integrated their vocational and lifelong goals.

A curriculum that purports to prepare farm managers for the rigours of the real world will no doubt need to address the areas of competence identified in the national competencies. However, posessing a set of prerequisite competencies does not, in itself, ensure effective performance on the job. Each industry-standard competency, it must be remembered, is a written statement that purports to represent an observed interpretation, schematisation, of one fragment of effective overall job performance. The objective of a competency based training program is to raise trainees to a level of overall effectiveness on the job. A competency based curriculum is no more than one of many possible distillations of the job task analysis, curriculum development, and training delivery processes that best amalgam, in the circumstances, that those particular players could achieve.

What is emerging, for me at least, is a sense that a schema of competencies may be only part of the answer when designing vocational education and training programs. It is important within this inquiry to ask how we should approach the gap that presently stands before us. What is it that remains hidden?

In this discussion we have not considered the place of learning outcomes in competency based courses. Perhaps it will be argued that the missing elements which concern us here can be dealt with by the course developer in the process of getting from the schema of competencies to course learning outcomes. Let’s suspend judgment on this for now; let’s remember that our purpose is not to criticise or defend the competency model; we spend time on it here because the competency model dominates the field of vocational education, which is the domain of our inquiry. What, then, eludes us?

* Ramsey (1990) gives a useful discussion of the factors influencing on the design of off-the-job training.

Part A. Grappling with the nature of the problem
Family farmers are busy in various fields at once

In the last section we became aware that something might be missing, but we weren’t sure what. At times like this, it’s always good to return to one’s clients.

Farming in Australia is still in many cases a family concern. The partners and managers of the farm not only have farm and business responsibilities, but responsibilities to other family members, and, of course, to themselves as well. We all have needs—sometimes unacknowledged, deep-rooted—which, for our own wellbeing, also need to be tended. If family farm managers are going to cater for their own personal needs, the needs of family members, and care about the property, about production and business efficiency, they need to be adept at shifting between worlds of meaning like gear changes, at weighing up unlike things.

The farmer’s world is the world he or she wakes up to every morning. Maybe the day’s program has been planned, maybe not. Either way, the day’s tasks are chosen and carried out through the individual’s own characteristic mode of operation. There will be morning habits, afternoon habits, evening habits in the observable routine, and there will familiar patterns of thinking and feeling too.

There are at least three prerequisites for effective engagement in one’s daily tasks:

- competence—possessing the knowledge and ability to act;
- self-confidence—possessing the self-assurance, the belief in one’s capacity to act; and
- will—possessing the desire to act.

An accurate curriculum developer might consider developing a model of farmers’ feeling, thinking, and doing—of their modes of engagement in their multiple worlds, the many fields they operate in or think about. But of course, competence, self-confidence, will, feeling, thinking, doing are merely our perceptions of apparently significant fragments of a whole human life. The farmer learner’s engagement with my course of study will probably elicit a composite response. Teaching and learning are quintessentially human activities, not reducible to this domain or that. Farm management educators need to plan their intervention into their farmer-clients’ lives with sensitivity and respect.

Operating in complex environments

Complex environments happen. This dissertation is one. So the complexity which may still be indistinguishable from confusion or chaos in our emerging line of thought will be continuous, whether explicit—like here, where ‘complexity’ surfaces in the text itself—or under the surface of the text.

A seamless role.

THE IMPORTANCE OF INTEGRATION THROUGH PLANNING

One of the specifications for the course review was to develop stronger links between the farm management courses and the Farming For The Future Program, which is the NSW version of the Commonwealth-funded, National Property Management Planning (MPM) Campaign, launched in 1992.

During 1995-96, CB Alexander Agricultural College has been conducting an interview of the Farm Management Courses. To what extent is the College already grappling with the problem of equipping farmers with the competence to operate effectively in complex environments?

Property management planning provides an integrated framework for individuals producers to make decisions for both the near term and the long term health of their operations. It is not a rigid model, developed once and then ignored, but rather

Improving the Effectiveness of Distance Education for Farmers
It is a tool that will evolve as the individual producer's situation and incorporate new information relevant to his or her circumstances.

There is an implicit respect for integrated, holistic modes of operation in this statement. The authors, the Land Management Task Force, rightly see the need to foster farm planning at a level that respects the integrity of the family farm as a social agro-ecosystem. The dimensions of the task are well captured by the Task Force's definition of property management planning:

...an ongoing process for the total management of a farm business which assists producers to improve their profitability and achieve more sustainable natural resource use. It is regarded as a whole systems process whereby producers identify their personal objectives in the context of broader community aspirations. Then, by applying skills in business management, quality assurance, risk management, natural resource management, including nature conservation, financial planning and control, marketing management, agricultural technology management and personnel and staff management, they develop plans to fulfil those objectives.

The outcome of the property management planning process is not a static plan, but an integrated and ongoing approach for managing the business in the short, medium and long terms to achieve personal objectives (ibid).

Students presently taking the Farm Management Courses are shown the importance of goal setting and planning. These activities are seen to be indispensable elements of effective, durable farm management. As a result of the 1991-96 course review, and the strengthening links with Farming For The Future (Property Management Planning Campaign), these skills will assume an even greater importance.

WHERE DOES THE CURRICULUM GO NOW?

In the foregoing section, the language changed tone from the earlier discussion on competencies and training agendas. While our discussion on Property Management Planning provided glimpses of integrated approaches to farmer education, our discussion on competency-based curriculum in farm business management has not yet addressed this problem. A serious question therefore confronts us: is it possible to construct a competency-based curriculum that fosters competence in handling complexity? On the one hand we are proposing that farm managers have to operate in multiple contexts, move between different worldviews, weigh up unlike things. On the other, we continue to insist on our all-inclusive definition of curriculum — there is no sense in having a conceptual model that models only some of a system’s interacting processes. How then do we conceive a curriculum that is both competency-compatible, but yet does not fragment the task and lose the essence of effective job performance?

There are at least partial responses to this question.

ONE EXISTING PRACTICE: The first response to the challenge is pragmatic — finding a credible response in current and future practice. The desired path through the course takes the second year student through two case study exercises. The task in each case is to carry out a financial appraisal of current farm performance and to propose and evaluate alternative activities. Where possible, one of these exercises is carried out on the student’s own farm. So even though the home study units and the residential school programs are substantially topic based, not problem based, “even where there is a strong dose of technical information, learners come to realise that this ‘information’ is eventually to be applied to the most important case study of all — their own farm business...” (The case study syllabus is not distorted by being reduced to a single dimension, and therefore problem analysis can be holistic and realistic) (McKenzie 1994). In changes planned for the 1997 course, the major assessable task in the second year program will require students to carry out a comprehensive analysis of the farm business, incorporating family goals, physical property planning, current production performance, and an analysis of farm development options.

Part A: Grappling with the nature of the problem

Commonwealth of Australia (1995), page iii
Two billing gaps in the competency profile. Using funds from the Rural Industries Research and Development Corporation, CSIRO under Agricultural College set up a project in 1994 designed to fill certain gaps in the National Competencies for Farm Business Management. The result of this project was the publication of a report, Strategic Planning in Open Learning for Farming and Peri-urban Agriculture (Bellenden and Walsh 1995). The authors point out that the national competencies identify the importance of reviewing the strategic direction of the farm business and of developing and implementing a business plan and risk management strategies.

While providing overall guidance, the national competencies lack sufficient detail to enable effective curricula to be planned without further information. Hence the purpose of this project is to build a bridge from the national competencies on strategic planning to agricultural education (p 1).

Two farmer workshops were convened during this project to glean what participants saw as the important elements of strategic planning and risk management. The repose were developed into 50 specific learning outcomes to guide curriculum developers. The list included: personal/financial dimension, agricultural/real estate dimension, a landscape/production dimension, plus some general outcomes.

It must be said that the authors have produced a far-ranging set of learning outcomes which show the breadth of farmers' perceptions of strategic planning and risk management. This document has already been used in the planning of new units scheduled for release in the Farm Management Course in 1997.

Three another layer of complementary competencies. Lees and Reece, in their study, Competencies For Farming: A Compendium of Profiles, describe some of the research that contributed to the schema of National Competencies for Farm Business Management. It was the competency profiles generated in this research that formed the basis of Toowoomba College's revised—and competency-based—course, offered in 1991 (Lees and Reece 1991).

The authors conclude from the farmer workshops and the resulting competency standards that... effective farm management requires a high level of integration of a number of different areas of knowledge and skills. This conclusion is supported by the results of the Annual Evaluations of the ...

Home Study Program, which show that a number of farmers feel their course did not 'fit together' very well (Reece and Lees 1988). To overcome this problem in the process of curriculum development, it is important that consideration be given to ensuring that not only the curriculum itself is well integrated, but also that learning outcomes include competence in drawing together the wide range of areas of knowledge and skill that are essential to effective farm management” (ibid, p 64).

The authors then put forward another schema, which we might think of as a companion set of competencies: conceptual competence, technical competence, integrative competence, contextual competence, and adaptive competence.

Where did Lees and Reece obtain this schema? In 1986, Stark et al published "A conceptual framework for the study of general professional programs in colleges and universities". This report is the result of extensive research into the recurring themes in professional development programs in US academic institutions. Using various techniques, researchers surveyed a large number of university programs that function as training grounds for entry into various professional fields in the US. Through ongoing consultations and recurring formulations, researchers were able to abstract a generic profile of professional attributes—attitudes and areas of competence—that may be used to identify the common ground and the differences between alternative university pathways into the professions, and between the professions themselves. (Stark et al, 1986).

Although this schema was developed as a generic profile of competence in the professions, Lees and Reece recognize a substantial relevance of these attributes to farm managers as well. (For their purposes, a sixth competency--personal communication—is considered to be...
Reflections of a middle-aged beef producer

When my father ran beef things were pretty straightforward. He had a bull with his cows out in the paddock; he reared them, and sold them.

I do better than that. I use rotational grazing, cross-breed breeding. I have a supplementary feed system and a herd health program. I also have two selling systems to choose from.

Next year my son takes over. He’s going to get rid of the bulls and join Charles Bozank.
He’s going to sell the top paddock and play the stock market. He wants to have a sustainable production plan and a business succession plan, and review things every year.

Things’ll never be the same again!

I am acutely aware that my line of thought and my turn of phrase so far in this study have anticipated the US schema competencies slipping through the back door, into the discourse about appropriate curriculum for farm managers. From the first time I read this set of competencies in Lees and Reeve, I was convinced of their importance, not knowing why I felt so strongly. Why should I be so insistent that farmers need conceptual, integrative, contextual and adaptive competence? Stark et al had shown that they are important attributes across a number of US professions.

But, we ask, on what grounds may we import them into the profile of prerequisite attributes of Australian farmers?

In the task analysis phase of competency based course development, competency profiles are developed by working with high achieving or well-regarded practitioners within that work area; the objective of this process is to identify the knowledge, skills and attitudes needed to be effective on the job. The reason that conceptual, integrative, contextual and adaptive competence are not included in the National Competencies for Farm Business Management is that the farmers consulted did not propose them.

Part A. Grappling with the nature of the problem
WHAT DO WE DO WITH TWO MUTUALLY EXCLUSIVE SCHEMAS OF COMPETENCE?

Both the National Competencies for Farm Business Management (FBM) and the US schema appear to successfully name some frequently observed behaviours among competent farm managers. As we'd expect, they classify behaviour on different planes of thought or reasoning:

- most of the elements of competence (subsets of the ten units of competence) in the Australian schema would naturally fall within the category of technical competence, according to the US schema;
- some elements are underpinned, enabled, to some extent, by the ability to perform the so-called higher order US schema competencies. For instance, one of the elements in FBM was: 'identify, investigate & review a business plan, and develop and implement flexible responses to changing situations in the planning period. To achieve this, a manager will probably display all the higher order competencies from the US schema.'

In other words, the two schemas are mutually exclusive; that is, they can't simply merge into a single, composite schema, because of overlapping classifications. What may be possible for the curriculum developer, when drafting learning outcomes, is to overlay one schema of competence on the other, or develop a matrix in which elements in one schema might be cross-checked in terms of the other. However, the danger is that further fragmentation in task analysis may impede the learner's (and/or teacher's) understanding of the real world operation at a unified, well-quick process. In the concrete situation, best practice—according to the Land Management Task Force—is the integration of production, financial, environmental, social and interpersonal values in the operation of the farm business: a whole systems process... an integrated and ongoing approach for managing the farm business in the short, medium and long terms to achieve personal objectives (Commonwealth of Australia 1995).

It is not my intention in this study to pursue the outworkings of this dilemma in the course development phase of competency based training. We will leave the dilemma of what to do with our two appealing, yet incompatible schemas of competence in suspension. What is germane to this study is the non-appearance of constructs like the US schema higher order competencies in the Australian schema.

Leen and Reeve (1991) reproduce the concept diagrams that were developed by farmer groups in their research project. Each group was required to summarise and schematise the attributes of effective farm management. These charts were synthesised into a competency profile for farm business managers. A similar process was carried out in South Australia, and through a further consultation process, the two profiles were merged into what became the National Competencies. Whatever roles the consultants played in re-conceptualising the farmers' outputs, the abstract competencies named in the US schema did not emerge in the Australian schema.

We should be careful not to dwell on the absence of anything like the US higher order competencies in the Australian schema. But it is clear, on inspection that...:

- the farmers consulted in the task analysis process weren't on the same wavelength as the academics and professionals responsible for the US schema, and
- the consultants would not put words or concepts into their mouths.

No-one would expect farmers to think in similar ways to academics; but we may query a model of curriculum development in which the profile of competence for effective job performance can be no more abstract or sophisticated than the consultative group of high achieving managers can conceive and articulate.

In Part B, we turn to an account of the collaborative inquiry undertaken within this research project, continuing the broad sweep of our investigation. Our fishing nets are stretched wide. Later in this study I shall return to some of these unresolved matters, although this will be carried out against a richer background of ideas than is presently possible.
Part B:

Feeling our way
Checking our bearings

In article 3 we investigated the methods used to identify the appropriate content of vocational courses for farm managers, and we ended on a note of uncertainty, something that we shall return to later. For now, let’s recall the central issue in this inquiry. We are seeking a way—or ways—of improving the effectiveness of distance education for farmers. There are so many elements and processes within the system we are describing—a “composite farm manager” fostering system—and so many theoretical perspectives we could draw on, that we do well to keep stepping back from any one line of thought; frequent recall of our goal is a good way of checking that our approach in this study is maintaining a helpful balance.

You may be disappointed that I haven’t yet justified my research methodology. Anxiety here is understandable; willing suspension of disbelief about the validity of the thesis structure (thesis project) is one thing; but you will also want to assess the rigour in research methodology, and the methodology hasn’t even been described yet! The account of the methodology developed for this inquiry (research project), and the defense of that methodology, can only be finally realized from the perspective of the open system learning model, which is yet to be revealed. As in the case of new showrooms, our windows are now newspapered over, awaiting the launch of the new model. So I call on your forbearance yet again. The methodology, like the model, will become clear.

Have you noticed that as we “grapple with the nature of the problem”, as we “immerse ourselves in context”, the torchlight of our attention has beams of varying width, drawing us at one moment into the microcosm of the farm Management Courses, at another, into the broad specialism thought, at another, into the national training reform agenda, at another, to personal introspection? As this study progresses, we realize that the context we are painting is a composite, multi-layered. Our intention in this study should be to capture something of the complexity of the world we perceive, and make some sense of it.

Throughout the course of this project, as I’ve already said in various ways, my loose goal has been to uncover, understand and articulate some ways of “meaning making” that will be helpful to my farmer learners, and enrich my understanding as a teacher at a distance. The question was, how would I proceed? By 1994 I had already spent a couple of years reading my way along a number of threads of theoretical discourse, to help me reflect on my problem.

This project had been accepted by my faculty as action research: thus the research program was required to focus on my professional practice in agricultural distance education. I had also undertaken to use a collaborative inquiry process, the nature and benefits of which are described in Torbert (1981). I may have chosen to collaborate with colleagues in the Home Study Program, or perhaps with distance education professionals within other sectors, but as my role at the College was that of course writer, I had a strong preference to collaborate with some of my distance learner clients.
Climbing to a new vantage point

It is time now to enlarge our view, as if we've climbed to a higher vantage point. From here we will begin to see glimpses of my process of collaboration with several Farm Management Course students in this action research project. This does not mean I have completed my account of the background to our subject of study—for far from it. As I suggested in Article 2, the open system learner makes no hasty judgment about the lineaments of his or her subject, for it is a subject that only slowly emerges from one's broad-brush backdrop.

Yes, we are still immersed in context. I still have a considerable amount of critical reflection on practice to share with you, before I can explicate the open system learning model. Yet much of this reflection anticipates or stems from the collaboration with my co-researchers. I shall therefore introduce my co-researchers now, enabling the unfolding line of thought to flow between descriptions of our co-research activities, speculations, theorizing, and critical analysis.

In February 1994, two years after this research project began, I outlined the broad area of my interest in a Farm Management Course seminar year one residential school, and asked for volunteers to help me with the inquiry. Initially, six people offered to help. One of these offers failed to materialize when the time for work began, but the other five—all small to medium-scale graziers—continued throughout the project: Mark & Vivienne Duncan from the Western Plains, Pine Marshall from the North Coast, and Noel & Sue Urwin from the New England Tablelands. Noel was the only volunteer not enrolled in the Farm Management Course at the time. (The spouses of enrolled students are welcome to attend course activities.) As a partner in his family grazing operation, I considered him to be a valuable member of the co-research group, especially given his interest in the project as I'd outlined it.

Having gained the co-operation of my co-researchers, I was then faced with an immediate problem—how to involve, and how much to involve, the co-research group in the design of the project. As Dick (1993) says, in participatory action research, the researcher needs to create a structure for participation. While I wanted to achieve a genuine and democratic engagement among co-researchers, I was very conscious that group members were doing me a favour, and that they had all other pressing commitments. Moreover, the collaboration would have to take place substantially at a distance, not only for practical reasons, but importantly, because the separation of learners in time-space was a key element in the subject of our inquiry. It seemed to me that our collaboration needed to include at some point a shared distance teaching-learning activity for us to analyse and appreciate together, and so the idea of a distance education role play emerged, in which I would simulate my real life role in the Farm Management Course, and they would simulate theirs. The role play would enable us to meet the first requirement of the action research model—that the domain of reflection and inquiry be the very domain of real life experience that we were trying to understand. As reflective practitioners, we would not only enact the simulation, but also debrief ourselves afterwards, and engage in a more metacognitive review of the outcomes. These would be complementary aspects of the role play activity.

I further understood that responsibility for control of activities would also need continuous attention. If the project was to be genuinely participatory, and so in the various engagements, at a distance and face-to-face, participants were encouraged to play active roles. As a general rule in this study, participants are referred to as co-researchers, which describes the role of their overall function within the project. When engaged in activities and roles that involved the distance education simulation, participants (including the distance teacher) are called co-learners. (We should note in passing that participants were told on several occasions that there were two hats to wear, and roles to fill in this project; this word picture in itself probably helped foster metacognitive thinking.)

As appropriate during this study we will examine the steps taken by the research team over the course of the collaboration. Shortly we will discuss the first stage of the process—the simulated distance teaching-learning

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1. The role play can be a very flexible and fertile activity for learning. The idea here was that we would be playing ourselves, it is the context or scenario that was contrived, make believe. I had previously used this approach in a professional development workshop for distance educators (see Milan and McKernan 1993), the results of which gave me hope for a productive outcome in this project.

2. See metacognition below.
transaction, although the account of it may, for the time being, be indistinguishable from other threads in our discussion. I invite you, as we proceed, to resist the practice of drawing premature inferences about the subject at hand. As I wrote to my role play distance learners in that first engagement:

Where do we want to go?

An appropriate way forward was starting to emerge for me, but to explain the particular shape our simulation was to take, I first need to sketch a theoretical perspective that demanded to be taken into account. Already in this study I have referred to the possibility of growth in understanding, and embraced it as an important goal for teachers and learners. What did the literature have to say about cognitive growth that might give rise to an educationally sound teaching strategy?

William Perry's (1970) study, *Forms of Intellectual and Ethical Development in the College Years*, was an important contribution to the understanding of adult intellectual development. Since then other writers have swollen the theoretical discourse on this theme. One approach that succeeds in integrating the concept of personal development from various disciplinary perspectives is ego development theory propounded by Jane Loevinger and associates. A cogent case for the value of ego development theory is presented in Weatherby (1981). 'Ego' in this case is a much broader construct than in Freud's usage. Ego is that aspect of personality that 'keeps things together' by striving for coherence and assigning meaning to experience.

Stages of ego development constitute qualitatively different frames of reference for perceiving and responding to experience. Each successive stage represents a major reorganization of ways of understanding and reacting to situations, people, and ideas—a watershed change in patterns of thinking and feeling about oneself, others, morality, ethics, knowledge, and the central concerns that hold a life together... The term 'ego development'... refers to a sequence, cut across chronological time, of interrelated patterns of cognitive, interpersonal and ethical development that form unified, successive, and hierarchical world views (ibid).

The stages of ego development, adapted by Weatherby from Loevinger and associates, are outlined in Table 4.

By reading down the columns, we observe successive levels of complexity in each facet of development. Reading across the table, we see the turning points or milestones that characterize each stage. Weatherby suggests that this schema makes intuitive sense to most people: it is reasonable to assume that change in one facet of development within an individual is likely to stimulate another (or, we could say, less controversially, coincide with change in another). While she acknowledges that the schema is only one way of labelling complex phenomena, she notes Loevinger's substantial empirical evidence to support her formulation.

According to ego development theory, change only occurs slowly. Henry Sullivan's 'notion of self-system includes the proposition of 'selective attention': a person only pays attention to things that are compatible with his or her already-existing perceptual framework. On the other hand, Weatherby says that 'one's ego stage is a pervasive, self-reinforcing frame of reference for experiencing... what is learned is selectively assimilated to one's current patterns of cognition, introspection, interpersonal relations, and motivation'. On the other hand, it is the anxiety arising from discordant observations that gives rise to the ego's major task: searching for coherent meanings in experience. "Some learning is of such magnitude that it changes these patterns unshakably, giving rise to the next stage of development."

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3 See *The World of Open Learning*, Appendix 1.
<table>
<thead>
<tr>
<th>Stage</th>
<th>Impulse control, character development</th>
<th>Interpersonal style</th>
<th>Conscious preoccupations</th>
<th>Cognitive style</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impulsive</td>
<td>Impulsiveness, fear of retaliation</td>
<td>Receiving, dependent, exploitative</td>
<td>Bodily feelings, especially sexual and aggressive</td>
<td>Stereotyping, conceptual confusion</td>
</tr>
<tr>
<td>Self-protective</td>
<td>Fear of being caught, externalization of blame, opportunism</td>
<td>Wary, manipulative, exploitative</td>
<td>Self-protection, trouble wishes, things, advantage, control</td>
<td>Conceptual simplicity, stereotypes, clichés</td>
</tr>
<tr>
<td>Conformist</td>
<td>Conformity to external rules, shame, guilt for breaking rules</td>
<td>Concerned with belonging, superficially nice</td>
<td>Appearance, social acceptability, banal feelings, behaviour</td>
<td>Multiplicity</td>
</tr>
<tr>
<td>Conscientious-conformist (self-aware)</td>
<td>Differentiation of norms, goals</td>
<td>Aware of self in relation to group, helping</td>
<td>Adjustment, problems, reasons, opportunities (vague)</td>
<td>Conceptual complexity, idea of patterning</td>
</tr>
<tr>
<td>Conscientious</td>
<td>Self-evaluated standards, self-criticism, guilt for consequences, long-term goals and labels</td>
<td>Intensive, responsible, mutual, concerned with communication</td>
<td>Differentiated feelings, motives for behavior, self-respect, achievements, traits, expression</td>
<td>Add: Distinction of process and outcome</td>
</tr>
<tr>
<td>Individualistic</td>
<td>Add: Respect for individuality</td>
<td>Add: Dependence as an emotional problem</td>
<td>Add: Development, social problems, differentiation of inner life, from outer</td>
<td>Increased conceptual complexity, complex patterns, toleration for ambiguity, broad scope, objectivity</td>
</tr>
<tr>
<td>Autonomous</td>
<td>Add: Coping with conflicting inner needs, interation</td>
<td>Add: Respect for autonomy, interdependence</td>
<td>Vividly conveyed feelings, integration of physiological and psychological, psychological causation of behavior, role conception, self-fulfilment, self in social context</td>
<td></td>
</tr>
<tr>
<td>Integrated</td>
<td>Add: Reconciling of inner conflicts, renunciation of unattainable</td>
<td>Add: Challenging of individuality</td>
<td>Add: Identity</td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Some milestonnes of ego development

Note: "Add" means in addition to the description applying to the previous level.
Webernathy suggests that ego development theory can be a useful tool in curriculum development in all sectors, including vocational education:

A knowledge of ego development provides a 'map for growth', which can help us find the best ways to reach our students. Equally important, our own stage of ego development is the frame of reference out of which we learn and teach. To be aware of the biases underlying our pedagogy, we need to know our own inner maps.

Table 4 demonstrated something of the multi-disciplinary appeal of ego development theory. Another approach important in this research project derives from the education community—Kitchener and King’s (1990) reflective judgment model. This model describes:

- changes in assumptions about sources and certainty of knowledge, and
- how decisions are justified in the light of those assumptions.

With this model, Kitchener and King have shown how we can follow the cognitive development of adults in terms of the sophistication of their reflective judgment.

According to the model, an individual passes through a series of identifiable stages of cognitive development. At each stage, the knower holds a certain set of assumptions, which are logically interrelated. These assumptions are adopted as the tacit principles on which the knower can create meaning from experience. The assumptions are concerned with:

- what can be known
- how certain one can be about knowing
- the role of evidence, authority and interpretation in the formation of solutions to problems.

Tacit principles are the undergirding, logically prior 'givens'. When we say they are tacit, we mean the individual is not aware of them.

The model is a model of reflective judgment in that it gives us a means of making sense of the individual's journey towards ever more critical self-reflection. The stages of Kitchener and King's model of reflective judgment are summarised in Table 5.

Kitchener and King derived this model by attempting to describe the process of an individual’s cognitive development. Kitchener (1983) produced a complementary schema by positing a three-tiered model of cognitive processing. Whereas the reflective judgment model describes changes in people, this model classifies the varieties of cognitive behaviour:

- **Basic information processing**—tasks like perceiving, reading, speaking, computing, remembering
- **Metacognition**—the ability to reflectively evaluate and correct how we process information (first level tasks). Metacognitive competencies allow us to assess how well our level 1 strategies are working as we are carrying them out. (Metacognition consists of reflective review—review turned in on oneself. This reviewing can occur simultaneously with the behaviour under review, or retrospectively—in which case the reviewing is both reflective and reflective)
- **Epistemic cognition**—this level of operation involves the way in which we employ and evaluate our level 1 and 2 competencies; it is being cognitively reflective from a vantage point outside the metacognitive frame of reference. The knower is engaged at this level of thought when reflecting, for example, on the epistemic nature of problems or the truth value of alternative solutions (adapted from Salzer 1986).

Salzer (1986) suggests that this model can help teachers organise their thinking about cognitive competencies in teaching and learning. She uses this framework to analyse the capacity of students to master and work with the concepts of general systems theory. Using Perry’s schema of adult cognitive development, she identifies the level of cognitive development and its related epistemological position that is most compatible with the assumptions of general systems theory. She argues that we can't adequately

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*For our purposes, the reflective judgment model of Kitchener and King provides a sufficient theoretical substratum to support Salzer's argument here.*
understand or use the concepts of general systems theory until our thinking has reached the third, epistemological level of functioning and we have integrated particular epistemological assumptions into our world views. This hypothesis grew out of years of experience trying to teach systems theory and methodology at the post-graduate level.

We discovered early in our teaching that some students who were otherwise bright, capable and intellectually able failed to grasp and adequately apply systems concepts. In trying to determine why this happened, we could only conclude that systems learning requires a certain way of thinking that is independent of the content of systems concepts. Our efforts to define this way of thinking and to address the teaching challenge inherent in getting in getting this way across to students has led to an interest in epistemic cognition, as well as in the particular competencies associated with it and with the learning processes involved in epistemic development. We found that systems teaching requires something more than presenting information and encouraging student problem solving. Epistemological problems also challenge teachers because students' understanding of general systems concepts appears to be limited by the kind of root assumptions through which they filter the meaning of what is presented to them (ibid).

In the above discussion I have cited only three of various ways of constraining individual development. The three quoted models are complementary, aiming to explain insights of the human experience of growth from more or less different perspectives. Weatherby draws a distinction between ego development theory and Piaget's model of developmental stages; while Piaget (and here we can add Kitchener and King) emphasize an invariant sequence of stages, it is possible to interpret growth in ego development as a journey along the gradients of a qualitative continuum. If we look for a stratified framework, that is what we see; if we look for a continuum, "the focus is on the dynamics of transition from one stage to the next". The continuum becomes a series of transitions, and the transitions are transitions into ever more critical self reflection. Later in this study we shall return to the matter of applying these schemas in the case of form management education.

Table 5: Seven stages of reflective judgment

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>This stage in its pure form is probably only found in young children. The knower assumes that knowledge is both absolute and concrete; beliefs don't have to be justified. A problem won't be acknowledged if no absolutely true answer is available.</td>
</tr>
<tr>
<td>Stage 2</td>
<td>This stage is characteristic of young adolescents, although tertiary students are sometimes found at this level. Truth is not immediately discernable; some people have found it, while others haven't. (Perry called this belief system &quot;dualism&quot;). All problems are solvable, and answers are often found by turning to an appropriate authority figure.</td>
</tr>
<tr>
<td>Stage 3</td>
<td>Senior high school and commencing tertiary students often fall within this category. Some truth remains out of reach, even for authorities within that domain. The right answers will some day be known, but in the meantime, evidence is incomplete. The knower believes that no-one can claim any authority beyond his or her own impressions or feelings.</td>
</tr>
<tr>
<td>Stage 4</td>
<td>Senior undergraduates are typically at this level. The knower can distinguish between problems which have clear solutions (well-structured problems)—such as an arithmetic task—from complex, real world problems, where the appropriate response is unclear (ill-structured problems)—like what career path to follow. This is the first stage of which ill-structured problems are acknowledged. The knower may be uneasy about being uncertain.</td>
</tr>
<tr>
<td>Stage 5</td>
<td>Kitchener and King cite evidence that this level is commonly reached by graduates. The knower assumes or argues that knowledge must be placed within a context; the justification of a position is always made from a particular, limited perspective. Interpretation plays a part in what a person perceives and believes. However, at this level the knower has difficulty comparing and evaluating the relative merits of two alternative interpretations of the same thing.</td>
</tr>
<tr>
<td>Stage 6</td>
<td>This is a quite sophisticated level of thinking in mature graduates. &quot;Knowing&quot; is uncertain, and relative to its context. The knower at this stage of development argues that knowing involves evaluation; and that some perspectives or arguments may be judged better than others. This means comparing evidence and opinion across contexts. It is a means of reaching a working (tentative) judgment about an ill-structured problem.</td>
</tr>
<tr>
<td>Stage 7</td>
<td>Kitchener and King find this level of reasoning rare, even among graduates: although they say it can be found in educated adults maturing into their thirties and beyond. The knower still holds the perspective of stage 6, but also adopts the position that epistemically justifiable claims can be made about the better or best solution to a problem. The knower &quot;constructs&quot; knowledge via critical inquiry, synthesizing evidence and opinion into a claim that can be evaluated as having greater 'truth value' or being more 'warranted' than others.</td>
</tr>
</tbody>
</table>
As I said earlier, by 1994 I had decided on a collaborative research project that would engage participants in a distance teaching-learning simulation; but for the purpose of this dissertation, by way of background, I first needed to describe an area of theory that would guide and drive the design of the role play teaching module. Salner's proposition—that mastery of systems concept is contingent on a person's competence, 'arrival', transformation into the epistemic plane of thinking—provided a provocative impetus for my module. Even at that stage the term of my argument in article 3 of this thesis was forming. You will remember that Less and Reeve had put forward several higher order competencies that farm managers seem to need in order to cope with complexity and uncertainty; also recall the proposition in this thesis that the reason such competencies don't appear in the National Competencies for Farm Business Management is that the farmers consulted did not propose them; they weren't on the same wavelength as the academics and professionals who produced the US schema.

Marcia Salner's argument is pertinent here:

_Epistemology is a living process, not a formal intellectual game. Epistemology is a major aspect of cognitive organisation and development. It is through an examination of epistemological processes and skills that we can identify certain competencies that may otherwise be ignored or misidentified._

If we facing an argument that competency based curricula need to take provision for epistemological development variable? What would the curriculum of the Home Study Program look like if a cognitive development dimension has been allowed for? We'll have these questions hanging pendulously in the air as we move on; we shall certainly return to them later.

**Where do we begin?**

As I've explained, my plan of attack in our collaborative research project was to simulate a distance teaching-learning activity. An idea emerged that I could write a module that would be a kind of "technical manual" for adult learners. I had read The Tree of Knowledge by Humberto Maturana and Francisco Varela (1992), and had been struck by the way the authors were able to make such a monumental intellectual essay accessible, so riveting, so ground-shaking for its reader. I began to think I could use my distance education skills to assist my learners to become more critically self-reflective—to help them acquire whatever it was that would enable them to function effectively as farm managers in a complex, unpredictable and risky environment.

I commented at the start of this article that there are "so many elements and processes within the system we are describing—a 'competent farm manager' learning system—and so many theoretical perspectives we could draw on..." Now I have taken a significant step forward within the emerging logic of this study, by specifying a more comprehensive model learning ability—competence in critical self-reflection, in epistemic understanding—as the subject matter, the arena for my collaboration with my co-learners. If I relate this step to the themes I have been developing in this study, I can paraphrase what I hope to demonstrate: that we will find meaningful links between a learner's stage of epistemological development and several higher order competencies crucial (I believe) for farmers—conceptual, integrative, contextual and adaptive competence. What we yet have to do is to enfold our own model of open system learning, by which time I hope to show how all these separate threads in our discourse might be drawn together.

This is a good place to dispel any concern that I am not making meaningful use of distance education discourse in this study. The reason perhaps can already be inferred from our unfolding and anticipatory line of thought. People are beginning to watch the newspapered-over windows of the new car showroom, and we, also, share some anticipation for the release of our new model—open system learning. We already have an idea, from the opening hypothesis, that the open system learner will have some nice features—

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awareness of plurality (a richer sense of what is going on), responsiveness (context-sensitive), and versatility (adaptive as conditions change). There promises to be substantial overlap with the higher order competences from the US schema, discussed in article 3.

Does this study take account of the substantial distance education literature? I did not overlook this literature in my early reading program; at that time I was interested in seeing how the distance education writer might improve the effectiveness of teaching and learning by researching ways of using cognitive style theory to refine instructional design strategies. However, through a review of literature on cognitive styles, Gordon (1985) had drawn the conclusion that whereas one could not demonstrate the various cognitive style constructs—with the exception of field dependence/independence—could actually be applied to improve teaching and learning (Joughin (1992):)

My own conclusion is that it is not possible to design material to suit diverse learning styles since we cannot be too sure about the approaches that actually suit different styles. We should therefore focus on teaching/learning approaches that suit subject matter and objectives and concentrate on teaching well. This is more likely to improve the quality of learning outcomes than attempting to accommodate learning style differences (Joughin, personal correspondence, 9.6.93)

Furthermore, I had personally found unilluminating and problematic: two attempts to locate myself from Honey and Mumford learning style grid (Honey and Mumford 1986). On the one hand, then, there were compelling reasons to pursue my research goal on the level of instructional design factors in distance education delivery; and on the other, I was fascinated by a puzzle that underlies the deeply personal questions: why am I like this? what does it all mean? how do I understand? do my learners find themselves as amazing as I find myself? I knew these questions were far removed from my stated goal of helping my learners become better farm managers, but I couldn’t resist the hunch that by healing such questions, we might discover much more.

I was getting closer to the verge of putting pen to paper to plan the introductory module of my role play at a distance, a guide to adult learning, but there were two design problems that stood in my way. One was the continuing issue of achieving real involvement of my co-researchers in the broader shape of research project design (whether they wanted to wear this overarching hat or not); the other—the language problem—we’ll pick up later. In correspondence with my academic supervisor, I wrote:

As Dick (1993) says, in participatory action research, the researcher needs to create a structure for participation. On the other hand, the distance teaching-learning transactions we will collaborate on presuppose the supply of some content-centred stimulus document.

Here is the potential conflict:

- the unravelling of the learning-at-a-distance experience must be participatory; the teaching must be andragogic, not pedagogic
- on the other hand, the notion of a technical manual mediated at a distance calls for a certain prescribed content—even if, as in this case, its subject is the learning event which reader’s experience in the reading of it. The content is prescribed in the sense that the teacher’s version of it is the version used in the trigger for dialogue. (I trust that by uncovering this lurking demon with my co-learners we shall discover it: We shall agree from the outset to expose our theoretical generalisation to every co-researcher’s experience-memory.)

I then argued that the problem dissolves by recalling a sequence of intended events which I had already (obscured) for the collaborative process: first, the distribution of module 1; second, processing of the module by participants on two levels:

- as co-researchers: “critical comment viewing the material, from the outside looking in (to gauge, among other things, the appeal and difficulty of the discourse for an even wider readership); and
In the third phase, depending on the kind of feedback received, I would prepare module 2; revise module 1 and prepare module 2; or start again. As things turned out—as we’re about to see—the process would end up taking an altogether different road.

So there I was with my mind, like a blank sheet of paper laid out before me all empty. The distance teacher within was all dressed up ready to go. ‘The literature’ had left me all but insensible; the scientific understanding of how we learn and the theories of educationalists seemed to be endlessly folded in on themselves like the folds of the brain, and I could find no clear starting point for my guide to adult learning, especially given my hidden agenda: navigation system—the phenomenon that only fuzzily expressed itself in those shimmering, chimera-like, deeply personal questions (why am I like this? what does it all mean? et cetera).

From the vantage point of now, as I reconvened in tranquility that hasty period in the project’s unfoldment, I value our human creativity, for it is Creativity that finds patterns in—and therefore new pathways through—the cauldron-thick porridge of possibilities waiting to happen; and is heralded, Wild Horse imagination, that gives us the power to bring our stories to life.

I pause. At the growing tip of my line of thought, two possibilities own up ahead of us: the main thrust wants to get on with the narrative; (the crowd in front of the car showroom is showing signs of restlessness); the other branch asks us to mull over the role of creativity in this quest. She is with us here now, enlivening this reconstruction of events; she was there, also, watching my blank sheet of paper, a problem-solver. The potential for transformative learning, for meaning making, through creativity, is something I had believed in (or understood) deeply, and still do.

We shall leave this side track now, simply acknowledging the importance of the learner’s need for time to mull over things, a gestation time for our creativity to do her pattern-making. I mention it here because I consider it to have been an important factor in the learning (pattern making) that was going on in my project design and implementation. The importance of incubation in the creativity process is discussed in Finke and others (1992).

So there the blank sheet of paper lay. I have already mentioned that because this was action research, the domain of inquiry was already specified for me: actual practice in my professional work as distance educator in the NSW Agriculture Home Study Program. What then was the primary defining principle for my inquiry, I began to see that the organizing principle or starting point for my distance teaching module could be the real world arena which I shared with my collaborators—the process that constitutes a distance teaching-learning engagement. With only that thought to guide me, I started to write The World of Open Learning—Adventures for Distance Learners. What emerged is presented in Appendix 1. In article 5, we shall pick out one or two themes contained in that module for closer inspection, and what ensued; and only one or two further, brief diversions will impede us in that story.

5 Chimera: fabrication of the mind (Webster)
Feeling good about feeling our way

Thoughts meander; and so we make progress in our journey by feeling our way. Let’s rediscover this primitive but effective way of problem-solving. Hooker and Penfold (1995), in their paper on neural nets and cognition in dynamic machines, point out that there are two ways to squeeze through a hole. The traditional method in AI (artificial intelligence) involves symbolic representation of the hole and application of a geometrical algorithm to compute the required sequence of body configurations. The other method is to wiggle through by feel—a process of fitting implementation to detection, the process by which rats slip under doors. Hooker and Penfold point out that “titting methods are intuitively closer than AI to how we think of learning to catch a ball, play music, drive a car and perhaps become expert in wider domains. Most living activities are based on the titting mode, including cognitive skills”. The writers suggest that this approach holds promise for the future of robotics; feeling our way will also be a respected methodology for open system learners. In this collaborative research project, co-learner, Sue Urwin, would express utter amazement that I should lead the group without knowing where I was going; whereas for me, it was simply a quiet confidence in my intuition that led me on—a sense that something important was unfolding.

We should note in passing that the idea of feeling one’s way is not new. In Zen and the Art of Motorcycle Maintenance, Robert Pirsig expatiates a very similar thought in the example of motorbike repair. Observe how Pirsig reaches something very like “feeling our way” in a discussion on being in touch with value—a minute by minute “sense of what’s good”. In this extract the author is in process of discussing the all-pervasiveness in human experience of Quality which, for Pirsig, is the metaphysical first cause:

Value, the leading edge of reality, is no longer an irrelevant offshoot of structure. Value is the predecessor of structure. It is the preintellectual awareness that gives rise to it. Our structured reality
is preselected on the basis of value, and totally in
understand structured reality requires an understanding of the value source from which it is derived.

One's rational understanding of a motorcycle is therefore modified from minute to minute as one works on it; and sees that a new and different rational understanding has taken over. One doesn't cling to old ideas because one has an immediate rational basis for rejecting them. Reality isn't static any more. It's not a set of ideas that you have to either fight or resign yourself to. It's made up, in part, of ideas that are expected to grow as you grow, and as we all grow, century after century.

...If you want to fix a motorcycle, then classical, structured, dualistic subject-object knowledge, although necessary, isn't enough. You have to have some feeling for the quality of the work. You have to have a sense of what's good. That is what carries you forward. This sense isn't just something you're born with, although you are born with it. It's also something you can develop. It's not just 'intuition', not just unexplainable 'skill' or 'talent'. It's the direct result of contact with basic reality. Quality, which dualistic reason has in the past tended to conceal.

It all sounds so far out and esoteric when we put like that it comes as a shock to discover that it is one of the most necessary, down-to-earth views of reality you can have. Harry Truman said, concerning his administration's programs, "We'll just try them... and if they don't work... why then we'll just try something else" (Pirsig 1980, p27).

Pirsig's account of being carried forward, moment by moment, by a sense of the quality inherent in the scene, adds a nice dimension to our notion of feeling our way. Note that while intuition is involved, Pirsig recognizes the dynamic nature of rational understanding in this process as well. By being in touch with, having a preintellectual awareness of the value source of a given reality structure—a textbook methodology for engine problem-solving, for example—I am able to enlarge my view and situate the problem within a qualitatively superior rational understanding. Note also Pirsig's sense of the imminence of that more enlightened understanding within concrete experience. Growth in understanding can occur on the job, emerging out of the task at hand—farmer readers note! Feeling our way with our hands, feeling our way with our minds.

Anyone seen my St. Christopher's medal? Taylor (1993) also offers a useful perspective on feeling our way. In the context of discussing the questionable practice of relying on rules or procedures to lead us from theory to practical application, he cites Wittgenstein's suggestion that "a rule is like the last signpost that guides one on a journey into the unknown. After that last signpost, the learner is like the traveler who has lost his St. Christopher medal" on his or her own: that signpost will "sometimes leave room for doubts and sometimes not." If understanding is always underdetermined by rules, theories or signposts, and if doubt is commonly present in the mind of the learner, we cannot always look to rules to provide a clear path for the neophyte walker. (p56)

Why should we feel good about feeling our way? In the spirit of true dialogue, I invite you to answer your question or else to raise the stakes, and ask one of me!

Making sense of personal epistemology

Epistemology in a real sense lies behind open system learning—that's its comfortable and proper place. Epistemology, as a formal discipline, is the study or a theory of the nature and grounds of knowledge, especially with reference to its limits and validity (Webster). But beyond that, each one of us has a "personal epistemology".

According to reflective judgement theory, we can develop epistemologically, just as we can develop cognitively. We can say that epistemological development is the process by which individuals grow more critical of the tacit beliefs below daily living, and more confident about their grounds for making their own value judgments. Thus epistemically
cognition becomes the competence to perceive and judge the truth value of our previously tacit (unacknowledged) frames of reference, what Mezirow calls our meaning perspectives: "the structure of assumptions that constitutes a frame of reference for interpreting the meaning of an experience" (Mezirow 1990).

I raise this here (despite some clamouring outside the papered-over showroom windows) because we will not get to the bottom of all this if we pretend our tacit meaning perspectives aren't there or don't matter. The road to epistemic competence is by reflection. It could be that as teachers and learners we need to cultivate an ever-subler sensitivity to the shades of grey, the nuances of what appears to be: an apprehension, through reflection, of worlds in which 'subject' and 'object' are no longer clef't in two. (A more lyrical-mystical pronunciado into this space is taken in Sheld 900725; see Appendix 5.)

We progress towards epistemic competence by 'doing reflection'. Mezirow attempts to describe the passageway with an expanding definition of reflection:

Reflection: examination of the justification for one's beliefs, primarily to guide action and to reassess the efficacy of the strategies and procedures used in problem solving.

Critical reflection: assessment of the validity of the presuppositions of one's meaning perspectives, and evaluation of their sources and consequences.


We may speculate that as individuals increase their capacity for depth of perception, so this more abstract critiquing style of thought becomes habitual; this is the flipside of the above statement that we progress towards epistemic competence by 'doing reflection'. Puenmayor (1990) follows a similar line of thought in a discussion on the relation between systems thinking and critique. He says that critique can be understood as "the progressive process of gaining awareness about our own 'state of mind'" which is necessarily hidden in our judging" (p530). Puenmayor's view is illustrated in figure 7.

Figure 7: Puenmayor's moments of critique

Critique is the attempt to perceive how we look at something. At the basic level of everyday discovery, our view of something is unquestioned. Once doubt arises, though, Puenmayor says we take a first step backward from our naive, dogmatic position. We start to reflect on the matter, a stage he calls imminent reflection; and if we articulate this thought, we engage in imminent critique. Imminent critique is shown on a higher plane in the diagram, because of the qualitative difference between unquestioned discovering and imminent critique, the process Mezirow calls 'critical reflection'. On a higher plane again Puenmayor locates transcendental reflection and transcendental critique. On this plane we don't simply reflect on the matter at hand; we reflect on how the matter is experienced. Once I am reflecting on this plane, each step backward, from one ring to the next, implies the uncovering of something that was previously concealed, but the process is one of ever-more comprehensive contextualisation, not a substantive change in the nature of one's questioning.
Flannery uses this model to interpret a history of critique in modern western thinking. The compatibility of this model of critique with theories of critical reflection, reflective judgment and ego development awaits further critical analysis.

Transcendental critique might also be called 'critical contemplation'. For Robert Firsig, in Zen and the Art of Motorcycle Maintenance, the journey to understanding leads to 'the high country of the mind':

If all of human knowledge, everything that's known, is believed to be on an enormous hierarchical structure, then the high country of the mind is found at the uppermost reaches of this structure in the most general, the most abstract considerations of all.

Few people travel here... In the high country of the mind one has to be adapted... In the uppermost reaches of this structure in the most general, one only gets glimpses of this structure in the most general... One only gets a glimpse of the high country of the mind. It is the high country of the mind that is the high country of the mind. What is the truth? How do we really know anything? When it's said that something means something, what's meant by that? (Firsig, 1989, p.130)

Transcendental critique, critical contemplation, the high country of the mind, like any uncharted territory, has its dangers. Firsig's book demonstrates very clearly the risks involved in travelling too far into uncertainty, surrendering both and on, unanchored back to daily living—the danger of mental collapse.

Is it important to reflect on one's meaning perspectives? Should I cultivate an awareness of my habitual ways of attributing meaning to the world I experience? Should I keep sharpening the critical edge of my questioning? Should I keep asking the questions—like the ones Firsig hears in the 'high country of the mind'—what is the truth? how do we really know anything?—only exist to be universal. They will not be contained, quarantined neatly in a thesis. Even if the questioner cultivates different personalities to suit his or her different social milieux, these primal questions are ever-present, behind all one's overtures. That I should find them welling up from the depths while Firsig bears them in the high country is of no real consequence, except to say that we all create our own individual geographies of inner space.

We could further expand this analysis by conducting it within the wider theoretical framework of our development theory, but all I set out to do here was elaborate a way of looking at growth in understanding. Having done that, its time to return to the co-researchers' simulated distance teaching-learning activity.

Our first role play encounter in hindsight

* So does Rita Weatherby, as we found in article 4: "Our own stage of ego development is the frame of reference out of which we learn and teach. To be aware of the biases underlying our pedagogy, we need to know our own inner maps" (Weatherby 1981).

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crowd language as the other "design
unravelling supervisors. The following fore I had started the module itself
(and before the selection of the eventual title), shows how
I conceived the problem, and how I hoped to move beyond
it...
A year would pass before I conducted my survey at the 1995 Parks Office Management Course residential school, so I didn't know at the time the importance of a wider field of concern within our student population. It is tempting to speculate that there could be a correlation between 'breadth of field of concern' and 'ability to cope with abstract written material'; or 'student anxiety threshold during difficult text or ideas'; or both—that the wider one's field of concern, the wider one's intrinsic motivation to explore fuzzy-focus material, the higher one's student anxiety threshold and perseverance rate.

**Fuzzy globe, or lead balloon?**

In *The World of Open Learning*, I had tried to evoke a sense of common cause with my co-learners by suggesting that "the large, fuzzy globe which we are presently navigating together could have no existence without words". Yet the overall effect of the module on learners was more like a lead balloon; they did not enjoy the module. In the following selection, I record part of my first circular to co-learners after their assignment on *The World of Open Learning*; then an edited version of co-learner responses to a questionnaire about this module.

**THE DISTANCE TEACHER REFLECTS**

**EXTRACT FROM ROLE PLAY CIRCULAR**

Earlier in the year I distributed the first part of a distance learning module called *The World of Open Learning*. I received various comments from members of the co-research group, and over the same period, as the drought in rural New South Wales got worse, my perception of the nature of my problem and our various problems would keep appearing in different lights. I would like to describe some of the issues that have emerged since I sent you that learning unit, and restate some things that have already been proposed...

What are we doing here? We are attempting to participate in two inquiries at once...

The 'distance education project'... and the 'research project'. The 'distance education project' is a self-contained system nested within the larger inquiry. We could also describe the distance education project as our immediate field of inquiry, but not the only field. As we engage in both these activities, we may find that insights gained in one inquiry will illuminate the nature of the learning process in the other, or perhaps we will discover more about one of the inquiries as it differentiates itself from the other—learning through likenesses, and learning through differences.

Where are we going individually?

My choice of words, the way I thread them together, evoke a puzzle of a particular kind. The question suggests that each of us is going somewhere, it opens up the possibility that we're each going somewhere different, imagine someone asking you over and over again where you're going to, and each time you have to describe your journey in a different way. It's not that you keep changing your mind. It's just that we can think of our lives as a series of simultaneous journeys, unravelling on different planes of experience. That's why we can come up with all sorts of replies when they ask us where we're going.

Take me, for instance. In my private and my professional lives, I play a number of roles. Within each role, I have some notion of where I'm going. (Or else I have a sense of lacking purpose or direction, which produces a different, but equally valid answer.) In my private, inner world, I have all sorts of hopes, dreams, ambitions, fears, competing positions. These overlap with my 'public' destinations, the journeys that my public, social self admits to. So when they ask me—where are you going?—I'll come up with a destination that is true for me at the time—one of them, anyway.

No-one else in the world would have opened up this

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question in quite the same way as I have done. Equally, your answer to our question, on behalf of one your personal selves, will be your own. It will bear the stamp of your own personal way of seeing, and it will be expressed in a style of language that is your own.

I read what I have just put down, and think with dismay that all this is a diversion; no, worse, a researcher in a rose dive, doing precisely what he knows he must avoid—getting snared in a cobweb of ideas that could be quite meaningless to his readers.

I start again. I start again, but I do not cover my tracks, because it is important for you to know how this assignment turns me inside out, I wonder, do chaotic and conflicting impulses create a fertile bed for learning?

Maybe an observer would look at our group superficially and say that Tony’s co-researchers were all involved in a farm management course, which suggests that you all share some interest in developing your skills in managing agricultural enterprises. The observer then suggests that you are all on a journey of improving your vocational competence.

Then Tony points out that his co-researchers have something else in common; they all agreed to participate in this project. He quickly adds that he doesn’t know why they agreed to co-operate. (Was it merely the wish to help someone who’s trying against the odds to do something different?)

I seem to get closer to the core issue with each passing diversion. You each have your personal collection of interests, aspirations, destinations. You are all involved in farm production (or you are using this management course as a springboard to something else). No-one in the group has time to get diverted into trivia or irrelevancy.

One of you found The World of Open Learning, Part A, difficult, because you said, you are a very practical thinker and worker. “Where are Tony’s abstractions likely to be leading?” some of us must have thought to ourselves...

"The World of Open Learning, Part A, was really weird.

Was that your reaction? I would like to reflect briefly on how I could possibly come to start off our distance teaching-learning process in that way.

Usually, when we set out to do something, we try to approach the task in an orderly way. By contrast, The World of Open Learning was fashioned in an intuitive way. Although I had done a lot of preparatory reading for this project, I did not work into my distance-learning with theory. At the start anyway, I decided that the departure point for our journey together should be the real world of looking for our investigation—our common involvement in the Farm Management Home Study Course. ‘From the known to the unknown’...

The first part of The World of Open Learning would be a reflective meander through the experiences of teaching and learning at a distance.

Feathered in an intuitive way... from the very beginning of this project, I have been interested in gaining a better understanding of holistic ways of knowing. So while I am comfortable describing this project as an attempt to enable farmers to acquire the core competencies in farm management—conceptual competence, technical competence, integrative competence, contextual competence and adaptive competence—the impetus that drives me on is the desire to uncover a teaching style that brings forth awareness of the undifferentiated whole...

If I can glimpse the forest, and keep that picture in mind as I investigate the trees, I will have a holistic framework for all my analytical endeavours.

For better or for worse—because I am searching for an adequately holistic style of distance teaching—The World of Open Learning wove density rather than just unplanned. Remember! I tried to entice the reader to enjoy the experience of being in the midst, of not knowing exactly where we were headed? We didn’t know quite where we were going because the teacher didn’t either. The setting of a farm destination was being postponed (or even eschewed?)

The way forward, if we have to use a linear metaphor, would be by circumnavigation. As I said in my application to the Human Research Ethics Committee, “co-researchers have been conviced to accept this sense of stepping into the unknown, because they step out with a trusted friend—the teacher-at-a-distance.”

There would be no map to guide us. This seemed (at the time) to be the right way to go, because it was in keeping with my commitment to my intuitive sense of holistic understanding and because we are committed.

Part B. Peeling our Way

1 I am arguing in circles, because I'm afraid that my discourse here could be a 'cobweb of ideas that could be quite meaningless' to readers. This lies at the very heart of the problem faced by the distance teacher. Will my learners follow my line of thought, and, in doing so, find some meaning on an output from which to view the matter in a new light? The unadventurous teacher fails to help the learner along the way to every inch, every better ways of understanding. But the adventurous teacher runs the risk of going where learners have no wish to go.
THE ROLE PLAY DISTANCE LEARNERS RESPOND

EXTRACT FROM ROLE PLAY SCRIPT

The position of co-researchers regarding this project. Except for C4, respondents feel that they are not sure what the point of my line of inquiry is, but they think I should persever with my 'intuitive approach.' Two of them agreed the ideas are intriguing, but the language is an obstacle.

C1 found The World of Open Learning intriguing, pleasantly confusing, frustrating and stimulating: felt that the Todd and Stevens parallel discourse device could be useful in catering for readers of different types; and agreed that we should continue to struggle along the road to holistic understanding—it won't appeal to all farmers, but some will enjoy it.

C2 was pleasantly confused by The World of Open Learning; accepted the intuitive approach; and, like C1, agreed to participate as learner in the distance education project and as co-researcher in the research project; requested definitions of the educational terms didn't like the non-linear organisation of items in the layout of The World of Open Learning.

C3 also felt we should continue to struggle along the road to holistic understanding: this may enrich one's competence as a farm manager; noted that the material has the knack of providing a glimpse of where we are headed, but then the destination leaches; noted that, being a practical person, she needs to talk about the study experience; regretted not being able to meet as a group, because that could solve some of the difficulties (misunderstandings); agreed to continue as learner in the distance education project, and accepted the notion (and implied responsibility) of assumed correctness.

C4 wrote at some length about the obscurity of the material. A model teacher was recalled from the past as one who taught science to children with simple language without consciously or subconsciously blowing [his] trumpet or legitimating [his] academic standing by [his] vocabulary. The overriding concern was for 'the majority if not all of [my] captive audience' in the Home Study Program. The open learning option 'is perhaps the only way in which a large number of people can be reached effectively.' The audience in most cases will not be able to see the point of this very academic approach and will perhaps be turned away from rather than be encouraged to proceed further.' Even so, C4 is willing to participate in any capacity in this project because the open learning vehicle is one which should be aided and promoted.

C5 wasn't sure about the point of it all, but was happy to continue with my 'intuitive approach'; agreed that audio tape support might help reduce the language problem; had a positive reaction to the concepts language letter, language funnel and fuzzy globe, but a negative one towards reflection: felt that the style of language in the questionnaire was intended to impress my Supervisor; that the less academic open learner would not make the effort to adopt the teacher's style of language if it is academic; did not think I could expect a farmer to constantly refer to a dictionary. C6 is also prepared to continue as learner in the distance
education project, and accepted the assumed consensus principles.

ments received on The World of Open Learning

"I could only approach this study in a disjointed way time-wise... Later I re-read the complete study and gained much more from the imagery and probably what you considered the open learning approach..."

"Communication could be seen as to be as clear as or as fuzzy as the people involved make it... The language used is annoying me—too many sides and waffles—the letter is pretty elastic and the funnel seems full of holes."

"If the writer became too evident in the material and told the emergent learner (very little expression) he was to be given ‘space to grow’, then the effect would be negative.

"The idea of open learning does appeal if it means a subject without bounds. The idea of being able to learn from each experience and not necessarily only about the factual information contained in the process, but about the process itself and how it affects others and the areas around it... in how I'm sure the concept of learning should take place."

"Too full of conflicting images—so as to clutter up the ideas, leading to fog rather than clarity. I don't feel I am learning much about open learning."

"I find it difficult to choose between Todd and Steven. My structured mind would choose Todd, but my enthusiastic personality tends to Steven. [Could both characters work together on learning materials?] Yes, but only if the aspects I consider positive in their styles of teaching were present."

"This is one of the most difficult works I have ever had to consider. Total immersion was required to elucidate the meaning of much of the text but I appreciate what you are driving at. It's all positive stuff!"

"Perhaps research into the academic levels of open learning participants could help to focus academic levels of expression to meet their needs."
One would have to say this was a very mixed reaction!

The departure point for our simulated distance teaching-learning exercises was not intended to be academic. As I wrote in my memo of 17 October, the first part of The World of Open Learning was meant to be a reflective meander through the experience of teaching and learning at a distance (because that was the 'real world' context that had drawn me and my co-researchers together in the first place). At the same time, I had decided that my target audience was that subset of the population who went at least initially open to the possibility of gaining advantage from a learning strategy improvement program... I guess I used 'lately open' because I anticipated that some people would let my pudding, then spit it out. I still ask myself, am I misguided when I address myself to 'lately open learners'? (Part of me immediately protests that this outlook is mandatory for teachers of open system learning. I mustn't prejudge that a reader will choose closure, permanently. But another voice says, the honest feedback from co-researchers is unmistakable; no free agent would continue down the path of The World of Open Learning. A third voice pipes up, where is the road that I can traverse without losing my co-learners?)

My usual method of overcoming conflicting imp to redefine the issue, so that I can refocus elements in non-contradictory postures.

That isn't quite working in the present case. Conception of this project is already complex—a education project, research project, thesis project. I have not yet seen how I can meet the method requirements of action research, and use it education delivery tools, and be consulted! democratic and foster epistemias ways of knowing recourses to abstract language. Yet abstract seems to be precisely what has made my e materials until now so unpalatable. (Some rephrased have complained about 'academic language'. I think it's a subject too much to technical or theoretics as much as to the frequent, unyielding, compl. abstract ideas throughout the text.)

A way forward? I have been searching for elements—a new subject for the distance learning encounters: one that stands a better chance of creating the preconditions for dialogue (in David sense). But perhaps there needs to be a fundamental change.

The comments from my role play distance learners were understandable, and in turn, they appreciated my openness in sharing their feedback, and in my reactions to it. I was more than ready to leave the scafolding in that storyline where they were, in some mythical cave1, and try something else. I am not rationalizing when I say that the introductory module was only intended to commence a conversation, because we had to start somewhere the Preface read as though I expected The World of Learning to survive in some form and the publish thinking wasn't really anything more than part of our role play.

Tourists, travellers and bird watchers

In an earlier section I wanted to begin a new strand of thought with an Irish joke, but because I am against discrimination, tried to neutralize it by making the yarn to an Australian setting; it is a virtue to be able to laugh at oneself.

A tourist was pulled up by the side of the road with a map, trying to work out how to get to Sydney. A local was walking up the road, so the tourist called out and asked him the way.

The local replied slowly, "If I wanted to Sydney, I wouldn't be going from here.

I didn't use the joke, because it didn't seem in present context, it's still not funny, but the idea that I edited out the unfunny joke—becomes getting where I want to take my line of thought: in again, in its restored version.

The joke is useful here because it highlights the improving the effectiveness of distance education for

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1 See The World of Open Learning, Let's deep anchor.
going places, we can only set our from where we are, whether the journey is in the physical world or inside our heads, following someone's storyline or line of argument, or creating our own. Of course, we can, as Cokeridge said, willingly suspend our disbelief: in fiction, we take an imaginative leap into the author's world; in discourse, we accept the writer's frame of reference as given. But in a fundamental sense, we cannot ever retreat from where we are, in the same that we re-create the original story for ourselves. The raw material for the story—words, ideas, cinema images, ballet, tapestry, hieroglyphics, a trail of evidence—is meaningful to each of us only to the extent that we confer meaning on it out of the repository of each one's previous experience of meaning, based on a unique life experience. In article I, I proposed that people are able to journey together in a shared quest for growth in understanding, that is, meaning. Yet meaning in the final analysis can only be personal. Both propositions are profoundly true.

We are culturally bound beings. The world of meaning we have constructed in this point out of my unique life experience is steeped in, formed out of my native language and culture. We are also meaning-hungry. A stimulus-rich learning environment, especially in early childhood but throughout one's life as well, gives the individual a priceless treasure to take on one's lifelong journey of meaning making. Lack of educational opportunities, a stimulus-poor childhood, illiteracy, are impediments indeed. Why are these things so? Because we can only form new meanings for ourselves out of our previous experience of meaning. The ongoing thought for lifelong learners is that however deprived we might have been in the past, however bare our repository might be—however unfair life has been—the sky is still the limit. We just need to set our daily from where we are, venacious for understanding.

I am now preparing the way to lead you through a discussion about the constructed argument as simply a special form of the general class of meaning making that underlies all personal and social behaviour. First, though, we do well to acknowledge the diversity of meanings that fall within this class. In the broadest sense, I do not even cross the road unless I'm meaning making every step of the way, for I'm not continuously constructing a world of meaning out there, then I don't know where I am, and that can be dangerous. The street crossing is not aware of meaning making; he's too busy watching the traffic. Fortunately—because we evolved this way, much of our meaning making is automatic. It's only in times like this, when we analyze our behaviour within a certain theoretical frame of reference that we understand how we keep surviving.

Most of the meaning making we are concerned with in this study is of the conscious kind, but it is fitting here to acknowledge the breadth and depth of meaning making behaviour in our lives. Where would we be without it? While we are reflecting on our own meaning making behaviour, we may gain a fuller appreciation of the phenomenon by comparing it with a cross-cultural equivalent, the professional discourse that constitutes an academic discipline of knowledge. Other comparisons might also illuminate our understanding, such as the comparison between individuals and corporations as learning organizations; a significant literature is available on the latter. Both within the individual and within an academic discipline body of knowledge, meaning making is the never ending pursuit of greater coherence. In both cases this sometimes involves a clash of irreconcilable worlds of thought. If the mutually exclusive elements reside 'underground', in the tacit (unacknowledged) meaning perspectives of the warring worlds, the reason for the disjunction can go unmissed. On the individual level, as we saw in the discussion of ego development (article 4), H S Sulliven's theory of selective attention offers the explanation that we only see what fits in with our existing perspective. In academic discourse, there may be a professional commitment to openness and the pursuit of truth, but human behaviour, even in academic circles, is too complex to respond to our public and private motivations. When we have a commitment to openness and the pursuit of truth, as aspiring open system learners have, we seek the kind of perception and understanding that explains the impact of our behaviour in the world.

Our absolute dependence on previous experience in creating meaning for ourselves is strikingly illustrated in the story of Helen Keller, which I shall touch on later in this study. Also later in this study I pick up the theme of the way meaning is culturally mediated; see Hedon and Lock (1981).

For example, see Argys and Schon (1978), Cronin (1981), and Senge (1990).
argument? Of course, logic is only one of many measures by which a text or argument may be judged. However, if the essence of meaning making is 'making something coherent', then we must be clear about the logical qualities of an argument.

Writing for coherence. I said at the outset that our study would be a kind of drawn-out perambulation, a journey on which I hoped to open up a world of thought. Now that we have traveled for some way together, let's consider the implications of the perambulatory structure of thought for the logic of my argument.

I want to deal with this issue by contrasting my present approach with the logic of linear argument. The linear argument is straightforward, although let's note in passing that formal logic requires training, and even formal logicians can be trapped, as Howard Margolis shows (Margolis 1987). In garden variety linear argument, thoughts are arranged in such a way that the underpinning ideas are established first, and each logical step in the argument is presented sequentially or hierarchically.

In this dissertation, as I claimed at the very beginning, open system learning is one of those constructs that need to be grasped in the round, that we would get to know about open system learning over the course of this study. It should now be meaningful to claim the use of a logic of emergent coherence. To help me explain this concept, I ask you to participate in a simple make believe experiment. We begin with a simple illustration...

We see in figure 8 the flight of the spiralling arrowhead (a special kind of bird). Imagine that I ask you to go to point X and enjoy the bird's flight. Perhaps you stretch out on the grass. You have never seen this bird in flight before, so it takes quite a time before you catch a glimpse of the spiral pattern. The pattern only lasts a moment, so you gaze intently into the sky, long after the bird has flown away, trying to trace the spiral in your mind's eye. It is a warm afternoon, and you are feeling relaxed. As you gaze contentedly into the space once enclosed within your spiral, in the mental blink of an eye, you see a huge conical form, joined at the base to its own mirror image—the Couch of Heaven.

Here, from a further remove, quite outside that make believe scene, we mull over what you were doing. We recognise that you were co-operating in this inquiry: just like my co-researchers, you agreed to take part in a simulation, even though you didn’t know why I asked you to go out into the paddock and enjoy the bird’s flight. If you had been part of our collaborative inquiry, if you were an aspiring open system learner, like my co-researchers, you would, with appropriate seeding of ideas by the teacher, in the fullness of time, recognise the emergent conch as a metaphor for my open system learning construct, perceive it for yourself, as distinct from having it explained to you...

* first, you perceive the form of an invisible conch out of the reconstructed afterglow pattern of the spiralling arrowhead's flight path
* then, in your own time, within the context of our larger collaboration, you perceive, in your emergent conch, a metaphor for something named but still hidden, the open system learning model, even now concealed behind papered-over showroom windows.

The basic structure of a metaphor, A = B, can bring new understanding in various ways. In the present example, the common characteristics of A and B, 'conch' and 'open system learning model', are that
* they were both in a sense hidden from view, and
* the mystery surrounding them was on your mind.

Recall, in The World of Open Learning, that I advocated...
'Unfocussing' ourselves, being 'open-minded', because of the possibility that purpose, meaning, can be something that emerges slowly, like a friend walking towards you out of the dark or mist. Likewise, at the start of this dissertation, I wanted the reader of the need for patience and acceptance of our journey, 'without which the traveller discovers he or she is on a journey to somewhere else'. We still await the launch of the author's much-touted model; we have not yet moved beyond the author's withholding period.

Return once more to our little fantasy. According to the story line you accept my invitation to stand in field watching a bird in flight. You stand there—willingly or otherwise, for you have no power over the line of thought—trying to reconstruct the bird's flight path in imagination. All of a sudden you 'see' the Conch. Our surroundings change, as if in a dream. You learn that we are collaborators in this research project. Now you are working through this study. You find the author writing about a model that waits to be launched. You read these very lines. You understand in a new way what the author means by his 'withholding period'. Through identification with my volunteer bird watcher, in that magical afternoon in the sun, you recognise that you have experienced—at once vicariously and meta-cognitively—the truth of the adage. Being open to the obscurity before the clarity can be one of the nicest things.

My subject at present is the quality of coherence in a constructed argument. Do you have a sense that this line of thought is going somewhere, although it seems the writer himself is still watching to see what will unfold? A logic of emergent coherence is the rationale lying behind a writer's sequence of thought. Where the sequence of thoughts embodies within itself an emergent or unfolding meaning. Think of something on the surface, and something else beneath it. The surface text (in the present case especially) combines propositional argument with other textual elements, expressed or implied, reflective or fantasical, tangible or mystical. The second tier logic of a text is explored by taking one abstracted, critically reflective step back from the surface line of thought; it is a critique of the text's global state of coherence. From this perspective, we cannot yet fully evaluate the logic of this thesis because the text is not yet concluded.

I can think of at least two examples of critiquing the coherence of a perambulatory text:

**Reader critique.** A reader must reconstruct an author's text. Such a reconstruction may be even more highly systematised, tighter and more held than the author's surface text, given differences in the reader's meaning perspective and the possibility of the reader's greater impartiality and critical skill.

**Author critique.** We can think of the surface structure of a perambulatory text as the author's more immediate conceptualisation of the world of thought, and the second tier, more abstract logic as his or her subsequent critically reflective reconfiguration of the whole.

If the second tier conceptualisation were written down, it would be couched in a different language because its subject would not be the author's world of thought itself, but the earlier document. Consider the case, however, where an author does not write down a second tier conceptualisation. Even in this case, one's editing, re-working of one's own text gives expression to a second tier analysis, although it has not been verbalised. Where a second tier conceptualisation is written, whether it is more coherent or whether it just follows a different logic, it provides an alternative realisation of the writer's concerns—two whole-in-counterpoint, offering writer and reader a fuller perspective, just as two-eyes vision sees better than one; hence the potential of a 'Todd & Steven'-like parallel discourse (see The World of Open Learning).

Here we are, embroiled in the middle of my surface argument, and my second tier logic seems to be beyond reach. Let's reflect then on the important features of the phenomenon or process it represents; it is a model of the emergent nature of meaning, of understanding:

- the model of open system learning, like any model, purports to encapsulate the important features of the phenomenon or process it represents; it is a model of the emergent nature of meaning, of understanding
- it is possible to be an open system learner, or at least an aspiring open system learner, without a knowledge

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7 The World of Open Learning, Part A, What's the point?
of the model; however, an instinctive or learned affinity for the unknown—the only possible time-space for emergent understanding—is a defining mark of open system thinking. Reaching out for an intuitive appreciation of the property of emergence is an intentional act conducing to growth in metacognitive and epistemic understandings.

- Learning, seeing new patterns of meaning, can be fostered through the carefully critical use of metaphor, but the role of the guide (the teacher) in sequencing and timing the learning experience is important.
- An effective way of enabling an understanding (or intuitive apprehension) of emergence is to cloak one's subject in secrecy, to foster an affinity for the unknown, and a spirit of anticipation.

These ideas are quite disconnected in their present form and sequence, as we might expect, because underlying logic cannot proceed, but must follow the surface argument, the subject of which is still approaching us through the mist. Meanwhile, we can recognise several organisational principles operating within the author's emergent second-tier analysis that will finally be seen to explain the gestalt of this study; such principles are:

- application of the author's own groundrules of feeling one's way, and of staying unfocussed
- a chronological sequencing of the collaborative research process
- critical use of relevant professional discourse
- use of the withholding period; a trial use, that is, of suspense and mystery to illustrate open system teaching approaches to the reader; and

- two-tier-interactive optimisation of the melding of all elements.

Any piece of writing should sooner or later reveal one or more organising principles, and it is against its organising principles that the coherence of a text should be evaluated. Later I will differentiate between accepting coherence in a text and accepting the soundness of its argument in accounting for lived experience; it is the difference between an argument being logical and well-structured, and an argument being valid, true, corresponding to reality. In article 91 will show how these two qualities of an argument, while different, can coalesce, as they will do in this thesis. Little wonder that I'm calling for a high tolerance for fuzziness and ambiguity.

**Summary.** For the time being I am simply concerned with the characteristics of coherence in a constructed argument. Where the organisation of textual material—in this case, the learner-travellers' itinerary—is governed by the writer's mind by intuitive judgments about sequence and timing, about patterns of hiddenness and revelation, the coherence of the argument's logical structure can only be recognised in retrospect, after the event. Fragments of narrative may gel, cohere in the act of reading; but the coherence of its underlying logic emerges later, on reflection.

I have been arguing that growth in understanding is essentially driven by a desire to find an ever greater coherence in ourselves and the world. I have spent some time therefore considering what we mean by coherence particularly in the case of the constructed argument, once the more formal kinds of human meaning making. This discussion wore itself around the idea of logic of emergent coherence.

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Critical reflection on this thesis as meaning making

I will now consider from a critical standpoint various matters that arise from my deep and emergent conceptualisation of this thesis. A brief defence may be needed here. As Knuuttila (1989) points out, Jurgen Habermas (1972) has shown that speculation on technical questions about methodology in scientific research may not have as much to do with theory—Artsiadisian 'pure contemplation', philosophising on the nature of truth—as with technical (or instrumental)
reason—the thought that underpins mechanistic problem-solving. Reflection carried out on a technical plane of thought does not take into account its own status within its historical context; it is epistemologically shallow.

Kemmis, following Habermas, argues instead in favour of critical reflection. In critique, however, we transcend the strictly technical or practical as we consider how the forms and contents of our thoughts shape and are shaped by the historical situations in which we find ourselves. Critical reflection self-consciously employs a dialectical form: it seeks to discover how the form and content of thought has been given by history, and how, historically, we shall be shaped by our praxis (action informed by critical reflection) (p. 41–42).

I do not contest what Kemmis is saying, but I must comment. Why haven’t I systematically followed the dialectical form that Kemmis proposes? I might indeed have structured this discourse according to a deconstructionist viewpoint. Such an approach would have meant spending considerable time critiquing such things as the competency based training systems, the agricultural extension theory and practice, the action research—experiential learning paradigm, and the dynamics and antecedents of teacher—learner interactions in the simulated distance education activity. I did in fact spend time critiquing the competency based framework in which the Farm Management Course operates (Article 3), but in this study I have been more concerned to document an example of feeling one’s way in action research. The perambulatory line of thought attempts to document the trajectory of the ‘test case’ inspiring open systems learning—me—in search of greater understanding. I made a judgment during the thesis writing phase that the thesis itself would be the test case artifact of this inquiry. If feeling one’s way was the co-learners’ agreed technique of progress, it was vital that the thesis honour this technique in its own structure, otherwise it would not be a true artifact of open system learning.

Critical reflection, in the sense employed in this thesis, does not follow a formula, but flows directly from my intuitive reason, thereby hopefully staying in tune with my undifferentiated, free-form, free-falling awareness, values and concerns. Remember that I have admitted to being guided in my inquiry by a deep navigational system—a drive to find answers to basic questions of existence. Elsewhere in this thesis I refer to a zone of unknowing, which is the natural home of my workable sense of self and my value system. I am merely speculating here that my intuitive reason also resides in this country, and all abstract constructs residing there are one.

I will not therefore be following a borrowed template of critical reflection. However, when I look over what I have written in this study, I am reassured, to my own satisfaction, that I am making effort to be rigorous in my reflective critique. Of course my capacity for critique is limited, by the particular garden bed in which my particular blind-spot, blinkered intellect has grown. If understanding is dynamic, if its business is growth, so also is one’s capacity for reflective judgment, through growth in which we know how to frame ever-more inclusive questions. We all always have further to go.

I turn now to what are perhaps the most distributed, ubiquitous qualities in this study—the perambulatory line of thought, the absence of an obvious forward direction, stemming (we conclude) from my insistence on remaining unfocussed myself for as long as it takes, together with my use of the withholding period with you, as I did with my co-learning group; in short, an inescapable sense of the unknown.

THE SUBJECT OF INQUIRY IS STATED—TWO GROWING TIPS OF TWO LINES OF THOUGHT

For most writers, in a work of this complexity, aimed at creating a world of thought, conceptual clarity will emerge over an extended period of grappling with divergent elements. That has been, continues to be the case in this instance, which is appropriate, given that emergence of coherence is the subject of inquiry. The idea of documenting the emergence of the idea of emergent understanding was too tempting to resist. I knew from the beginning that my argument would move between the two domains differentiated in soft systems methodology—‘real world...
flux of events and ideas” and “systems thinking about the real world” (Checkland 1989). This was that emergence, unfolding of consciousness and imagination as the theoretical construct to be explored and unravelled, while feeling one’s way became the overall motif to describe what it felt like on the ground, doing what we were doing together—I mean inching forward with no clear sense of direction, only a dim sense that we were onto something big. Two areas of action... two growing tips of two lines of thought...

One emergent world of thought. We are even now in process of opening up this world; by ‘we’, I mean all those whose broad spectrum ideas have germinated in mine, and those downstream from me, my readers, and their teachers and students; and all those others, from different cultures and traditions, are doing similar things in different words and worlds—quite a global community of meaning makers, and a myriad of synaptic connections, sparking together, coalescing and re-coalescing, handshaking, out of which emerge this curiously libidinal notion of open systems learning ventures to bloom.

An account is unfolding of human understanding that can only be emergent, both in the species and in the individual: realised through incubation of new understandings, speculations, flashes of insight and theorising. These are primary mechanisms of a living human culture. In representing our quest in such terms, I acknowledge the inspiration and stimulation gained from many sources within the relevant literature, in particular (in the immediate context), Humberto Maturana and Francisco Varela:

We will propose a way of seeing cognition not as a representation of the world ‘out there’, but rather as an ongoing bringing forth of a world through the process of living itself (Preface, Maturana and Varela 1992).

My thoughts wander off on a surreal speculation of mixed metaphors...

The world I bring forth is culture in microcosm, as I have distilled it—parent and offspring, appearing like two holograms, facing each other, as if through a mirror. My world takes in the places for my feet as I cross the road, what’s on the horizon and beyond, and everything in between. For us, mind is thus seeing making entity continuously constituting itself through our acts of sensation, perception, intuition, hypothesis, reflection, analysis and emotion, in the world. The web of meaning we spin all around us as together are woven into and out of the warp of human culture. No, let’s go with the ground—woven into and out of the doing of culture.

We shall return later to Maturana and Varela’s view of cognition as an ongoing bringing forth of a world, what Varela, Thompson and Ruster 1993 call enmeshment, because it has fundamental implications for the future of cognitive science and therefore education.

WHAT METHOD OF INQUIRY HAS LED TO ALL THIS?

Here is a riddle. If ‘feeling our way’ is a fair description of what co-researchers felt they were doing together, was that also, in a sense, my methodology? If it was, what kind of rigour is possible, and how shall we recognise a sound conclusion if we could have only?

Something stops me from trying to isolate the methodology employed in this inquiry from the subject of inquiry, the same intuition that eroded behind my comment that ‘feeling our way’ is a fair description of my research methodology. I confess that I am surprised to read these words myself; after all, I announced at the very beginning that I would follow an action research methodology. This matter is pivotal, and we must address it here. Does ‘feeling one’s way’ compromise action research, and if not, how might their joint use be conceived?

The substantial literature on action research shows how many different kinds of activity are covered by it. Dick (1991) offers a useful pyramidal organisation of terms. At the apex is the paradigm, action research, below that, various

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Part B. Feeling our Way

methodologies, such as soft systems analysis, action science, and critical action research; and below that, the many methods employed in information collection and interpretation, for example interviewing and content analysis.

Perry and Zuber-Skerritt (1992) offer a tidy summation of these key aspects of action research: "a group of people at work together, involved in the cycle of planning, acting, observing and reflecting on their work more deliberately and systematically than usual, and a public report of that experience (such as a thesis)". The notion of collaboration between the institutionally-endorsed researcher and people directly engaged in the real world under inquiry, is generally seen as a defining feature of action research. "In the complete form of this approach [the way of cooperative inquiry], not only will the subject be fully fledged co-researcher, but the researcher will also be co-subject, participating fully in the action and experience to be researched" (Heron 1990, p 20).

'Feeling our way' implies whole person inquiry. When I commenced this research project, there were a number of themes that held my interest; and I accepted that a focus of research would be to improve my praxis as a distance educator of farmers. Moreover, by enrolling in the Faculty of Agriculture at the University of Western Sydney, Hawkesbury, I had declared my temperamental, philosophical-ideological affinity for experiential learning, collaborative forms of inquiry, soft systems methodology — in short, the Hawkesbury approach to action research. The Hawkesbury approach, cogently described in Bawden (1990) and Bawden and Pachman (1993), became the rich, deep substratum of thought out of which this project formed.

Because this study is not yet concluded, and because I am trying to document the process and sensation of feeling one's way, I can tell you that I haven't yet (as I write) synthesised feeling one's way with action research. That I am demonstrating both simultaneously in this thesis suggests they are compatible, that a certain quality of reflective action can legitimately be described in both ways. Is that an answer to the puzzle? That this artefact is the real world entity, which might be conceptualised, categorised, customised, in any number of ways if it meets the criterion of feeling one's way, is isn't necessarily any less authentic as action research. If this thesis demonstrates such a possibility, that in itself will be a defence of open system learning theory.

WHAT WILL WE ACCEPT AS A VALID OUTCOME OF THIS RESEARCH?

The criterion of proof, of truth, takes different forms in different disciplines, and we are struggling to achieve clarity of thought in this study — even in knowing how to frame the question of validation — because we are perched across a number of disciplinary areas. In our hybrid context, the criterion of validity should be related to the kind of research we are pursuing.

Conventionally, there have been various hallmarks of valid scientific research, at the heart of which is an insistence on empirical approaches. ("Empirical" is capable of being verified or disproved by observation or experiment; Webster.) Manicas and Second (1983) identify five major assumptions of traditional science:

- it has a foundationist epistemology in which the test of the truth of a proposition is "correspondence" between theory and data; hypotheses are to be tested against the 'facts'
- theories are deduced from these factual data
- research is more or less atheoretical, with many researchers avoiding theory as far as possible and seeking to test only those hypotheses related to variables that can be closely tied to observation...
- a human conception of causality and of lawfulness is taken for granted...
- explanations and prediction are exactly symmetrical.

What one accepts as proof of something is contingent on one's view of science. The present day understanding of scientific endeavor is considerably more pluralistic than is acknowledged in the above profile of 'traditional science'. The problem of proof is as old as science itself, as demonstrated in studies in the history of the philosophy of
science, see for example Oldroyd (1986) and Gardiner (1985). Salzer (1988) draws on the work of Manicas and Secord (1983) to argue that science over time has experienced its own kind of epistemological development, paralleling this process in individuals (as discussed above in article 4). Manicas and Secord use the term 'realist view' of science to name the form of scientific understanding that matches epistemic understanding in individuals.

According to this realist view:

- Scientific laws... are not about events or classes of events regularly or statistically conjured but are about the causal properties of structures that exist and operate in the world... Thus, not only is the world stratified (in nonreductive or emergent) but it is a complex of structural processes. On the realist view, 'things' of the world never operate under conditions of complete closure. This explains why we have the experience of patterns, of tendencies, and of probabilities.

From this perspective, 'truth' is an abstraction of our making—once it is part of the whole human process of meaning, derived from experience. Without notions of truth, order, style, and so on, the idea of experiencing coherence is inconceivable. Manicas and Secord suggest that:

- Knowledge is a social and historical product... Epistemologically, there can be nothing known to which our ideas (sentences, theories) can correspond. But... it is precisely the task of science to invent theories that aim to represent the world. Thus... the practices of science generate their own rational criteria in terms of which the theory is accepted or rejected... Since our theories are constitutive of the known world but not of the world, we may always be wrong, but not anything goes... (Manicas and Secord 1983, cited in Salzer 1986).

This proposition provides me with a means of defending the approach I have followed in this dissertation:

- Inventing theories that aim to represent the world. Before long I shall unveil the model of open system learning, and in article 9 I propose a complementary theory of open system learning. These constructs will attempt to explain or make sense of the human drive for and experience of meaning.

- A line of inquiry that generates its own rational criteria in terms of which the theory is accepted or rejected. In article 9 I specify a structure of validation which is even now emerging from the thought and underlying logic of this thesis.

Our immediate concern has been the basis of our claim to know things. Theorists from different disciplinary perspectives will continue to frame their questions and answer them in different ways, although hybrid disciplines like cognitive science will continue to struggle with synthesis, as Howard Gardner (1985) eloquently argues 19. Within the more limited world of this thesis, I intend in the remaining pages to show how open system learning may be defended according to the principles of the so-called 'realist view' of science.

CAN SCIENTIFIC INQUIRY UNFOLD WITHIN PICTURE LANGUAGE?

To approach this question, we shall reflect on the kind of language used in this dissertation. The style that emerged in the genesis and unfolding of my line of thought kept veering naturally towards my own upper tolerance for figurative, 'picture' language; only occasionally would I temper my excesses—Creativity... and her breed, Wild Horse Imaginatio... ground-of-being shaking; the clouded-thick parable of possibilities; the Couch of Heaven; et cetera. How did I convince myself of the acceptability of such language?

In the first place, my navigation system was my deep puzzlement ('why am I like this? what does it all mean?', et cetera). We know from the study of the unconscious that the mind often uses symbols to hint at deeply personal apprehensions of self and the world. As I reflect now, I speculate that my naturally fertile imagination was activated through my attentiveness to those deep currents. That explains the use of this picture language, but why didn’t I try to restrict the subjective feel of this style to meet the traditions of scientific thesis?

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19 For a far-ranging discussion of the prospects for a synthesis of various critical and interpretative traditions around the fundamental human practice of praxis, practice discourse, see Bernstein (1983).
As we know, language operates—conveys meaning—in complex ways. Take this sentence used a few paragraphs back: “My world takes in the places for my feet as I cross the road, what’s on the horizon, and everything in between.” One’s response to this or any other sentence, and one’s overall sense of this or any other work, is always that person’s alone. As writer, I used that sentence to economically address—not define nor specify—the orders of magnitude of the world we experience. By using picture language I was able to point towards physical space, but to allude more generally to other kinds of spaces we inhabit conceptually. It was entirely appropriate to express the idea in these terms for the very reason that the world we experience is of complex features of both greater and lesser specificity. (Primary focus—physical space; other fuzzy focus—other spaces.) Moreover, in just a few words, I was able to recall a line of thought in the Foreword to this study, and to link that passage and this passage to the idea about unconscious meaning-making—the image of causing a busy road with certain perceptual processes on autopilot. Picture language, as poets and novelists especially know, gives a writer a powerful means of evoking layers of meaning, and crafting for the reader an experience of coherence, wholeness. Picture language therefore seemed to be a useful tool in my present task of opening up for you a world of thought.

Our quest is always for greater coherence, both as individuals and within communities of academic discourse. For the individual, the need for overall coherence gives us a desire to realize an ever greater integration of our inner and outer worlds. In my case, in this thesis, I have been pursuing a number of quite disparate lines of thought, some of which stem from the outer world of observation, and others, from my innermost feelings, emotions and dreams. The coherence I seek for myself requires me to build bridges or throw lines across the chasms that separate my worlds of meaning.

* Different parts of me seem more at home in different territories. If the composite self sets out to create a coherent, global world of meaning out of everything, my voices and I must choose from which outcrops to start our bridge building*.

It was, if I may say so, either a courageous or foolhardy thing (in an examinable thesis dissertation) to start some of those bridges from the ground of felt experience. Whichever label finally sticks—courageous or foolhardy—I have shaped this document in a continuous stream of intuitive judgments. Later re-organisation of the linear sequence of thought and editing of language are carried out with a relatively greater degree of detached analysis, but intuition and rational judgment seem, on reflection, to be active in both processes—writing and editing—but in ebbing-flowing proportions.

Margolis (1987) proposes a three-part taxonomy of judgments: completely intuitive judgments; judgments involving a certain sequence of preparatory thought, but the “figuring out” process can’t be logically reasonable and explained; and judgments based on sequences of an organised, rehearsed, repeatable, step-by-step character. “Subjectively, there are no sharp lines to be drawn between the categories. Rather, judgment shifts imperceptibly from (subjectively) processless intuitions to the most rigorous sort of argument”.

If my style needs further justification, I point towards the fact that all language is symbolic. We create meaning for ourselves and seek shared meaning through a currency we call language. If a literal description occupies one level of abstraction from the thing described, a metaphor—such rocky outcrop as we find, for example—simply occupies a second level. Both forms of description are symbolic. Language is always more—or less—appropriate. The test of appropriateness should not be literalism, but clarity.

What arises from reflection on these things?

* An emergent global state of coherence is faintly discernible through the author's preferred patterns of meaning making as the surface line of thought unfolds. (Recall the two-tiered thought process? A fitting example of double holism: like two balloons, one inside the other, being inflated together, two dynamic forms—the actual and the ideal—destined to become one in their final apotheosisation.) The author notes that this study may finally cohere for others as well.

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* See "Tourists, travellers and bird watchers", this article.

* My voices and I: this formulation would cause problems for psychologists like Ron Hazle, for whom no one exists empirically. I use this expression more as a literary device and as a stepping stone which only has value in taking us further in our quest. Here is another case where the reader is asked to suspend judgment. My global argument must be judged globally; it won't depend on the empirical validity of its component parts.
• I have tried to defend my liberal use of picture
  language on the grounds of clarity, an essential tool
  for someone committed to the ideal of learners
  opening up a world of thought together.
• I have been relaxed about empiricism: if I can’t prove
  or disprove an intuition today, maybe I will see
  things—including the question itself—differently
  tomorrow.
• It has been implicit throughout that writer and reader
  rely on each other to apply our respective
  ‘appreciative-critical’ skills to the unfolding thought.

Despite the personal nature of all perception and
  cognition, we are saved from subjective one-eyedness
  by intersubjective discourse on the level of critique;
  and more broadly, by the ubiquitous human
  conversation into which we all thread ourselves.

In article 6 we move directly from these matters to the next
  stage in our journey—a discussion of several ideas within
  The World of Open Learning that have a central significance
  in open system learning.
Before we leave *The World of Open Learning*, we shall further our larger purpose by recalling one of the threads of thought woven into it—the landmark metaphor, and an associated idea, the experience of pattern recognition. By then it will be time to unveil the model of open system learning.

**Landmarks—a potent metaphor**

A landmark is a conspicuous object on land that marks a locality (Webster). The observer creates the landmark, because it is the observer who perceives it as being more conspicuous than its surroundings. Because this study is an investigation into the real world of human meaning making, I have wanted to find a way of making a connection between our natural daily experience of making sense of things—a process we don’t understand, an undercover operation—with the tangible, observable beginnings of the process—the daily experience of sight. Educators are always looking for effective ways of fostering understanding by helping the learner move from the known to the unknown.

In article 5 we asked what our basis is for saying that we know something. We could begin our discussion of the landmark metaphor by questioning its suitability from the viewpoint of a scientific understanding of visual perception. However, that discussion would not be very conclusive. To read Howard Gardner (1985), one is left with an impression that cognitive scientists have not yet come to a common mind about the mental processes involved in visual perception. A lot of work is being done on establishing the mechanisms of brain operation and the physiology of visual perception. As we are still unsure of the actual neurological subsystems and system hierarchies involved in producing our multi-level awareness as we cross the road, for example, we may start this discussion from the point that we know that we see.

The argument in the section, Landmarks, *The World of Open Learning*, implies a complex relationship between “what I value” and “what I see”. We can represent the argument in this way:

- The incident of the death of a donkey and its effect on a family was used to make tangible the notion of landmark. Because the children had loved the donkey, its death would become a kind of landmark in their lives, their memories. I suggested a link between what we value and what we see. Here I am using “see” in the sense of “landmarking”. My hypothesis is that landmarking—backgrounding is a construct that we can apply both at the level of vision and at higher levels of perception—cognitions. It is the phenomenon by which “what we shall call a landmark after the event” has already separated itself from the background in the very set of perception.
- The observer (the author of the donkey narrative) experiences the death as a landmark because of his awareness of the impact it would have on the children. There could be a kind of chain reaction occurring in the example. The author knew the

Part B. Feeling our Way
children would grieve the loss of the donkey because they had 'valued' (loved) her. They would remember the event, and so it would be a landmark for them. It would be a landmark for the author, their father, primarily because he loved them, and their grieving made him sad.

- An important element in the landmarking—background setting is the value judgment inherent within it. We all make value judgments, which emanate from our value system. I defined value system as a deeply ingrained set of valuing biases that makes it possible for us to judge what is more important to us, and what is less. I have taken the term 'value system' from everyday usage; as my 'definition' makes clear, value system is a theoretical construct, used only as a means of helping us to reflect on our ability to weigh up unlike things.

- There appears to be a circularity in the process, as I suggested to my learners: "Here's something to ponder on: what I see is what stands out from the background; what stands out is what I value; yet where do my values come from, if not from what I see?"

The episode of the donkey's death is clearly involving higher level mental processes than those involved in subconsciously estimating the travelling speed of a car that is coming towards us. However, our interest in this inquiry was the resultant of our meaning making behaviour, and from that point of view, the donkey episode seems to be relevant to this inquiry. For instance, farm managers often have to make spending decisions. According to our present argument, not only are there important intuitive scaling judgments involved as the manager tries to get a feel for relative risk, it is also important to recognize that:

- the individual's value system influences and is influenced by the world he or she perceives

- value judgments or value intuitions must sometimes be resolved at different levels of immediacy: for the father, the significance of the landmark arose in a small way from his attachment to the donkey but in a much larger way from his attachment to his children. As suggested in Part A, farmers have to be adept at weighing up unlike things. Where there are several people whose values (and hence needs) have to be considered, as in family farm succession planning, the aspiring manager will be, at the least, not only sensitive to family members' feelings, but have a bias and a developing competence for ever-more comprehensive and subtle needs analysis and problem-solving.

The metaphor of landmarking as a description of human perception has an antecedent in the figure-ground relations of Gestalt psychology; see Bolton (1972) and Katz (1951). Ulrich (1953) uses 'foregrounding', same metaphor, different label: "poststructuralist theory... argues for a foregrounding of how we construct what we are reassembling". "Landmarking" may or may not have already been used in this sense, and time will tell whether it will gain a wider currency; some writers may have a lower tolerance for picture language, despite its potential for fostering understanding.

Spotting patterns

Like landmarks, the companion notion of patterns has become a useful term in this study. In my role as distance teaching module, I introduced the notion of patterns before the landmark metaphor (see 'We experience things'). I wrote that, in life, "we attach greater importance to some experiences, and lesser importance to others. It is one of the ways by which we make meaning of our lives, see patterns emerging". From our present vantage point in this study, we realize that our individual landmarks become elements in the patterns of our lives.

The milestones of my life are all my landmarks, and my complex relations with them.

Use of the pattern analogy to represent human meaning making has occurred to writers from various disciplines

Improving the Effectiveness of Distance Education for Farmers
backgrounds. For example, in *Beyond Relativism—Science and Human Values*, Roger Masters sees pattern matching as one of three fundamental approaches to scientific knowledge. The other two are intuition and empirical hypothesis testing (verification) (Masters 1993).

Closer to the immediate field of interest in this inquiry, we recall Marcia Sailer’s discussion of the *realist view* of science. She notes that Manicas and Secord describe...

...an epistemology that is concerned with contexts, that sees a dialectical relationship between the knower and the known, and that sees the source of truth neither in the world nor in the self but in the (human) 'experience of patterns' (Sailer 1986).

...that sees the source of truth neither in the world nor in the self but in the (human) 'experience of patterns'. As I suggested in article 5, "truth" is an abstraction of our making—one element in the whole human panoply of meaning, derived from experience. Without notions of truth, order, ratio, and so on, the idea of experiencing coherence is inconceivable." While many exogenous thinkers—those who defend the possibility of an objective observation of a directly knowable world—will also be inclined to define the idea of 'God' or 'Truth', eternal and universal, many endogenous thinkers—those who embrace the idea of "bringing forth a world"—will feel obliged by their own meaning perspective to remain agnostic about what lies in the realm of unknowing.

In *Patterns, Thinking, and Cognition—A Theory of Judgment*, Howard Margolis (1987) bases his whole analysis on the idea of pattern recognition. He represents the process of cognition as a series of 'pattern experience' loops (figure 9).

Margolis explains:

At the top of each cycle a pattern (the arrangement of features in a room, pronunciations in a word, for examples) is prompted by cues in the context. That pattern itself then becomes part of the environment which cues the next pattern. Sometimes a pattern, or a feature or subpattern within that pattern, is externally expressed (something is said or done); sometimes (not the same thing) a feature or pattern comes to conscious attention. An externally expressed pattern is more likely to be (or eventually come to be) conscious. Our friends, or enemies, might notice it, even if we don't. Whether conscious or not, though, can prompt a pattern which, interestingly, is the rest of the context (hence the spiraling rather than the box-arrow-box form of the figure), provides an amended set of cues, which prompts the next pattern. This can go on in several directions at once, as when a person plays the piano and carries on a conversation at the same time.

The importance of the ‘cognition as pattern spotting’ analogy in this study has been alluded to several times. I have suggested that we think of everything as context, in suspending judgment about the lineaments of our emerging subject. Why?

One answer: lingers in memory from our distance learning module:

![Figure 9: Margolis's cognitive spirals](image)

Each spiral represents a cognitive cycle. The arrow at the top of each spiral indicates the prompting of some pattern, contingent on the immediate context, the experience of the individual, and the priming-or-inhibiting effects of recently prompted patterns. (Only a small fraction of these prompted patterns could be expected to come to conscious attention.)

Source: Margolis (1987)

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*See the section titled, What will we accept as a valid outcome of this research?*
Let’s not be too concerned that our reason for being here is pretty vague... We’re usually so good at finding time to be really focused on things... But we’re not always so good at being unfocused, or rather, open-minded—mentally ready to engage with a learning opportunity in the manner it deserves... purpose, meaning, can be something that emerges slowly, like a friend walking towards you out of the street or mist.

I hinted in article 5, in the spiralling arrowhead episode, that conditions have to be right for insight, for the flash of understanding to occur. This is why the open system learner cultivates a high tolerance for ambiguity, for fuzzy predicaments, learns to be patient, to enjoy being in motion in the deep end.

Howard Margolis (1987) reproduces a photograph of Leon D Harmon’s Lincoln grid. What at first sight could be a black and white photo of a cubist painting turns out to be something very different—a portrait of Abraham Lincoln, for those with eyes to see. The artist used a scanning device to convert the original image into a grid of squares of varying shades of grey: the intricate lines and textures of the original were obliterated in the whole image got subdivided by the grid; within each grid square, details were converted into an undifferentiated grey, the average tone of all the elements within it. In the end, all we have is a scrambled and multi-riddled checkerboard. As Margolis explains, the clearly focussed eye can only see a cubist pattern. However, by deliberately blurring our focus, one instantly sees the face of Lincoln.

We shall not pursue Margolis’s explanation here. Let’s simply acknowledge the common human experience of finding, on a second viewing of something, that our first impression only captured part of its significance, or else what we first saw was not its final, fully developed form.

In this study we have not entered the domain of brain neurology. I have been content rather to be generally guided by those trained and professionally involved in this field, especially in view of the continuing gaps in understanding of higher mental functioning. (Gehmner 1985 gives an account of the major areas of contention.) However, let’s note the very fruitful lines of further inquiry that will open up as educators reflect on work on emergence and connectionism in related fields (see for example Velleman, Thompson and Rosch 1993).

How does this pattern-spotting view of cognition relate to our overall purpose? For the time being, let’s simply establish a link with our earlier discussion on cognitive and ego development. In article 4 we noted Harry Sullivan’s notion of selective inattention, whereby a person only pays attention to things that are compatible with his or her already-existing perceptual framework. At the most straightforward end of visual perception, it is interesting in this context to note that the optic nerve connects from the eyes to the visual cortex via the lateral geniculate nucleus (LGN); yet it seems that 80 per cent of the activity in the LGN is stimulated not from the retina, but “from the dense interconnectedness of other areas of the brain” (Velleman and others 1993, p95). The weight of inference suggests that the subjectivity of our consciousness and understanding derives from our wiring.

Let’s draw the strands of our recent discussion together. We have looked at the landmarking-backgrounding metaphor and at the idea of pattern recognition as descriptions of cognition, of meaning-making. Hypothesised that the landmarking metaphor can be applied both at the level of vision and at higher levels of perception—cognition; an example would be the way we organise and edit our individual memory—bank life histories, over and over again, creating personal myths for ourselves.

Open system learning—a model

Our journey has taken us to many varied places, and now we are ready to have the open system learning model unveiled. Although this study is presenting this inquiry more or less chronologically, the following model didn’t start to take form—I hadn’t decided to attempt a model—until a later stage in the collaborative process; I bring it forward now to suit the line of thought in this dissertation.
Structure of the prototype model. Two stages are proposed: the first, open system thinking, deals with one's learning orientation; the second, open system learning, with the individual's intentional, goal-driven engagement in a formal or self-initiated learning program. The model is presented in Table 6.  

Table 6: The open system learning model

<table>
<thead>
<tr>
<th>First stage: open system thinking</th>
<th>Depth-of-field sensitivity</th>
<th>Depth-sensitive perception</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Openness</strong></td>
<td>As a material entity or an idea is perceived, its recognizable properties—like its colour—and its relationships to its surroundings—like being overshadowed—can trigger all kinds of associations with experiences and ideas in the individual. As new associations are triggered, one or more different &quot;worlds of thought&quot; are anticipated—but there, in a sense, to be discovered. From one stimulus to many associations, and many worlds of thought, many frames of reference. An open system thinker has the capacity to accommodate multiple frames of reference, that is, multiple contexts or layers of significance (see next).</td>
<td></td>
</tr>
<tr>
<td><strong>Depth-sensitive thinking</strong></td>
<td>Thoughts multiply within their respective words of thought, by either rational thinking or spontaneous imagery creation</td>
<td></td>
</tr>
</tbody>
</table>

Second stage: open system learning

Assumes intentionality, and involves a double holismeness:
1. The cultivation of the whole in process of becoming: this is an intuitive bringing forth and continuous fine-tuning of the final desired form—a blueprint for action.
2. Mental activity in the present moment designed to extend the present body of knowledge in the direction of the emerging blueprint.

\[ \rightarrow \] The exploitation stage: involves continuous switching between the subject matter and its multiple contexts.
*Hologenesis* is a construct I coined, in another context, at about the same time that I commenced this research program; it is the coming to be of wholes. When I shared this prototype model with my co-learners, I said that this research project was a good example of hologenesis: "something is in process of becoming, and for now, we only have inklings of what it will finally be".

We shall take up the broad sweep of our inquiry again in Part C. There we shall show how the collaborative inquiry sought to test the soundness of the model I had put forward.
Part C:

The widest sweep of cognitive embrace
The dawn of knowing

I was persuaded, after the false start of *The World of Open Learning*, that I needed to pursue my goal in other ways. In that module I had tried to take my role play distance learners with me on a journey, but by using my picture language, I had not created an adequate context for learners to spot their own landmarks, and thereby have a self-centred experience of *landmark-knowing*. In this study we shall think of landmark-knowing as a particular kind of meaning-making. It is the direct, experiential understanding of the subjective nature of all perception and cognition.

Are you detecting a shift in my argument? It is not a shift but an elucidation, now that the idea of landmarking is becoming clearer. I have extended the original use of the metaphor from *landmark-spotting* to *landmark-knowing*. I want to retain both terms. For the sake of this inquiry, I propose two nested constructs:

- **Landmark-spotting** is a perceptual act, a direct experience of the world. The observer recognises something standing out from its background. Landmark-spotting is becoming conscious of something perceived with the eye or conceived in the mind.

- **Landmark-knowing** encompasses landmark-spotting on a more abstract plane of reasoning—it is *reflective landmark-spotting*; it is *proto-epistemic cognition*. It signifies a subtle shift in consciousness in which one begins to perceive all knowing as landmark-spotting in the very act of spotting (the reflexive form), or in retrospect (the reflexive-reflective form).
I start landmark-knowing from wherever I am. It is the slow awakening in pre-dawn light into a new order of perception. This new order, this new outlook on things, becomes my New World, my new home. It seems everything now is cast in a different hue. My epistemological assumptions have percolated up, insinuated themselves into my world view.

The landmark-knower's new order bears a striking resemblance to the constructivist world view. Phil Candy offers a useful summary of some important assumptions of constructivist thought which, he argues, have altered the environment in which adult education now finds itself. An open system learner (or here we can say a landmark-knower) will experience an affinity of outlook whenever such propositions cross the threshold of consciousness:

- people participate in the construction of reality
- construction occurs within a context that influences people
- construction is a constant activity that focuses on change and novelty rather than fixed conditions
- commonly accepted categories or understandings are socially constructed, not derived from observation
- given forms of understanding depend on the vicissitudes of social processes, not on the empirical validity of the perspective
- forms of negotiated understanding are integrally connected with other human activities
- the 'subjects' of research should be considered as 'knowing' beings
- locus of control resides within the subjects themselves, and complex behaviour is constructed purposefully
- human beings can attend to complex communications and organize complexity rapidly
- human interactions are based on intricate social roles, the rules governing which are often implicit (Candy 1989, cited in Mezirow 1991).

Whose seat of consciousness is that?

"Propositions cross the threshold of consciousness". But who receives them? Is anyone home? This whole discussion has pivoted on a cluster of concepts about the nature of individual consciousness. Before I can take this analysis much further, I need to clarify who or what does all this meaning making. Who is this masked cogniser?

In his study, *Personal Being*, Rom Harré (1983) describes his theory of the nature of the self. A brief examination of Harré's thought will cast light on the occupant of that inner chamber. In the following edited account, Harré argues that personal being is a further stage of development beyond awareness of individual identity...

The fundamental human reality is a conversation, effectively without beginning or end, to which, from time to time, individuals may make contribution. All that is personal in our mental and emotional lives is individually appropriated from the conversation going on around us and perhaps idiosyncratically transformed. The structure of our thinking and feeling will reflect, in various ways, the form and content of that conversation.

To be psychologically an individual is to be self-conscious and self-activating and controlling. (Self-consciousness) includes a knowledge of one's history as well as one's current unique location in the array of persons. (Self-activation and control) includes one's capacities to initiate action upon things and persons other than oneself, as well as to undertake reflective intervention in oneself, and so requires the mastery of the concept pair 'myself'/"not myself'.

From their earliest moments infants make demands upon their mothers... that provoke the very talk and action from the mother that promotes... development towards personal being. The infant's apparently...

As Marcia Sather (1986) insisted they should. To use the concepts of general systems theory, Sather argues that students not only need epistemic competence; they must also integrate the assumptions underpinning epistemic knowing into their world views; within the present discourse, this means personalising these assumptions—cha...
Native contributions are already emerging from the personalisation of the social structure within which it is being established... To think, to perceive, to be rational and to experience emotions are cultural endowments, not native achievements.

Neither self-consciousness nor self-activation and intervention is sufficient to establish personal being... Personal being arises only by a transformation of the social inheritance of individuals. It is essentially a semantic transformation and arises through the use of cognitive processes typified by metaphor to transform the social inheritance. This capacity itself is a social inheritance and there may be societies whose members can never achieve personal being because the practice of individual transformation of social resources does not exist (pp22–26).

Thus Harré argues for a duality in the metaphysics of psychology—a duality between person and self. Persons are social individuals, located in the primary structure (the domain of simple communication acts), and are identifiable by public criteria. "Selves are psychological individuals, manifested in the unified organisation of perceptions, feelings and beliefs of each human being... There may be human beings whose belief systems, imaginative anticipations and so on are organized in some non-unitary way. Necessarily all human beings who are members of moral orders are persons, social individuals, but the degree of their psychological individuality, their personal being, take to be contingent" (pp76–77). "Our personal being is created by our coming to believe a theory of self based on our society's working conception of a person. I can change my personal being only if I can come to believe a theory of self derived from the concept of a person current in another and different society. It is the societal element in this process which makes it virtually impossible for people to acquire the genuinely Oriental selves they need to be adepts of Eastern religions while they live in a practical order dependent on an incompatible concept of person" (pp26–27). "[Personal] beings are what they are partly by virtue of holding this or that theory. It is my belief that empirical research built around these ideas will show that 'partly' is actually 'mostly' (p25)."

Harré likens the inner self to the gravitational field of an object. A physicist will explain the behaviour of falling objects by a theory of gravitational fields, and will attribute certain properties to this theoretical force without being able to directly observe it. So too an individual attributes certain properties to his or her self without any empirical acquaintance with an 'inner being' (p80). For the purposes of this inquiry, we can think of the inner self as the personally conceived hypothesis of a fuzzy organizing principle around which our more recognizable characteristics cohere.

Harré's developmental view of personal being provides a sympathetic substratum of ideas for a theory of open system learning, for both are concerned with the multi-level modes of thought by which an individual pursues his or her drive for meaning, for ever greater coherence.

In this inquiry we are concerned with the way aspiring open system learners endeavour to cultivate openness as the enabling orientation for continuous growth in understanding. My subject for understanding is my ever-expanding world of experience, without and within. As we continue on our journey together, we are likely to ponder again and again on the inseparability of the inner and outer hemispheres that constitute the open system learner's emergent world order.

Inklings of an emerging synthesis

Are you also finding this an eclectic, fragmented study? As we work towards its dénouement, all fragments will need to be synthesised if this study is to cohere, to have unity. Not all questions will be resolved, but there will need to be an underlying coherent logic that holds this knowledge and its remaining questions in tension.

I am aware of fragmentation in two senses:
• separate themes from separate worlds of thought have been threaded together—a polyphonic thematic structure

• separate voices embedded deep in my psychological structure have tried to be heard—a polyphonic point of view.

Earlier, in the bridge building image of article 5, I suggested that we can think of ourselves as an amalgam of various voices. In psychology, these ‘voices’ are sometimes attributed to distinct identities. A P-individual is the locus of a conscious, occasional identity: it can be a person, one of several identities within a person, or an identity comprising a group of people.

I have just suggested two kinds of fragmentation in this study; however the distinction is false, because ‘worlds of thought’ exist within this theory only by virtue of the ‘P-individual’ who construes them. The P-individual and its meaning perspective mutually define each other, and worlds of thought bear the stamp of each individual’s meaning perspective.

I can now tell you that Margolis’s cognitive spirals—see figure 9—are called P-cognitive spirals: his construct gives us a way of thinking about our capacity for multiple interpretations of an experience. Each of our voices (P-individuals) creates meaning along the trajectory of its own cognitive spiral; and so, in this study, each thematic strand, each world of meaning, was the work of a P-individual, each one reaching out in a direction of thought appropriate to its conceptual framework. In the bridge building vignette, I said my voices were somehow stranded on separate outcrops; my goal in this project—of creating a coherent world of meaning—required the building of bridges to connect them.

Do you see a pattern emerging from somewhere, a hazy sense that all this might eventually cohere? In our drawn-out perambulation together I have tried to create a rich-textured background, in preparation for our subject to emerge out of the slent or mist. To shift metaphor, this meant giving voice to various P-individuals: from their isolated outcrops, they stretched out their lines of thought towards their stranded neighbours, like Sydney Harbour Bridge builders:

• we looked at a survey of 42 Farm Office Management Course students, which showed a roughly even distribution of students between a narrow focus and a wide field of concern

• we reflected generally on the educational needs of farm managers, and found what looked like gaps in the existing competency-based template of provision

• we explored, from a theoretical perspective, various ways of understanding the intellectual and epistemological development of adults, because the literature told us that one’s level of epistemological development influences one’s capacity for systems thinking

• we layed a theoretical groundwork for the unveiling of the model of open system learning, unveiled it, and wove it back into our discourse; this line of thought produced a distinction between landmark-spotting and landmark-knowing.

Here, now, is the germ of a hoped-for synthesis. Perhaps, in the remainder of this study, we shall be able to establish a pathway from landmark-spotting to landmark-knowing, a pathway that is at least intuitively satisfying, and consistent with our experience as aspiring open system learners. Ifsolearners recognise such a path in the private journey each one has taken, we shall be able to provisionally claim a nexus between epistemological development and open system learning approaches—the patterns I have tried to weave in the course of writing this dissertation. If our efforts don’t produce a clearly-visible pathway, that challenge will await another occasion—for a future, as yet-unpresented chapter—in the never-ending story that is open system learning (or whenever they happen to call it).

occausal identity: an identity coheres, landmarks its ‘self’ from its background ‘non-self’ in a manner suited to the occasion (context).

Part C. The Widest Sweep of Cognitive Embrace
Task: take a snapshot of my 'Everything'

Let’s come down out of the high country again. We narrow our focus to the relatively-blinkered vision of the role play distance educator in the thick of things, trying to trust his intuition, and deciding which way to go next. During this period of grappling with my problem I was, very much, feeling my way. I could not be reassured by the growing body of theory already presented, because most of it had not yet gelled for me. Nor had I yet been struck, in this context, by the potency...

- of creating an expectation; of the withholding period
- of the flash of individual insight when patience, after a period of incubation, in its own good time, bears fruit.

However, I did have the germ of the idea of landmarking.

MARK’S SENSE OF EVERYTHING

You may call it my sixth sense, my protective insulator. It is my sense of everything which tells me where and who I am and it is also my where I fit sense.

My attitude to everything is synonymous with my sense of anything or something. It is my key to logic, my door to inside myself and the universe at large. It is really prethought at this stage and it gives me a feeling of purpose and value as well as my belonging to time and space. Because I believe in my own validity I perceive all else as valid and part of me as I am part of it.

Where do I stand on anything? That is established as surely as if it were fixed under a particular heading for all things I saw as right or wrong, good or evil, black or white. I know this appears to others differently, but I find it difficult to be flexible in the face of decisions or the process leading to them.

Each new situation or environment requires a new rationale to be set up in my mind, into which careful thought and past experience must be weighted against moral, personal and social construction.

Once a position is reached, I act upon that in future, like situations. You must understand that after a while this process comes naturally and quickly to mind when confronted with new and unusual developments.

What do I think of the stars? I know approximately what they are and where they are and after that I am prepared to just appreciate them in all their glory.

I have the same feelings to God and his or her teachings as they seem to me to fit in with what is good and right.

I feel no need to satisfy anyone as to my integrity or purpose except me and God. I have no time for hate or regret. I find that if I do what I think is right and proper I have no need for regret or fear of retribution.

Fear of not knowing worries me somewhat or if I could do more to be better informed in my decision making.

I can be comfortable with my view of everything, especially if I make time to smell the flowers, watch the clouds and listen to the flowing water. Peace and quiet assures me that my view of everything is satisfactory and prepares me for my times of chaos and upheaval.

This attitude of satisfaction with my place in the Universe

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Improving the Effectiveness of Distance Education for Farmers
enhances my desire to succeed as much as possible
in all things intrinsic: love, appreciation of harmony,
and beauty, development of family bonds, the better
understanding of me.

As I approach my elder years I have become more
aware of the passing of time but my view of everything
changes little, if at all. My mortality is more evident,
but as I watch my children grow, and when I write,
my view of immortality extends.

So in conclusion I say to one and all, everything is
in great shape and anything I can do to improve it
will be done while ever I am able to do something
about it.

VIVIENNE’S SENSE OF EVERYTHING

Dear Tony,

I like your holistic approach, and feel that the motivation
for all we do and say is a culmination of our experiences
and our principles. The wider the range of experiences
the greater the base on which we are able to develop
our approach to life, our actions and reactions. Our
own E text.

My theories and approach have remained fairly stable
and I feel that with the freedom of self-determination
and self-sufficiency the patterns from my youth have
matured and developed until I feel that I have the
strength of character, will and determination of self.
As a parent my motivation of protection of my offspring
is very high, rather like a lioness with her cubs, but
I am providing them with a basis on which to build
their own E text. I feel that all we can provide for our
youth is a set of principles based on right and wrong,
a Christian upbringing, a reasonable standard of
education and a wide and varied range of experiences
within a safe framework. These should be a satisfactory
basis on which to build our actions and reactions,
our thoughts and feelings, without being over-emotional
or violently reactive to any situation. The wider the
range of experiences, the greater the knowledge base
or pool from which we draw our reactions to the new
and different situations in which we find ourselves,
and the more realistic our final conclusions. It is lack
of knowledge and experiences which cause irrational
and highly emotional actions or decisions which are
the cause of many present-day problems. This, coupled
with the loss of respect for others and their property
or position, has become a major social issue for our
youth today. The demand for their rights has been
taught, but we have failed to teach that for each right
earned there is also a responsibility.

It is becoming increasingly difficult to star gaze and
let my mind wander away from the daily pressures
and stress of daily living in our modern society. The
feeling of being a small speck of dust, of floating
through the cosmos, is a much more difficult state to
maintain in the present than it was not so many years
ago. The ability to float has become much more difficult
to maintain as the world has become more violent
and more intrusive and the pressures and restrictions
on personal freedom once taken for granted are slowly
eroded away by licences, laws and by-laws in an ever-
increasing striving to increase finance and/or power
within our society.

TONY’S SENSE OF EVERYTHING

A material universe stretches before me in space, I
experience this universe, and my own awareness of
myself, In time. As I experience the passing of time,
I gain a sense of my own continuity in time.

I am a living organism. My perception of myself has
been shaped within my biological past. My sense of
being human stems from my socialisation into my
species within the womb and ever since. My particular
history produces the language through which I distil
meaning from experience. My linguistic universe and
my linguistic competence at any point in time set the
limits of my capacity for understanding and
communication. This is because ideas are always

Part C. The Widest Sweep of Cognitive Embrace
formed through language. Sensations, perceptions, intuitions, ideas are the raw materials of human meaning making. We each fashion these into our personal structures of meaning, which we can externalize, express, in language or art. Our lives as a whole reflect our meaning structures and value systems.

In response to experience, people develop their own familiar patterns of meaning making. An individual's familiar patterns of mental activity leave their mark on brain structure—we all tend to drive over the tracks we drove down yesterday, and tracks that are neglected fall into disuse. This may set limits to our future capacity for novel responses, although human creativity would seem to counter such a possibility.

Our ideas and biases (prejudices) form the basis of our world views—our individual value-and-belief systems; or vice versa; or both. Even though ideas are language-dependent, our world views in many cases remain unarticulated and preconscious.

Science carefully rolls back the frontiers of our ignorance, and so we grope haltingly forward in our understanding of ourselves in the universe.

Whenever I observe something, neuroscientists tell me that the neuronal activity in my brain loops back into memory in the identification of each object, in the framing of every concept. There is no objective perception. All awareness is subjective. (Controlled scientific experimentation produces repeatable results in many fields of research. The scientific method continues to provide testable understandings of the world of experience, but the absence of a finally 'given' objective reality, and the realization that matter and energy are unpredictable at the sub-atomic level, have been paralleled by a broadening of research methodologies.) Our experience of the passing of time gives us a curiosity about the future. Our interest in our survival as individuals and as a species is innate. For some, the question of the future is finally dealt with in the domain of religious dogma and experience. Others spurn the god in the machine, and look for natural explanations of, and solutions to, the global and human condition. Still others live somewhere in between, cultivating contacts...ways forward...in both worlds. Personal human needs drive our value systems and our modes of operation in the world.

As a species, we maintain adaptation as a mechanism for survival. As in any ecological system, a kind of synergy evolves between organisms and surroundings. A stable system is one in which inhabitants and habitat in effect preserve each other over large time scales. This is also true of cultural and worldview ecosystems.

Physics is the study of the structure and processes of the material universe. Theories abound. The world of experience can be understood within a physical theory of emergence, in which the material order and other dimensions of experience overlay each other in a process of cosmic holomovement. This idea provides a rationale, a key for the investigation of ever subtler orders of organisation. Hologenesis in its general usage is the coming to be of wholes. (It may be for Physics what Teilhard de Chardin's Cosmogenesis and Christogenesis were for Theology.)

I think, therefore I am. Equally, I learn, therefore I am. My capacity to learn and my orientation to openness are the attributes that assure me, while ever they survive, of continuous progress along the road to self-fulfillment and self-understanding.

**Prue's Sense of Everything**

I don't know how to start my concept of everything—I can only see the universe from my own perspective—perhaps that's it. I don't know if there was a creator—perhaps there was something to start the BIG BANG if that's what started our small part of the universe. I can't believe that we are unique as a life form—I'm sure there must be other intelligent beings—not necessarily like us, hopefully more highly advanced in development. I like to think that we are all helping in even a small way to a better world and to the discovery of forces greater than ourselves.

What is time? I can only feel the present, but don't fully discount the idea of other forces from other times.

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or universes influencing our lives. Does history repeat itself or is communication these days so much better that we are aware of so much more in the present and the past? This makes our thoughts and worries seem trivial and sometimes our lives seem out of our control, but we must try to be aware of alternatives in our day-to-day living, not just base our actions on preconceived ideas.

I don’t know why we are here — maybe that doesn’t matter — we do try to better ourselves — often fail, but in that failure learn about ourselves or others. There are times when life doesn’t seem fair — why the premature death of a loved one, with the onset of illness? “Why me? Why them?” “Why not?” What makes you them? so special that the laws of cause and effect don’t apply?

I often wish I held very strong views — but always seem to see the grey. Then how the world has been hurt and is continuing to be hurt through extremes of belief — of nationalism — and that translated into action — Ireland, Yugoslavia, Middle East, Somalia, so many more.

No one has lived the exact same life. Thus just by writing down these ideas I am evolving and so is the person reading them — an enlightenment of self but only against the background of the heredity given and life’s journey travelled.

Having lived, not just travelled, in other countries of the world has had a great influence in my E. Even the concepts as shown in languages other than my native English have opened my eyes to other attitudes to life. An interesting concept in Indonesian with the expression Belum, meaning ‘not yet’ — there is no true negative in that language. In answer to the question “Do you smoke?” “Belum.” Yes I have never smoked but I can’t say categorically that I will not smoke in the future. Can any of us be truly sure of our reactions in a future situation?

I don’t know what the future holds and don’t want to know as I couldn’t change it, if it is already laid down. I like to think there is some after-life — there are so many people I would like to meet again. But maybe the after-life is the memory we leave here with others. Certainly this earthly body wears out however well we look after it and the thought of being kept at death for a future time when science can return to this life holds no appeal.

I am optimistic — we all start from a base — tomorrow has started today so perhaps we have a constant chance to achieve greatness even in little things. But greatness is relative as is everything. This task I found daunting, but the actual doing of it, however badly, has meant that I have achieved something.

We don’t live in a vacuum, we constantly relate to others, often one thinks one is compromising, but what is compromise? What is economy to one person is extravagance to another. We can’t just live for ourselves, however selfish we are, there is always someone or something taken into account however unknowingly.

Should one have a definite, fixed statement of everything? An E. E. First it will be forever changing, and then even putting it into words and showing it to others makes it different. ‘Everything’ should not be compartmentalised. I can’t truly see a backdrop, life merges yet starts from whatever is being thought, felt or experienced at one given moment.

NOEL’S SENSE OF EVERYTHING

I guess my sense of everything is synonymous to a large extent with a sense of being and includes everything both internal and external to myself, i.e. the universe. But the universe also encompasses my thoughts and incidentally yours. Are thoughts real? You may say they are abstract, but I would reply that they nonetheless exist ‘now’, because I can remember them later; existence therefore seems to be a bit more complex than at first glance, including the imaginary as well as the ‘real’.

Ever since I was a child, I have wondered why the Universe exists. To a large extent this sense of wonder was encouraged and engendered by my parents. My
father was an armchair astronomer and imparted to me an intense interest in the physical universe. My mother, however, was more spiritual in nature and I believe this combination affects my outlook to that extent.

The things that are important to me appear to reflect my nurture. For example, a sense of achievement after having finished a difficult task (spraying Bathurst burns every day for a week or writing this) gives me great personal satisfaction, but no more so than does, say, the reading of a good book. Ethics, aesthetics, the pursuit of knowledge and enjoyment of life are also of considerable value to me. I don’t suppose I am a very gregarious type, but I do value the friendships I have made in my life and, although I hope I am not naive, I tend to think the best of people until something convinces me otherwise.

I’m not at all sure what life is all about, but I suspect I would be in good company on that score. Existence seems to me to have some peculiar aspects to it, not least being the passage of time which, if one is convinced by the physical evidence, varies according to our position and momentum in space. This has one peculiar spinoff since what I comprehend of and communicate with other people, I do at something less than the velocity of light; my now is always slightly ahead of everyone else, as I perceive time, but then so is theirs in their perception. The real world therefore appears to be not quite as straightforward as we might like to think. Although these differences are vanishing small, so are the reactive particles that constitute the physical universe, the quarks, gluons, electrons and so on. It would be difficult to claim that these things are not important, except in the sense that we cope with them easily in the macro universe. In view of the contrast between the foregoing and the vastness of the Universe I have no alternative but to subscribe to the existence of a designing and controlling ‘being’ whose attributes and purpose are about as meaningful to us as cure would be to an ant. My version of God therefore embodies the capacity to design and create a universe which will sustain not just human life, but a bewildering variety of creatures and organisms which, by their very being, somehow fulfill the universal requirement. I am consistently reminded of a quote (whose it is I am not sure): Not only is the universe stranger than we think, it is stranger than we can think.

I believe that my (and by extension everybody’s) purpose is to provide a suitable basis for the existence and improvement of life, whether by directly improving the quality of being, teaching others how to do so, providing physical or spiritual sustenance or simply being a cog in the wheel of infrastructure, which allows us the time to contemplate our existence. I have come full circle!

In conclusion, I daresay my sense of everything is coloured by my own perceptions and my own values, chief among these being a sense of justice, charity to the needy not the greedy, honesty in my dealings, independence and attempting to live by the dictum of doing unto others what I would hope they, in similar circumstances, would do unto me.

SUE’S SENSE OF EVERYTHING

The fact that my father was a chronic invalid and died when I was nine years old had a major impact on my life. My mother had to be the breadwinner and during their marriage became the dominant partner. That she worked at all in those early post-war years immediately made my upbringing different from that of my peers. My formal education began prematurely; up to the age of four I was cared for by relatives and employees of my family—lots of education but not so much quality time with my parents; they were always working. Following the birth of my only child I discovered my experiences during this time had resulted in my having very little in the way of maternal feelings. My brother and I were definitely low in the pecking order for attention; in my mother’s life, work always came first. When we became older we were expected to help in the business; leisure was definitely not considered until the work was done. Consequently I had learnt to be a little adult rather than a child, and this also had a profound influence on me in later years.

As soon as I could I left my mother and brother to

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pursue a career. During my school days I was constantly criticized for my poor educational performance at school—I was not encouraged by my mother (always working), but good marks were always expected. I made very few lifelong friends during my school years—lots of acquaintances but no real bosom buddies! Reflecting on this it was probably because I was never at one school long enough, having attended 11 schools between the ages of four and sixteen. This doesn’t mean I didn’t socialize, more that I couldn’t share my intimate thoughts with others. This hasn’t really altered throughout my life. I did excel at sport, particularly swimming, and trained hard; but were my motives to excel at swimming or to get out of the house every night? Looking back I could well have been the latter.

Leaving home was probably the best thing for me—I could make my own decisions and be responsible for their outcomes without the dominating influence of my mother. In my early days as a student nurse I wanted to be better than average, and knew this could be achieved by becoming an industrious student.

Unlike my days at school when encouragement was lacking, the sense of personal achievement on attaining high marks spurred me on. Rising through the nursing hierarchy it seemed that management and problem solving were the keys for success, and I have tried through my life to develop these skills. The pursuit of excellence has had an influence on my personal life, and although I try to avoid manipulating those dearest to me, I do have occasional lapses. When I was younger I strove to be perfect at everything, now I just try to be as good as I can! This really brings me to why I wanted to do the Farm Management Course. As with all the ventures undertaken during my life I want to succeed and I know that education can help me to achieve my latest project.

I don’t know if there is a God, not in the general sense, but feel that we are all put on the earth for a purpose. Possibly we’re here to give the benefit of our knowledge, and experience to assist in the creation of a perfect world for future generations.

What does the E text exercise signify?

Let me speculate. The E text exercise is a challenge to conceive and create a verbal distillation of one’s sense of everything. It is a challenge to discover coherence in, or make meaning of the world, viewed from a lifetime perspective. If I can use the metaphor of visual perception: in order to compose my E text, I reflect on the amassed experience of a lifetime, and allow the landmarks that emerge from the background—the thoughts and value judgments that gel into concepts—to form the substance of my text. (Remember that I am using ‘thoughts’ in an extremely loose sense, to avoid the dangers of compartmentalisation; see the definition from Bohem et al in article 1.)

Much of what is proposed in this study lies in the cracks between different disciplinary discourses, and perhaps the E text exercise might be interpreted within quite different frames of reference; here I shall only choose one. An argument by Andrew Lock will enable me to situate the E text device within an anthropological framework. Lock’s ideas will also suggest a link between the present argument and the earlier discussion on the emergent nature of the text.

In a discussion on the relationship between culture and mind, Lock elaborates some earlier work of George Herbert Mead. Mead was concerned in the broadest sense with the nature and significance of thought superimposed on the purely physical interactions between organisms and their environments. He used the example of an ox and its relation to grass, and considered what occurs when humans observe and create meaningful associations with the animal grazing. The presence of observers has no influence on the grazing event itself; however, it is only the human observer who recognizes in the grazing event a dependent relationship. The ox, as Mead says, has a meaningful relationship with the grass, but has no mechanism for controlling that relationship...

The human animal, however, has worked out a mechanism of language communication by means of

which it can get this control... it is that mechanism of control over meaning... which has constituted what we term 'mind' (Mead 1934, p133).

So, the issue for us is the nature of the exchange when humans observe relationships—in the inanimate, animate, or any other conceivable domain in their world of experience—and bring it forth, through language or other symbol, into the pool of their culture.

As Lock suggests: "what man accomplishes in the development of his culture is an explication in symbolic form of the implications of his existence. This explication constitutes language, and hence culture, and reflexively gives structure to the mind..." (Heelas and Lock (1981), p27).

And reflexively gives structure to the mind... If 'mind' for our present purposes is that abstract meaning making entity that is continuously constituted through our acts of sensation, perception, intuition, hypothesising, reflection, analysis and emotion, there is a poetic symmetry in Lock's suggestion of reflexivity from mind to culture to mind. To recognise this movement, we must shift our gaze across time and space:

I

Homo sapiens observes and conceptualises relationships within the world. Symbolic forms of communication emerge within social groups in response to their need to convey their conceptualised experience of the world. Mind emerges.

II (also subsuming I)

Language and culture give birth to each other—a symbiotic association. Members of social groups experience an understanding of 'self' and 'non-self'.

III (also subsuming I and II)

Language works as a social convention. It is the expression of a population's experience of its environment. Tactile assumptions about subjects and objects—a culture's very building blocks of perception and cognition—are imbedded in its linguistic structures, which in turn become imprinted in the deepest psychological structure of that population.

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Language is the dominant, socially sanctioned currency of thought. It is the manifestation and mechanism of human meaning making—of mind. It is the flow within which culture is formed, and within language, in turn, a culture's imprint on the individual is hidden.

4 For Lock, "culture provides a self-concept through the linguistic marking of self from non-self" (Heelas and Lock, 1981, p24).

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Improving the Effectiveness of Distance Education for Farmers
the co-learners underwent a collective process of composing, sharing and appreciating each other's texts, within a broader agreed agenda of seeking ways of improving the effectiveness of distance education for farmers. It is that whole process-in-context that our theory-speculating is intended to draw into some larger coherent meaning.

What value does the E TEXT exercise hold? I will speculate along these lines. When we compare the various approaches taken by the six co-learners to the E TEXT assignment, we see how deeply a writer's approach to the world is ingrained in the formation of a text. To borrow a phrase of Lock's (cited above), what the writers achieved in the development of their E TEXT was an explanation in symbolic form of the implications of their existence.

There is something intrinsically appealing for a teacher about a teaching technique that emulates, captures the economy and beauty of natural processes. In the terms of the theory presented above, the first people to participate in the E TEXT exercise performed a similar process to those for whom, at the birth of civilization and ever since, also reflected globally on their surroundings, and attempted to recognize relationships, construe significance, understand the patterns that constituted their world.

The next time I use the E TEXT exercise, the process will be refined in response to the clarity gained from this research project. Yet the prototype exercise, as documented here, and as supported with this theoretical underpinning, already gives us grounds for claiming a preliminary endorsement of its practical value in vocational, higher and lifelong education. As made clear in my role play distance learners from the outset of the project, our findings would be provisional, and subject to an ever-widening circle of endorsement or refinement.

If there is something satisfying about the arguments of Mead, of Hollowell, and of Hoehn & Lock; if thought, mind, language and culture are so mutually dependent; if the act of forming meaning—via language, the most versatile tool we have—lies at the very heart of our humanism; then language tasks like the E TEXT exercise offer us a rich reward:

- when viewed in one way, they provide an opportunity to further refine our skills in seeing ever-shrinking patterns, relationships, within our multi-di-dimensional context—the texture of our conceptual world can be enriched; and
- when viewed in another way, such activities can help us foster a more organic relationship between our inner and outer life; we can achieve a new fluidity and sense of participation in our worlds of thought, and potentially, in our multi-dimensional habitat.

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The E TEXTS are given a peer review

One of the ways we construe meaning is to interpret experience in terms of some appropriate body of theory; that is what I tried to do above. Another way is to ponder deeply on that experience, and incorporate it into our personal meaning perspective or world view—make it part of our own meaning. Let's consider how closely the following report fits this description.

First, to recap on the sequence of events, we have seen in the preceding discussion that each co-learner composed a sense of everything statement in response to the stimulus material provided (see Appendix 2), and offered it for peer review. I then distributed a questionnaire designed to help reflect critically on our own and each others' texts. The questionnaire consisted of fourteen questions. For each question, co-learners were asked to select a position on a continuum that was subdivided into ten segments. The same generic continuum was provided for all questions; the ten segments were generically labelled, consisting of five broad ('first glance') responses: total (left extremity), moderate, mixed, moderate, and total (right extremity); within each first glance response, a choice had to be made between left hand ('left ascendant') and right hand ('right ascendant') options. By using this generic continuum for all questions, it was possible to chart all question responses in the same format. This was done using positive and
negative value bar graphs. Responses from each of the six co-learners were obtained for each E-text, for each question. Most questions required a response to a single proposition, from strongly negative to strongly positive. On the other hand, question 10 contrasted two concepts—at one extreme, the author was more concerned with style, not content; on the other, the main interest was content, not style; a mixed or balanced interest was to be registered in the middle of the continuum.

Responses to the questionnaire were collated and charted, and distributed to co-learners at a follow-up overnight workshop, held at the University of Western Sydney, Hawkesbury in June, 1995. The questions posed and the responses obtained are given in figure 10. An author’s responses to his or her own text are shaded black; responses to all other writers’ texts are shaded grey.
Figure 10: Charting co-learner critical reflections on the E text compositions

**Question 1**
*Does this E text have a dual line of interest? Does the author deal more with the world as perceived by the author—negative range; or more with the world as perceived by others—positive range? Or is this interest evenly balanced?*

<table>
<thead>
<tr>
<th>No. 1: Mark's E Text</th>
<th>No. 2: Vivienne's E Text</th>
<th>No. 3: Tony's E Text</th>
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**Question 2**
*Are you convinced that the author has a personal ethic?*

*Negative range: weaker conviction
Positive range: stronger conviction*

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*Part C: The Widest Sweep of Cognitive Embrace*
Figure 10: Charting co-learner critical reflections on the E text compositions

**Question 3**
Are you convinced that the author believes in a universal moral law that is unaffected by social trends or cultural values?

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Negative range: weaker conviction
Positive range: stronger conviction

**Question 4**
Are you convinced that the author has a conventional religious faith?

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Negative range: weaker conviction
Positive range: stronger conviction

Improving the Effectiveness of Distance Education for Farmers
Figure 10: Charting co-learner critical reflections on the E text compositions

<table>
<thead>
<tr>
<th>Question 5</th>
<th>Are you convinced that the author is on what could be called a 'spiritual path' or a path towards 'experiential wisdom' or 'self-transcendence'?</th>
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<th>Question 6</th>
<th>Are you convinced that the author is open to new ideas?</th>
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Part C: The Widest Sweep of Cognitive Embrace
**Question 7**
Did you find that the author possesses a wide range of feelings/ perceptions with which to interpret and distinguish between the subtleties of personal experience?

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**Question 8**
Does the author appear to enjoy working and playing with words?

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Improving the Effectiveness of Distance Education for Farmer.
Figure 10: Charting co-learner critical reflections on the E-text compositions.

**Question 9**
Does the E-text have a pleasing roundedness, shape; an internal coherence?

Positive range: more shapely and coherent text
Negative range: less shapely and coherent text

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<th>No. 1: Mark's E-text</th>
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**Question 10**
Did you find that the author is more interested in ideas; or in their form of expression? Or is there a balanced interest in both, so that the distinction does not arise?

Positive range: more concerned with content, not style
Negative range: more concerned with style, not content

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### Question 11

**Does the author convey a curiosity or sense of wonder at the incompleteness of his/her sense of everything—a sense of expectation at what is yet to unfold?**

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<td>Sue's</td>
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**Negative range:** weaker sense of expectancy  
**Positive range:** stronger sense of expectancy

### Question 12

**Judging by the E text, and in your own terms, does the author have some distance still to go to synthesise the elements of his/her experience into a mature, integrated sense of everything?**

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**Negative range:** maturity of understanding is further away  
**Positive range:** maturity of understanding is close at hand

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*Improving the Effectiveness of Distance Education for Farmers*
**Figure 10:** Charting co-learner critical reflections on the E text compositions

**Question 13**
*Judging by this E text, did you find the author to be at ease, 'at home' with him/herself?*

**Negative range:** the author is less comfortable with things  
**Positive range:** the author is more comfortable with things

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**Question 14**
*Did the author succeed in drawing you into his/her world?*

**Negative range:** you felt less welcome in the author's world  
**Positive range:** you felt more welcome in the author's world

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*The Widest Sweep of Cognitive Embrace*
This chart of co-learner responses to the texts created considerable surprise and interest, in two ways—interest by each of us in what other people thought about ‘my text’, and interest in the patterns of response overall.

Reactions from the group to each writer’s text. Co-learners were particularly interested to see the spread of reactions to their own texts. We could all say the same thing: others’ reactions to my text were just as valid as my own reflective reactions were. Perhaps my responses to my own text had been influenced by self-knowledge and were not determined by the text alone; if so, others’ responses to my text were more valid than mine, because they had simply done what they’d been asked to do.

If we had permitted ourselves the right of reply, I could have explained how, in this or that respect, my E text had omitted, distorted, exaggerated or underplayed something that should have been written differently; and if others could have done the same. It is fair to say that we all agreed privately at the same spot one’s E text is not the final word; we each found the need to make a distinction between one’s E text and one’s emergent, processual sense of everything.

The patterns of response overall. We also found it interesting to compare the pattern of our own responses to those of other co-learners...

* across the various texts, within each question, and
* within each text, scoping down the questions.

Since our workshop, what have I learned by reflecting on the form, content and the authorship of the survey questions? By setting the questions myself, was I unselfishly controlling the process? And to what extent was growth in understanding dependent on a face-to-face group interaction? Let’s take this last question first.

A face-to-face encounter. Was growth in understanding contingent on our coming together? This issue is particularly relevant in distance education delivery. We don’t have a firm basis for fully answering this question, but let’s acknowledge here the potential of face-to-face interaction for eliciting whole-person interaction. In the workshop encounter, co-learners all found their face-to-face interaction was memorable and instructive. By seeing how other co-learners differed in their judgments about my text, for instance, I gained a dim sense of looking through their eyes onto my text, which was, in a sense, more than an artefact: it was a token, a totem of me, of my perceptual universe. My E text was my surrogate self. Because each of us identified so profoundly with our own texts, and because we had developed trust and respect for each other, the peer review process felt like being together to watch sunrise, although what we were watching was a common dawning of experiential wisdom: a dawning which, once seen, will shed a new light, figuratively speaking, on everything we look out on in future. In the final analysis, by finding such marked differences between our texts, we understood that ‘the world’, ‘everything’, can be no more than ‘my world’, ‘my everything’. What’s more, we learned that the absolute subjectivity of our perception of ‘everything’ had extended into our attempts at objective critique of the set of texts. I am not, and never can be apart from the world I am observing. This sense of continuity with, immersion in the world of observation, forms, in our model, part of the orientation to openness that precipitates one to, a precondition for, the journey that is open system learning.

The form and content of questions posed. For the purposes of this study, some questions are of lesser interest than others; they were included here in order to document the process by which the overall conceptualization of this thesis took form. Some of the questions have less relevance for this inquiry than others, they were nevertheless useful at the workshop in underscoring the absolutely subjective nature of individual perception and attitude formation.

You, perhaps some of the questions were more germane to this inquiry than others were. However, in line with the notion of a logic of emergent coherence, we should acknowledge that we are not yet in a position to assign degrees of importance to the questions used. But mark my words: I expect that by the end of our study, this issue will have faded from view, because our interest will lie elsewhere. My standing invitation to readers of The World of Open Learning is made here also: only follow the fading ripples of ideas if you want to.

---

Improving the Effectiveness of Distance Education for Farmers
One question, number 14, had been interpreted differently by different people. As author of the question, I explained it to workshops that I was interested in gauging the extent to which a reader was made to feel welcome by the writer's style—a question about the writer's willingness to open up his or her world (high country, homeland) to others. Some co-learners, however, misunderstood the question to mean, did you feel at home in the author's world? was it familiar to you? did his or her sense of everything make sense to you?

If the above exercise is played again, the questions used in his prototype version should be scrutinized and amended, if necessary, in the light of the theoretical purpose to which this activity will be put.

The authorship of questions posed. Earlier in this study I described my concern to ensure that my collaborators would be more than role play co-learners: they were also the co-researchers, joint managers of the research project. If this was my goal, how was I to justify imposing my questions on the peer review process?

C. K. McNiff (1995) argues strongly, in the tradition of 'outsider', against a power structure in which a 'knower' attempts to colonize the practice of an 'aspirant':

| Within any community of discourse, decisions need to be made about who shall speak and who shall be heard, and what counts as the legitimation process itself. Such decisions, if the discourse is to be a conversation among equals (a significant feature of educational work), need to be agreed by all the participants from the basis of shared understanding and respect for the other; otherwise the process cannot be called educational.|

Concur: I believe the process the co-learners went through did not breach this principle. How can I say that?

Distance educator who only has the means of initiating dialogue at a distance, who is severed in time and space from his learners, cannot escape the need, from time to me, to initiate a fresh line of thought. In The World of Open Learning I did this by launching a discourse of my choosing. Later, in this questionnaire, the questions arose in my mind in reaction to the wholly colloquial process of sharing texts.

This project was unfolding, as I have said, in the real world; my co-learners' real business, primary duty, then and now, was forming. None of us had time for divisional pursuits. If I were to make any progress in this project, I felt I had to provide a further impetus for the next stage of unfolding; my co-learners, I believed, had entrusted me with this responsibility. I had earlier articulated this problem with the group; all had accepted my proposal to forge ahead at these turning points where thought progress was necessary; our compact was to operate on the basis of 'assumed consent'. I would initiate, but only on the understanding that my co-researchers would challenge any move which contravened their own integrity and truth.

Herein lies my first ground for denying undue control of the learning process. Given our various work responsibilities, there would have been no collaborative research at all without recourse to the principle of assumed consent. This is a pragmatic argument, tempered by principle. We all jointly accepted the responsibility of our compact—I would lead if they undertook to challenge me whenever they did not wish to follow. On this basis I led, and they joined me, and so we made our halting but finally very productive progress, feeling our way along the path to shared growth in understanding.

But I have another defence. The questions did not purport to set the agenda. My questions were not setting the subject of inquiry at all. There was no 'subject'. Remember a pivotal principle in this research, one that lies at the heart of open systems learning, is that 'everything is context'.

Patterns will finally form and cohere out of chaos, for those with eyes to see: the 'subject' will finally emerge out of the slot or mist we must walk upon our own eyes and mind to finally perceive the Coast of Heaven. It is all just as if the questionnaire activity was more like a game or a dance than a discourse.
Figment of fancy, or seam of gold?

The route we are about to take may seem circuitous; at the end of it, I hope what looked like a figment of fancy will, rather, offer a rich reward.

"The questionnaire activity was more like a game or a dance than a discourse." I think that is how all co-learners felt by the time of the workshop. We started the workshop with an ice-breaker, fuzzyball, a nonsense game in slow motion. Inspired by the fictitious adventurers in my module, The World of Open Learning, we first of all inflated our imaginary fuzzyball together, then took part in a game of three-legged, non-combative volleyball. Pacing each other across an invisible net, and equipped with a home-made prosthetic clutch each as our third leg, we played, our collective objective being to keep the unseen fuzzyball airborne. If we weren't virtuoso performers in real life, we could be now, through play. Then, as music billowed from the tape deck, as if in a dream, the edges of the court slowly dissolving within imagination, we let our clutches fall away, like Forrest Gump's callipers; we span, we floated, we flowed as the fuzzyball glided above us. We were folds in the gown of a whirling dervish; at least, that's my version of events, and I'm sticking to my story.

As I write, although I fear I am on the knife's edge of credibility in a scientific discourse, my impulse to follow this line of thought is very strong. I am another Ancient Mariner, who can do no other than pursue his own truth. Cinematographers and writers alike work with images to explore some of the layers of significance of things that tend to go unnoticed in more pedantic or rational forms of communication.

Not until the point of writing up this activity here did I reconstruct our ice-breaker in such a fanciful way. I cannot say any of my co-learners was as swept away by the game as this reconstruction implies. I suppose I am embellishing things now because it suits the purpose of my argument.

Again the writer licitates. Movie directors can use poetic licence (special effects) in showing someone bursting free from callipers; but what about someone doing (or trying to do) science?

But no, I am not diverted. My immediate subject of interest here has been the co-learner review of E-texts and the processes followed at our workshop. If that were my only concern, floral language would be hard to justify. But this is too narrow a statement of my subject at hand, because these lines give me opportunity for reflection on my own characteristic, preferred patterns of meaning making. We are now able to recognise that this dissertation projects its own 'world of meaning'. To make a judgment about the thesis as a world of meaning, we need to consider more deeply the layers of intent behind the metaphor.

"Folds in the gown of a whirling dervish". If I were not to somehow bracket my floral language here, expose it to critique, perhaps I could be accused of falsifying results—my role play learners' response to my intervention—in order to prove my case for open system learning. But there is more to add...

- I am being consistent with the world of thought and the methodology I have been articulating. All meaning is subjective. I was careful to declare that the account of the ice-breaker was my personal version of events.
- Personal meaning lives in the present. I am being mindful, I am cognisant, I am bringing forth a world (to borrow from Varela et al), always and only in the present. Being mindful of an activity from the past is to reconstruct, to bring it forth again, to re-enliven it with meaning now.
- Always re-enliven the past in terms of what Meirov calls my meaning perspective, which is as much a present tense phenomenon, as mind, as thought is. What's more, it seems to me—even as I critically self-reflect, sitting here typing—that my reconstruction of the past is channelled by the composite me. My spontaneous metaphor—of fuzzyball players as folds in the gown of a whirling dervish—leads me to acknowledge my desire to create some artistic statement about the reality the co-learners shared at the workshop—the reality of knowing.
Did my co-learners think of themselves as foals in the glow of a whirling dervish? I am sure they didn't. Neither did I, until the momentum of this thesis project goaded me on, and the growing tip of my line of thought asserted itself.

What am I? Did my line of thought assert itself, or did I give my line of thought its liberty? Who or what was responsible for the inclusion of the metaphor? Answer—the voice I call my inner editor. Yet there was something governing even his editorial inclinations, something...deeper in space, some higher appeal judge, some...cognitive spiralling arrowhead, for whom the goal of all-embracing understanding was inevitable. So my voice and I gathered the dervish into our orbit in our own good time we would understand why this thesis has become so eclectic.

Earlier I referred to Harte's theory of the self, which forms a natural substratum to the ideas being explored in this inquiry. White that discourse will at times seem obscure to the lay reader, the nature of the knowing self will, sooner or later, become the subject of reflection by open system learners. Meanwhile, let me simply propose here that something of the entity I call "myself" is equally present in my line of thought. Perhaps what the "I" proceeded, deep within the text, was my 'meaning perspective'.

There are so many ways we create meaning for ourselves—like retrofitting fanciful notions of whirling dervishes. I can hear critics saying that I have created a meaningless, disturbing fabric. But let us understand the metaphor in its appropriate frame of reference. I admitted above to "a desire to create some artifice statement about the reality the co-learners shared at the workshop—the reality of knowing". The interesting question for me is not how my role play learners were thinking or feeling, but what produced the metaphor.

What produced the whirling dervish metaphor? I've never had occasion to use "whirling dervish" before, so why now in this unlikely context? I perceive that it was my immersion in this thesis writing project that did it. Meaning making is not only personal; it is also context-triggered. My aim in this discussion has been to convey the 'important elements' of our collaboration as they relate to my unfolding argument in this dissertation. But the 'importance' of something can only be identified in terms of the larger question being asked. I should point out here that the co-learner group did not attempt to reach a common mind about any universally 'important elements'. The role play simulation, including the game of fuzzyball, was both a private and a communal experience for all participants; however, in the time we had available, all we could do at the end of the workshop was to leave the experience behind us, allowing it to lie dormant in each one's memory and imagination; for that is the way of things in open system teaching and learning. What doesn't emerge from the mist today may still have its day tomorrow.

... "a desire to create some artifice statement"? The growing tip of my line of thought wanted the whirling dervish metaphor in. What does this suggest about human meaning making?

In my short reflection, *Photogenic Angles* (Appendix 5), I proposed that any assessment of my relationship with the world must recognize within my deep identity a making-whole behavior reminiscent of the healing processes of biological and ecological systems.

Let's see how we might elaborate this proposition in terms of the albatross around my neck—my whirling dervish metaphor. Let's attempt to understand how the present context evoked the metaphor, in the writer's consciousness and in this dissertation.

The other day, when the metaphor struck me, I was conscious—just as I was conscious during the co-learner workshop—that my journey with my role play distance learners was a journey towards a shared growth in understanding—shared, yes, yet also located "on a plane of thought where you can only go alone" (*The World of Open Learning*, Appendix 1). I was being guided by an unspoken wish and expectation that we would find, in the terminology of this thesis, a path from landmark-spotting to landmark-knowing.

I have a sense that this world of thought is proving to be...diffuse...shrouded in mist...a sense that its lines of thought are expanding...as if the parameters of this whole inquiry keep spreading out, like imaginary lines on a foxyball court. In}

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6 According to reflective judgment theory, the epistemic (level 7) knower is competent to assemble a coherent and tenable position on such questions as the existence and nature of the self or of God; although for some, one's tenable position will be agnosticism, for these questions will always remain open.

7 In Samuel Coleridge's masterpiece, *The Rime of the Ancient Mariner*, a mariner who shot an albatross must wear the dead bird around his neck; and in later life, although he no longer wears it, he must journey the earth to tell his story. *Whirling your albatross and telling your story* stand here for doing what you know you have to do.
a work of this kind, a writer is naturally inclined to use those tools of trade, those ways with words, that enable the reader to become orientated, to acclimatise to the writer's world, however exotic or fluid it may be. To help the reader maintain orientation in a world of fuzzy limits, I continuously allow the multiple lines of thought to fold in on themselves, like fibres in a thread or threads in a tapestry. I have already defended my recourse to picture language in article 5. I propose that the criterion for choice of language should not be literalness but clarity. So when the metaphor of fuxyball players as "folds in the gown of a whirling dervish" offered itself, I grabbed it without quite knowing why. Knowing why is what concerns us here.

The whirling dervish is a member of the Mevlevi Order within the Dervish tradition of Turkish Islam. Dancing (twirling, like yogic practice in Eastern religions, takes the devotee into a mystical, meditative state:

...they begin to turn, balancing themselves on the left foot while maintaining a rotary motion with the right... Gradually the arms of the dancers are extended; the right hand is raised with the palm uppermost, and the left lowered with the palm turned downwards. The eyes are closed, and the head inclined on the left shoulder. Mentally reciting the Zikr they whist round the Hall of Celestial Sounds. The faces of even the youngest members wear an expression of deep serenity as they resolve to the sound of the flutes and drums, a music which appears to have an entrancing effect on those who understand its mystic language. For the Dervish lovers of Allah, it expresses the harmony of His creation in which they circle like the stars of the empyrean, isolated from the world in a capture of spiritual love and communion with Him (Garnett 1979, p126). Meaning making, pattern creation, cognition, wells up from some region where thought, feeling and intent are one. When I reconstruct the past, I re-constitute it with meaning of a kind that will fill my meaning-vacuum now—the meaning I need.

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8 A writer does for a reader—conceptually and on an interpersonal scale—what a culture does for its population in the physical world: "Culture not only constitutes man's behavioural environment, but also provides him with basic orientations that enable him to act in an intelligible manner in a world so constituted all these are orientations for the self, and serve to give it its particular structure". These are self-orientation, object-orientation, spatio-temporal orientation, motivational orientation, and normative orientation (Hallward 1971, quoted in Hockus and Locke 1981, pp23–24).

9 The twin processes of unfoldment and enfoldment are concurrent. David Bohm uses both terms to elaborately his implicate order construct: "The implicate order has its ground in the hologenemantic which is... vast, rich, and in a state of unending flux of enfoldment and unfoldment, with laws most of which are only vaguely known, and which may even be ultimately unknowable in their totality" (Bohm 1984, pp 185–86). I acknowledge my great debt to David Bohm in the evolution of this whole inquiry.
What order can I make out of my madstream of unconnected thoughts?

- The derwishes were quite unthought of during the ice 
b breaker, but other elements of my narrative—the 
music, the graceful whirling, the sense of 
anticipation—were all there.

- The crashers were there too; and I had shared with 
co-learners my nascent images—"fuzzyball on 
crutches" and "Forrest Gump's callipers". In the act of 
casting aside our crashers, we were enacting an event 
with a potentially symbolic meaning for learners—the 
breaking free from a personal impediment. Perhaps 
we were acting out a ceremonial casting aside of 
underdeveloped understanding (the prior state of 
emergergent understanding).

Here, then, an ice breaker was being used to do more than 
break the ice in the workshop; it was a carefully positioned 
activity that might become the source of deeper 
understanding for participants at some future point. Being 
situated at the beginning of the workshop, the fuzzyball 
game was the dumb show that encapsulated the essence of 
what was to follow. (The exercise might well have been 
repeated at the end of the workshop as a way of celebrating 
our shared quest for understanding, but there wasn't time.)

I make no assumption here that others will create meaning 
in similar ways to me, although when my co-learners read 
this they will come to understand more about me and my 
preferred patterns of meaning making; that in itself will be 
a worthwhile outcome—understanding more about others.

I will speculate now that as we broaden and deepen our 
understanding of others’ meaning perspectives in a critically 
reflective way, we ourselves advance in epistemological 
development.

...As we broaden and deepen our understanding of others' meaning perspectives in a critically reflective way, we ourselves advance in epistemological development.

Such use of a physical activity as both ice breaker and 
learning opportunity is probably quite a common feature in 
group work. What is more unusual about this line of 
thought is the inclusion of the whirling dervish motif and 
the reference to the Ancient Mariner.

I consider that the whirling dervish—Forrest Gump 
metaphors reveal my desire to artistically elevate the 
significance of the ice breaker and our whole teaching— 
learning simulation. As co-learners whirled to the music, I 
saw that we were keeping our joint endeavor aloft. Our 
jointly inflated fuzzyball floated majestically in space, and 
like folds in the gown of a whirling dervish, we too were 
borne in space, "circling like the stars of the empyrean".

Making whole... In writing up this report, I hoped that in 
one brief paragraph about an ice breaker I could lay bare 
my making whole orientation which, as I speculated, is 
"remissent of the healing processes of biological and 
ecological systems". Why "healing"? We were neither ill 
nor handicapped, but by lacking understanding, we were 
insufficient. On the level of individual human experience, 
holonomy is the recognition in the present of the final 
fulfillment of one's potential. In the workshop, we played 
with this idea using two balloons, one lodged inside the 
other. By inflating both balloons simultaneously, we had a 
vivid symbol of "present self" (outer balloon) and our 
blueprint "future self" (inner balloon) growing together in 
the present. By life's end, according to the model, the inner 
balloon should fill the outer—they become one. Marx 
especially found the idea behind the balloon exercise very 
helpful.

The Ancient Mariner reference. In Coleridge's poem, 
the Ancient Mariner continued to do what he knew he had 
to do. What persuaded me to ask farmers to spin like 
planets? How was it that despite the risks I Left the whirling 
dervish metaphor in this discussion? What compelled me?

The co-learners' quest was not that of the whirling dervish. 
My role play learners were representing farmers whose 
objectives is improved farm management ability; yet...there 
can never be a line that will perfectly demarcate narrow 
focus farm management training from ideas and activities 
at the fuzzier end of the spectrum. Each teacher at a 
distance draws on a unique meaning perspective and a 
unique way with words when creating a world of meaning 
for his or her learners.

Part C. The Widest Sweep of Cognitive Embrace
I see a continuum between experiential wisdom (which a Sufi dervish might relate to) and open system learning; no, not a continuum at all, for that suggests a single dimension; think rather of an undifferentiated ocean of knowing, and theorists with their various conceptual systems dotted around the shore, looking seaward, and finding what they want to find—epistemological development here, ego development there, open system learning here, experiential wisdom or mystical experience there. For Varela et al (1993), the mindfulness-awareness tradition of Buddhism offers today's scientists a perspective that is better equipped to accommodate chaos and quantum physics than traditional Western modes of thinking. Ken Wilber (1990) offers help in this area too. He recalls the old idea of the three eyes of the soul:

- the eye of flesh, by which we perceive the external world
- the eye of reason, by which we attain a knowledge of philosophy, logic, and the mind itself; and
- the eye of contemplation, by which we rise to a knowledge of transcendent reality.

Wilber defends the validity of all three ways of knowing, and argues that different types of knowledge have to be approached using the forms of knowing appropriate to each.

As someone developing programs for helping farm managers remain adaptable as conditions change, I need to discover appropriate ways of fostering depth-sensitive perception and depth-sensitive learning (see the open system learning model, article 6). This requires a two-fold discernment:

- finding an appropriate language, and
- designing a teaching-learning sequence that fosters landmark-spotting, and eventually, landmark-knowledge for a student population that is spread across the epistemological continuum.

While keeping one foot on the ground, remembering the modes of thought, cultural modes and learning abilities of my clients, I must also continue to push back the frontiers of the possible in course design. When deciding which metaphors or lines of thought to use, I only have my own meaning perspective as a context for asking "what is appropriate?"

We pause for breath. I fear our pathway has been quite circuitous, and it has taken us down through patches which, in isolation, were fanciful by any standard. It is only by taking in the whole journey that all those dubious threads can be seen to create a coherent picture. This thesis does not succeed or fail on the question of how my role play learners felt or perceived things in the fuzzyball icebreaker exercise. It is the soundness of the overall argument that is important. Not only are we following a logic of emergent coherence; we are searching for patterns of coherence that are overlayed on each other, and we still wait to see if the final form will cohere.

In the next article I complete this examination of the simulated encounter with my role play distance learners.
In the previous article I presented six E texts, the sense of everything statements composed by the co-learners participating in this collaborative research project; I described co-learners’ reactions to the texts; I suggested a way of interpreting the group process within the theoretical discourse of psychoanthropology. I also shared some of my own reflections as facilitator within this extended teaching-learning simulation. That account brought us forward in time to a co-learner workshop, because it was at that workshop that much of the learning took place. (The inclusion of face-to-face activities in a largely external mode of delivery is a common and legitimate element in distance education.) I shall return now to the exercise I set for the group following the E text exercise—an activity called Twenty Memories; and an extension of it—a task called Goals & Dream Wishes. These tasks were carried out privately some time before the workshop, because responses to Twenty Memories had to be charted in time for group review at our get-together. The rationale and significance of these activities, and their bearing on what we have already presented, will soon become clear.

Twenty Memories

As designer-orchestrator, I was intuitively happy at this stage of our teaching-learning simulation with the E texts exercise, but I considered that epistemic understanding—or, in the language of this thesis, landmark-knowing—would not be realised through the E texts alone. Bear in mind that the idea of landmark-knowing had not formed at this stage in my thinking; nor had the model of open system learning: all I had to work with was the landmarking-backgrounding metaphor. Here is how I introduced the Twenty Memories exercise to my role play distance learners:

'In the E text exercise we have attempted to paint a backdrop—the scenery against which we act out our lives. My sense of everything statement is a word

picture, not concerned with the literal scenery around me, but an “ideas landscape” which places everything I am in a suitable meaning context. Yes, my E texts is a picture of my personal meaning space, the dramatic space in which the action of my life unfolds. Of course, my E texts is a product of my drive/habituation towards meaning making. In Twenty Memories], I will also be creating a re-run, in imagination, of some noteworthy stages in my life’s journey. In terms of the stage-drama metaphor, we will have created a backdrop (or acting space) and a plot, a life story we’re going to recreate in imagination, if you dislike my picture language, let me say simply...
that Twenty Memories is going to deal with our memories of some of the events in our lives. In the course, we will see what insights we can gain about ourselves, each other, and the nature of our inquiry, by interpreting our mini life histories against the backdrop of our E-test reflections.

The document used to introduce the Twenty Memories exercise is reproduced in Appendix 3. Briefly, we were asked to reflect on our lives, and to select 30 events (or "moments of experience") that were "important, or at least typical" of our life experience. The task was to reflect on one's life and name one's most prominent memory on the master sheet provided. We then had to select the 20 most significant ones, adding a short descriptive caption to each. We were also given 20 blank cards on which we wrote the titles of our memories. Then we were asked to sort our memories on the basis of seven different criteria, called "fields of judgment". A sample Twenty Memories card and a description of the fields of judgment is given in figure 12.

Cards were returned to me, and for each participant I produced a chart of memories in a way that would give a panoramic, visual display of each memory's ranking in the 20 item set, in all seven fields of judgment. A sample of these six co-learner charts is shown in figure 13. My co-researchers' charts are presented in Appendix 4.

I shall now highlight those elements in the Twenty Memories exercise of particular significance in this inquiry.

Chronological layout of chart. Memories are presented on the chart in chronological order, as indicated by the numbering across the top of the page. Members of this experimental group tended to recall memories in their chronological order, although this was not a requirement.

When charting co-learners' Twenty Memories, I used the chronological ranking as the primary sorting criterion. I did this because I considered that chronology is generally used as an orientational template when humans fabricate their life stories. ('Fabricate' here means 'create'; when organizing...

<table>
<thead>
<tr>
<th>Event no. 1</th>
<th>Event title:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fields of Judgment</td>
<td></td>
</tr>
<tr>
<td>A Chronology</td>
<td>E Passion</td>
</tr>
<tr>
<td>B Clarity</td>
<td>F Importance</td>
</tr>
<tr>
<td>C Timelast</td>
<td>G Influence</td>
</tr>
<tr>
<td>D Satisfiation</td>
<td></td>
</tr>
</tbody>
</table>

Twenty Memories © 1995 AD McKenzie

Figure 12: Sample Twenty Memories data card
my past into a personal story. I am creating my own myth—a re-organisation of past events to account for the person I am today.)

The banded device. Even though I just proposed that chronology is used as an orientational template for our life story myth-making, the instructions for this exercise allowed participants to treat chronology as a secondary consideration. I invited participants to use a flexible 'band width' when landmarking memories; that is, a memory could be a narrow band event—one that happened in a particular time and place; or a wide band event:

an experience that occurred over a period of time; it might be a series of recurring episodes that merge together in memory. You may choose events of any band width, provided they stand out from the background as a distinct pattern in your life experience.

The chronological ranking of memories of various band widths is achieved—as the instructions explain—by using the mid-point of a wide band event as its nominal reference point in time.

Given each memory a caption. For each memory, participants were asked to record a "comment or thought from your world at the time"...

Try to keep your present perspective and scale of values at bay. The comment could relate to the surface level of the experience; or, it may show some tendency towards self-reflection, but only if—and only as far as—you were capable of it at the time.

"Was I capable of self-reflection of this kind, and was it a common thing for me to do at that stage of my life?" One challenge in this activity will be to make an intuitive judgment about the gap between our reflective capacity, then, and now.

In these terms, the Twenty Memories exercise requires participants to be reflexive about their reflectiveness. Consider the sophistication of the thinking required here. In this simple task, learners find it quite natural to reflect on their past reflective thinking, and make a reflexive judgment about their capacity for critical self-reflection at different stages of their lives. In this way, the ground is prepared for a transition from landmark-spotting to landmark-knowing. The same transition could be plotted on Poonamayor's model of critique (figure 7).

Symbols. One way of landmarking (foregrounding, crystallising) a wide band memory might be to select an event that occurred frequently—one might nominate 'the school bus ride' if that recurring everyday experience were especially memorable. On another level, one might wide band a scene that from one's present vantage point symbolises a significant personal trait.

Co-learners all agreed that this exercise required a great deal of critical thought about deeply personal matters. We all gained new insights about ourselves as we had to make fine-tuned distinctions about the events that have shaped us. What is it that now gives me more satisfaction from my memory than that one (Field Q)? Have I been expressing some aspect of this event (Field B)? How much have these events shaped me, and in what ways (Field D)? How much control did I have over things (Field Q)? We all had our poignant stories to tell, arising out of this exercise:

Twenty Memories as a story of my life, as my personal myth. The processes experienced by participants in Twenty Memories including the follow-up survey and sharing seem to have quite a lot in common with myth formation in a given culture, in the sense that both activities landmark things considered most important. They are interpretations in the present of the meaning of the past. The value of the Twenty Memories exercise in fostering growth in understanding seems to warrant further research; after all, Gergen and Gergen claim that "we use the story form to identify ourselves to others and to ourselves, and that one can scarcely underestimate the importance of stories in our lives and the extent to which they serve as vehicles for rendering selves intelligible" (Gergen and Gergen 1993).

Cultivating epistemic understanding. How do humans organise the past in a coherent, personally meaningful way? Participants were asked to landmark 20 memories without any requirement for chronological sequence. This exercise gives participants the chance to reflect on the memory-generating process itself. By what process did I organise my life story into a frieze of landmarks on a background? what was I looking for that made my

Part C. The Widest Sweep of Cognitive Embrace
Figure 13: Tony's Twenty Memories in chronological order

<table>
<thead>
<tr>
<th>Memory</th>
<th>Toy doll</th>
<th>Timothy</th>
<th>Shrewd deal</th>
<th>Puppet show</th>
<th>Trap</th>
<th>Torrent</th>
<th>Library</th>
<th>The row</th>
<th>History class</th>
<th>Marrying</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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</tr>
</tbody>
</table>

- **Clarity**:
  - Toy doll: 1
  - Timothy: 2
  - Shrewd deal: 3
  - Puppet show: 4
  - Trap: 5
  - Torrent: 6
  - Library: 7
  - The row: 8
  - History class: 9
  - Marrying: 10

- **Timeliness**:
  - Toy doll: 1
  - Timothy: 2
  - Shrewd deal: 3
  - Puppet show: 5
  - Trap: 5
  - Torrent: 8
  - Library: 4
  - The row: 9
  - History class: 10

- **Importance**:
  - Toy doll: 1
  - Timothy: 2
  - Shrewd deal: 3
  - Puppet show: 5
  - Trap: 5
  - Torrent: 1
  - Library: 1
  - The row: 8
  - History class: 12

- **Inference**:
  - Toy doll: 19
  - Timothy: 19
  - Shrewd deal: 17
  - Puppet show: 13
  - Trap: 17
  - Torrent: 5
  - Library: 2
  - The row: 1
  - History class: 3
  - Marrying: 10

Improving the Effectiveness of Distance Education for Farmers
Figure 13: Tony’s Twenty Memories in chronological order

<table>
<thead>
<tr>
<th>Schoolkids</th>
<th>Lecoq</th>
<th>Europe</th>
<th>Child’s World</th>
<th>Smelter</th>
<th>Brueghel</th>
<th>Parenthood</th>
<th>Africa</th>
<th>New Delhi</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
</tr>
</tbody>
</table>

Part C: The Widest Sweep of Cognitive Embrace
particular 20 memories stand out? why was I looking in this way rather than in another way?

Do you recall the qualities of the individual who has reached *epistemic understanding*; by which stage, eventually, "the knower constructs knowledge by critical inquiry, synthesizing evidence and opinion into a claim that can be evaluated as having greater 'truth value' or being more 'warranted' than others" (article 4, table 5, stage 7)?

We learn to calibrate our own truth, but against what? Does my developing argument require me to conclude now that open system inquiry brings the travelled sooner or later to the shore of the ocean of knowing, where the Big Questions are unavoidable? Must I now conclude that epistemic understanding and epistemic, existential doubts are simply different labels for the one phenomenon?

As one pursues those Big Questions, the varieties of childhood, the regularity of time, the constancies of earlier stages of reflective judgment (article 4, table 5), start receding. Just as "we can only form new meanings for ourselves out of our previous experience of meaning" 1, so, I will speculate, the range of our epistemological doubts will be governed by our existing level of reflective judgment. The black hole is only as deep as I perceive it to be, from where I stand. It's as if the inner eye adjusts progressively to darkness, as the outer eye adjusts to light. Therefore it is not correct to say that our role play activities are only suitable for more cognitively developed individuals; on the contrary, "I can begin the transition into landmark-knowing from wherever I am".

There is no time like the present. The potential I aspire to may still be fuzzy or beyond imagining; but as we can appreciate from the double balloon analogy, if my calling is to create a personal world of thought, then the thought, the mindfulness I cultivate today flows into, forms the substance of my final mature world order; goal-responsive thought can be self-fulfilling.

We turn now briefly to the final task given to co-learners before the workshop—an exercise called 'Goals and Dream Wishes'.

**Goals and dream-wishes**

The inclusion of personal hopes and goals in the distance teaching-learning simulation seemed to offer a nice (symmetrical) balance to the backward-looking Twenty Memories task. Also, because I felt that my own quest for understanding had a strong future orientation, I had no doubt that a comprehensive inquiry into open system learning must take personal hopes and aspirations into account.

Here are the questions which I asked co-learners to respond to:

1. How do you explain why your life has unfolded in the way that it has?
2. What are your own personal everyday definitions of 'goal' and 'dream-wish'? Briefly describe what these terms mean to you, without the help of a dictionary.
3. Do goals and dream-wishes play a big part in your life? Have they influenced the way you live?

**Human aspirations—a wide band phenomenon.** Through this exercise co-learners revealed small differences in their working definitions of 'goal' and 'dream-wish'. The grouping of the two terms was useful in enabling individuals to describe their own aspirations without having to fit the standard notions of either 'goals' or 'wishes'. We found that some individuals relate more strongly to the more tangible connotations of 'goals', while others find the less-focused connotations of 'wishes' more appealing.

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1 Article 5. Tourists, travellers and bird watchers
2 See article 7. Figment of fancy, or seam of gold?

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**Improving the Effectiveness of Distance Education for Farmers**
The goals and dream-wishes exercise provides learners with an important perspective on their earlier Erez and Twenty Memories tasks, because it enables them to understand, from their own life experience, the difference between conditioned-responsive and goal-responsive patterns of thought and behaviour. In the former, an individual lives the life that circumstances have prescribed; in the latter, an individual uses the undetermined future as a stimulus for creative action.

On another occasion there will be merit in exploring the place of goals and/or dream-wishes in people’s world views. For our present purposes I refer the reader to Fred Emery’s monograph, In Pursuit of Ideals (Emery 1976). There Emery takes turbulence in society on a global scale as the context for some re-defining of ideals prompted by the human predicament. He argues that it is human individuals rather than institutions that can be ideal-seeking systems. It is relevant for us here to note Emery’s distinction to be made between values and ideals: ideals refer to our ultimate strivings for truth, goodness, beauty and bounty (or his reworkings of these classical ideals). However we do not try to ‘reach’ the value of fairness (or her stable mates); fairness rather guides our behaviour in the present.

The goals and dream wishes expressed by collaborators in this inquiry were quite personal, yet they were personalised abstractions of the noblest goals that have timelessly stirred the human spirit. There is a whole field of research ahead of us (on another occasion!) to explore the role of ideals in the individual’s quest for fulfillment—what Maslow calls self-actualisation—and how this relates to our drive for meaning, coherence.

But where is the promised synthesis?

A pause for doubt and reassurance. If the so-called world of thought in this study has seemed until now to be forever spreading out, creating the sense of a frame of reference without bounds, that has been what I set out to do. But circumstances, permutations, combinations, curious routes all lead somewhere. Our diverging has woven a backdrop quite expansive and textured enough for our thesis, and so we may now see that the time for convergence is coming: the Conch of Heaven spirals out, then spirals in.

Every flight of fancy has its origins somewhere in the soil. As I reflect on my own patterns of thought in composing this thesis, I realise how closely intertwined my imaginings and speculations are with the self-illumination I gained from writing my two texts—my Sense of Everything Statement, and my Twenty Memories. Perhaps it is through grappling with these two self reflections that a learner becomes drawn into abstract speculations that accompany epistemic understanding. Could it be that the goal we thought we saw at the end of our journey—growth in understanding—is a treasure waiting to be uncovered from the ground of personal human experience? Two simple texts about myself: a gentler—yet more direct—way could there be to create the conditions for a direct, personal apprehension of the Conch of Heaven?

The story of the arrowhead was a brief flight of fancy, which I have returned to several times in this thickly-woven tapestry. In the original arrowhead passage I contrived a storyline in which the reader’s perception of the sky changed when, all of a sudden, you (as make believe volunteer) perceived the Conch of Heaven. In that account I suggested that

if you were an aspiring open system learner... you would, with appropriate seeding of ideas by the teacher, in the fulness of time, recognize the conch as a metaphor for open system learning, perceive it for yourself, as distinct from having it explained to you.

This thesis represents my attempt at appropriate seeding of ideas by the teacher. In the remaining pages I hope to bring various elements of this inquiry—the Conch of Heavens, landmark-knowing, epistemic knowing, open system learning... and my stated goal of “improving the effectiveness of distance education for farmers”—into some coherent pattern.

Part C. The Widest Sweep of Cognitive Embrace
Me, my Twenty Memories, and my E text

When they are viewed side by side, we notice how closely the E text exercise and the Twenty Memories exercise are related, as soon as one starts to look for the landmarking—backrounding phenomenon. In Twenty Memories, I begin in a notionally incoherent space, and landmark my own life story; in the E text exercise, I begin from within the same undifferentiated space, and landmark my personal meaning universe. It now becomes possible to discern a poetic symmetry in this twin operation:

A sentient being occupies a point in space-time. I try to disconnect my habitual meaning-making behaviour, and wait instead for my world to revert as far as possible to the unvalued, unorganised state it was in before I looked.

When I launch myself into the flux, holding my Twenty Memories intention in consciousness, I landmark what I am looking for—the events of a lifetime.

But if, from within the same flux, I should embrace rather my E text intention, then, in the mental blink of an eye, what I see emerging from the mist is My Sentence of Everything.

At the moment of conception of the E text exercise, I thought my text would be the 'backdrop' of my life: a theatre metaphor. However, when I put my E text and my Twenty Memories together, my earlier double hologram image resurfaced: so the artist within burrows the earlier metaphor and tries it in a new context.

Improving the Effectiveness of Distance Education for Farmers
Here I stand... or maybe over there, in the grass, tracking the whispering, spiralling arrowhead. The sky is a blue tabula rasa, like my mind. But I am tethered to meaning-making: reflection is instinctive and irresistibly delicious. In its own good time, meaning will emerge.

What does the 'self' procreate, unbedded both in Twenty Memories and Between, if not its own meaning perspective? As I gaze upon the visual display of my 20 memories, I am looking in the mirror at my hologram—no matter which fascin I look at, I see my non-self: my story is the myth that explains me to myself.

When I turn my gaze onto the holograms of my Between—no matter what fragment I ponder on, I still see my non-self.

Whenever I am meaning making, I am enacting, bringing forth a world, whether by this text creation or that... or else wordlessly, by privately savouring some emergent world of meaning in its unverbalised, lacunae pre-down lustre. Whenever I am meaning myself, I am constructing my personal world order.

Two holograms, side by side, as if through a mirror... I do not need to find a part for myself in this screenplay, for 'I' am impregnated in both holograms.

My two texts have become artefacts of me... snapshots in time... permanent text clearings—for my text and I have moved on.

'My text and I' continue on our way in the cosmic flow, living and cognizing in the present, which is the only time I have in which to understand.

Have I reached the point of saying that a passage from landmark-spotting to landmark knowing may be found via self-know ledge? By contemplation of that mystery, deeper in space, where my deeply-ingrained valuing biases stem from, when thought, feeling and intent are one; a mystery nowhere detectable by the text clearing it has left behind?

An acquired taste? Yes, the path of contemplation may be many. However, as we saw in article 7, mind and senses, language and thought are mutually dependent; the while students from some cultures may be more readily predisposed to contemplative pathways, others—especially those who move in the fast lane of a consumer-driven global culture—may not take to the water so readily.

One of the guiding intentions behind this inquiry was a desire to find a culturally-neutral map for growth in understanding. This explains my preference for gerunds and verbs over nouns in my theory-building: my noun-entities impose my culturally-defined landmarks on you, whereas verb forms precede landmarking. My role as an open system teacher is to create the conditions for the learner's own landmark-knowing.

So what does this theory have to offer learners who raise

Favourite words for relativisms.

"A wandering Aramean was my father." Deut 26:5-6

Part C. The Widest Sweep of Cognitive Embrace
barriers when contemplation is proposed as the pathway to understanding? But the problem is broader than that: the student who is disinclined to try contemplation or meditation may be equally unweary, or even repelled, by the florid language employed in this discourse.

Finding common ground with one's learners. Our particular teaching-learning situation flowed out of a common sense of being on the road together. Despite my refusal to provide a road map, despite my linguistic idiosyncrasies, we really were co-learners. It may be that co-learners maintained their commitment to the project partly because of its university research connection. In a regular course of study, where there is no extra incentive of involvement in educational research, the challenge for the open system teacher will be to maintain student interest without compromising the methodology of feeling one's way—of remaining unassured for however long it takes. Whatever else it may signify, the metaphor of 'finding common ground with one's learners means acceptance by all of the common ground—of feeling one's way. The teacher can help overcome any doubts or loss of interest by referring to his or her humility with enthusiasm and awe for journey's end.

Will the journey be easy? You would think there must be many ways of fostering reflectivity, that competence in mindfulness or reflective action (discussed in Mezzrow 1991) could no doubt be presented in ways to suit commonsense, practical learners. I raise this problem in Part D, when we look at the implications and applications of this research for curriculum development and teaching.

Meaning and meaning of open system learning.

Let me now bring together in one place a description of my sense of open system learning theory.

The drive for meaning

a. The defining feature of human kind is the fulfillment; it gains in growth in understanding. The hierarchy of human needs put forward by Maslow (1954) makes intuitive sense; however, the human drive for meaning proposed in this study seems to belong to a different domain of analysis, because our thirst for meaning is ideally continuous throughout life, unquenchable. Self-reflective open system learners become aware of the goal drawing them forward in their quest for understanding—a desire for greater coherency in their understanding or sense of self in the world. This is the mature form of the same primal urge seen as inquisitiveness in infants and children, although as Harré would argue, the urge is "primal" in the sense of arising out of one's earliest bondings with one's parents.

Improving the Effectiveness of Distance Education for Farmers
For Maslow, the inhibitor of higher level need satisfaction was the perseverance of unsatisfied lower level needs. In open system learning theory, the human drive for meaning is expressed in goal-responsive thought and behaviour; inhibitors include:

- **Stunted imagination:** just as I can only form meaning out of my existing repository of understandings, so, too, my dream-wishes (and therefore my goal-responsive thought) will listen to what my life experience tells me is attainable
- **Weakness of will (aparaxis):** some people develop a perception that life is short-changing them or isn’t worth all the effort, and lose heart or will. Where this malaise permeates one’s whole experience, hope for the future can wither and die, as can the desires for living. Associated with this decline is wellbeing in the loss of one’s drive for meaning. Whereas a learner’s meaning vacuum once attracted goal-responsive thought, that vacuum transmogrifies into a world view of emptiness; the construction site of one’s personal world order is idle and deserted, abandoned to the weeds.

**My life experience overlays my genetic potential to form my cognitive phenotype, creating the context, boundaries and raw material for growth in understanding. However rich or poor our lifelong learning environment might have been, all we can do as aspiring open system learners is to set out from where we are, voracious for understanding.**

Meaning making...

- From a macro perspective, culture and mind, thought and language are mutually dependent, as argued in my discussion of the E-text exercise. David Bohm (1987, pp.25-35) also casts light on this in his interpretation of the Helen Keller story. Helen Keller’s blindness and deafness was a barrier to learning, in understanding, until her tutor, feeling her way in the metaphorical dark herself, finally breaks through the silence and darkness of Helen’s world by teaching the concept water. Helen’s tutor brought Helen to her first experience of meaning by giving her many iterations of a two-part experience: first, a tactile experience of water, followed immediately by tracing the word ‘water’ on Helen’s hand. In time, understanding dawned. Understanding the concept of water was dependent on the logic of naming, of symbolic representation, even if the concept of naming was to be conceived much later.

- Understanding, mind, was triggered in Helen first by one, then an avalanche of concepts. Once I acknowledge the function of language in concept formation, in understanding, I naturally open my world view to Gadamer’s argument for the dialogic structure of understanding. Meaning making is not only culturally determined; it is socially-internalized—a dialogue, a conversation between persons.

- As argued by Härder (1983),

  the fundamental human reality is a conversation, effectively without beginning or end, to which, from time to time, individuals make contribution. All that is personal in our mental and emotional lives is individually appropriated [and transformed] from the conversation going on around us. The structure of our thinking and feeling will reflect, in various ways, the form and content of that conversation.

  A person is a being who orders his or her activities according to a theory of his or her own making. Persons identify themselves by the character of their beliefs (p.40).

- **Mind** is that abstractive ability making such continuous conscious processes possible. Mind belongs to the present; it is what we make of ourselves and the world. All our acts of learning produce patterns which I am able to see in a way that gives me the greatest sense of coherence of which I am capable at the time.

- Aspiring open system learners naturally develop an affinity for constructivist understandings. An open system learner cultivates an endogenous outlook, accepting the view that an observer is not apart from the world being observed; we must perceive the

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Part C. The Widest Sweep of Cognitive Embrace

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7 One’s attitude to the degree of influence exerted by the social inheritance on the individual mind will vary according to one’s values system, world view and disciplinary perspective. Härder (1983) points out that for social learning theorists like Bandura (in Social Learning Theory, for example), certain traits, dispositions and such like are not the result of native (biologically generated) development, but of the acquisition of beliefs and habits in their social context.

"The social constructiveness, however, goes much further, asking whether the self-creating structure of our system of beliefs, or any other structure personal systems of belief may be found to have, is itself a belief. For those who answer this question in the affirmative, not only the content but the form of mind is socially acquired" (p.77).
patterns of the world from within. We part company with exogenous thinkers at this point because their world view is founded upon belief in a separation of observer and world; they say it is possible to see and know the world as it is, while we say the ‘world’ we see and know is the world we individually bring forth. Once we accept that there is no ‘finally given’ objective reality, we accept that all human meaning making is personal.

h In early cognitive development we learn to distinguish ‘self’ from ‘not-self?’; but as we grow in understanding, we see that ‘self/not-self’ is not as clear-cut as it sounds: subject/object distinctions hide the deeper unity within things. We come to see the world without and the world within as two hemispheres as inseparable as breathing.

i Many writers have said that human beings are unique in that they alone know what they know. What open system learners also know is that this metacognitive self-understanding is incomplete—they also know that they don’t know. The unknown is not just a *terra incognita* to be discovered, mapped and mastered: living with the unknown, living among the unknown, is a state of mind and being.

j The essential work of a consciousness is to bring forth and testify about one’s world of coherence, of meaning. And to give equal respect to the worlds of others. When I stroll along the shoreline of the ocean of knowing, stopping here and there to look through the binoculars of the theorist or thus, I know that I am capable of adjusting my point of view at will. No matter what I am doing in this world, I am able, in the mental blink of an eye, to look out onto another world of meaning.

Landmarking—backgrounding

k Picture language is frequently needed to plumb the depths of human meaning making. The metaphor has an established place both in scientific discovery, in problem-solving, in artistic meaning making, as well as in communication and education (Bohm 1987). Picture language is an appropriate means of exploration if it offers clarity in the conversation of teacher and learner, or in the individual’s inner flight of fancy with Wild Horse Imagination.

l In the picture language of this inquiry, everything is back-up-context, until meaning makers come along and identify their various personal landmarks. Landmark-spotting is an individual’s act of perception of what stands out from the background information, whether the background is scenery, voices in a noisy, crowded room, the events of a person’s lifetime, or any other set of random data we transform into a coherent pattern, according to our way of seeing things.

A model of open system learning

m The model of open system learning is presented on page 63.

n According to the reflective judgment model (see article 4), few adults have reached the seventh stage of reflective judgment—that level at which epistemic cognition is achieved. The overarching desire shaping this collaborative research was to conceive a model capable of accommodating learners regardless of their level of reflective judgment (as defined in reflective judgment theory). Hence, in open system learning theory, the model may be applied at two different levels of human meaning making behaviour:

* at the intuitive level. At this level, the learner does not need to be aware of the terminology of open system learning

* at a metacognitive-epistemic level. At this level, some of the ideas that form open system learning theory will provide a useful backdrop for the individual’s journey.

Having made this distinction, a qualification is necessary. For the aspiring open system learner, metacognitive and epistemic understandings are emergent from any point on the journey. The non-analytical, intuitive path may also unravel towards the black hole of existential, epistemic doubt.

o Just as the model as a whole can be applied differentially to Zucker for everyone, regardless of
stage of reflective judgment, so within the model itself, provision is made for people with diverse predispositions on the dimension of preferred conditions of education (see figure 6, page 13). As I found through the survey of residential school students, some learners like structured or at least goal-driven learning, while others do not; there will always be some learners who are content to perambulate, circumnavigate for ever. (Abraham the Aramean was always a wanderer-searcher in the Semitic traditions).

The model accommodates learners with ebbing-flowing predispositions by distinguishing between open system thinking (unstructured meaning making) and open system learning (a formal course of study or else a non-institutional yet intentional, goal-driven process). While the model as presented in article 6 may seem to advocate a succession or evolution from open system thinking to open system learning, that is, to greater goal-directedness, this need not be so. If open system learning theory stands for anything, it stands for learners following their own preferred paths to understanding.

From judgments to reflective judgment

q Human judgment has been described as a behaviour that can be classified on a continuum between the purely intuitive (non-rational) form and the highly cogent, rational form (Margolis 1987). However, even the most rigorously rational judgment expresses the individual’s unformulable system. It is the subjectivity of one’s deeply ingrained valuing biases that prescribes the subjectivity of all perception and cognition.

r Open system learning theory recognizes reflective judgment theory as one of many pedagogical schemas in the deep oceans of knowing. Reflective judgment theory offers a method of classifying an individual’s stage of epistemological development. Epistemic cognition is the most sophisticated form of critical self-reflection, by which the knower, possessing a partial and intuitive understanding of how or her value system, is able to weight up the personal ‘truth value’ of competing schemas of meaning. Open system learning theory offers no yardstick for tracking growth in understanding, and educators may in time find their own useful synthesis of these two theoretical frameworks.

s While landmark-spotting is a perceptual act, a direct experience of the world, landmark-learning encloses landmark-spotting on a more abstract plane of reflexive analysis; it is proto-epistemic cognition. Landmark-learning signifies a subtle shift in consciousness in which one begins to perceive all knowing as landmark-spotting in the act of spotting (the reflexive form) or in retrospect (the reflexive-reflective form).

From fragmentation to coherence...

u I hear different voices within, and I sense that I am simply differentiating between various facets of some postulated and anterior seat of personhood—I mean my sense or theory of myself. My notion prime mover lies beyond direct knowledge. I get to know the self by inference, by proxy—by heeding those voices within its gravitational pull; that which Doris Lessing suggests is “kept burning” behind the many roles (Harré 1983, p78).

v Then I sense that my ‘valuing system’ also belongs to this realm of unknowing. My value system is a deeply ingrained set of valuing biases that helps me decide what is more important to me, and what is less. I can gain intuitive understanding of my indefinite value system by observing my value judgments, judgments held within its gravitational pull.

w Meaning making is socially-constructed—a conversation between persons...or else a conversation within. The cognizer who brings forth a world of thought, of meaning, is a P-individual. The cognizer may be a person, or some rational identity (‘voice’) within an individual, or a group of people, like ‘Elvis Presley devotees’ or ‘postmodernists’ (5). To use a psychological construct, I am, in all probability—like everyone else—the locus of an unknown number of P-individuals, because I am or can be the creator of...

Part C. The Widest Sweep of Cognitive Embrace

8 I am not equating the journey of open system learning with religious faith. Rather, from within a more agnostic uncertainty about God and self, I am borrowing the story of the desert nomad who, according to tradition, pursued a lifetime search for the One, up dunce and down.

9 Though differentiation of the elements of the psyche, says Jung, a person achieves individuation or integration. Perhaps, in terms of the language of this study, the person who knows his or her own voices is in process of realizing a more tightly textured sense of self. Van Bortlelly (1981) gives a brief but concise overview of differentiation in biology, human psychology, and psychology and language development.

10 Let’s note in passing that the postmodern perspective has a special relevance for this inquiry, even though it has been backgrounded within the unfolding argument. Given the ubiquity of modern/postmodern discourse within contemporary adult education theory, the critical community of adult education professionals will be justified in weighing up this research in the light of its particular concerns. A tutorial comment on postmodernism is given in Terminology Crosscheck; see layers of intent.
different worlds of thought. This thesis was described as the work of numerous voices or P-individuals, each one creating coherence or meaning in a corkscrew, cognitive-spiraling movement. We can say that the P-cognitive spiral operates within a conceptual framework or meaning perspective to bring forth a world of thought. A P-individual and its meaning perspective mutually define each other. My job as author of this dissertation was to finally draw the various lines of thought into a composite and coherent argument.

The cognizer is in a continuous process of bringing forth a world—what Varela and others call enactment. A promising aspect of this whole perspective is the way it sheds light on the emergent nature of understanding. The open system learner's emergent world order combines one's sense of self and one's sense of everything—the world within and the world without. Two spheres toggled for optimal understanding. My lifelong quest for a coherent sense of self in the world promises me to be patient as I wait for meaning to emerge. By cultivating this frame of mind, I can confidently expect understanding to keep unfolding. This is the essence of open system thinking.

While some open system learners enjoy the surprises that flow from unstructured meaning making (open system thinking according to the model), others will move into the more goal-driven second stage of the process—open system learning. In either mode, we discern a P-cognitive spiral in the trajectory of the learner's meaning making, much like a conch of heaven.

Feeling our way... unfeathered by baggage

If understanding is what unfolds within the human conversation, open system learners will make progress on the journey to understanding by travelling together. The common ground rule for fellow travellers is that of feeling our way, of remaining unfocused for as long as it takes, of going with the flow—taking up understandings while ever they offer coherence.

In the spirit of feeling our way, I know that any conceptual formulation—like my ocean-of-knowing vignette—is no more than a way of thinking that may be helpful until another idea that suits me better comes along. As an aspiring open system learner, I must not become too attached to this favourite formulation or that one, because if I am an active meaning maker, and if I am growing in reflective judgment, developing epistemologically, my patterns of thought will naturally change with me. Thus, for example, while some educators gain great value from the 'noun' construct meaning perspective, which theorists have postulated on some hypothetical plane beyond empirical observation, open system learners may be just as content to form 'verb' picture patterns, like (observable) value judgments held in the gravitational pull of one's hypothetical (unobservable) value system. It may be that noun constructs will be shown more often than not not to be less adaptive than verb pictures in human meaning making over time, less adaptive and less durable in the longer term.

These ideas crystallise first in one way, then, if I lock away and come back to them, I see new ways of configuring them. It could be a lifetime's work.

I think, rather, that this account of my sense of open system learning is long enough for now, and configured in a passing-intelligible way. I prefer to dream. I shall close this present discussion with a reverie...

As Bohm and Peat (1987) argue, "the fact that there is such an intimate relationship between human intelligence and the intelligibility of the universe can be understood in terms of a notion, commonly held during the Middle Ages, that each person is a microcosm, and thus stands as an analogy to the whole cosmos... looking outward and looking inward will be two sides of one cycle of activity in which any aspect of the totality can in principle be revealed" (p 149).
I thought I was standing in a field, in the grass, and the arrowhead was spiraling away above me. But I must have-forgotten where I was. All I remember now is being conscious, surrounded by blue nothing. I can't say whether I was floating, or whether the blue was floating all around me, or what.

Something of great moment lay within, and it was slowly working its way into consciousness. I slowly realize I am in the presence of my lifespan.

A curious sensation. This is my life, and I have a kind of double awareness of it: I am within this presence; yet I can see it as one, as if outside, looking in.

A whip of memory... arrowhead... Conch of Heeren.
Consciousness adjusts the picture from its lifetime pool of thoughts. This is my life, this Conch that envelops me, and I am the centre of gravity. I look behind, and see the past receding into some mysterious still point, beyond memory. I look ahead, down the future. That’s not life’s end. That still point’s the culmination of my quest for understanding. This Conch, this cognitive spiral, is my intellectual life. My ego story, as it appears to me in the present. The still point of the future is the unknown potential to which I aspire. A spire.

I breathe out.

I breathe in. Speck of dust I was, and shell be. I view the bottom of the black hole always and only from where I am. The plaid of unknowing is forever. It is enough.

What has been achieved? What can I claim?

In article 7, I suggested that perhaps...

In the remainder of this study, we shall be able to establish a pathway from landmark-spotting to landmark-knowing, a pathway that is at least intuitively satisfying, and consistent with our experience as aspiring open system learners. If co-leaders recognize such a path in the private journey each one has taken, we shall be able to provisionally claim a nexus between epistemological development and open system learning approaches—the patterns I have tried to weave in the course of writing this dissertation. If our efforts don't produce a clearly-visible pathway, this challenge will await another occasion—for a future, as-yet-unwritten chapter—
in the never-ending story that is open system learning (or whatever they happen to call it).

Part C. The Widest Sweep of Cognitive Embrace
Although I declared my intention to search for a pathway from landmark-spotting to landmark-knowing, it is now necessary to evaluate, in the broader context of my multi-strand discourse, what I may claim to have shown. At the very least, I must indicate the relevance or otherwise of open system learning in improving the effectiveness of distance education for farmers.

At times in this dissertation my statements may have seemed sweeping and unsubstantiated; my argument may have seemed repetitive or irritatingly fixated on itself. In the remaining pages I shall therefore try to explain as clearly as I can what I claim to have proved. By this point in my argument, I realise that the opening hypothesis was my initial attempt to find an entry point, a toehold onto something not well understood. As the role play at a distance unfolded, co-learners found themselves at work and play trying to keep alight something that we had created together, even though we weren’t sure what it was. Now that you have shared this part of my journey with me, perhaps you are able to see that this investigation has yielded rather more than I had hoped it would. I quickly add that the wider sweep of this inquiry has not watered down the importance of the work for farm management education; it has simply given us a view of what vocational education could expand into.

What do I claim? In a nutshell, this thesis is the record of a collaborative action research project which has distilled, tested and articulated a new synthesis of adult education praxis—a theory of open system learning. I have drawn on a number of theoretical perspectives, and used them to illuminate the co-researchers’ joint quest for growth in understanding. Throughout the processes of this inquiry, co-researchers have been jointly committed to the goal of keeping the research relevant to the needs of working people—farmers in the first case, but beyond them, everyone who has a desire for deeper understanding. I have concentrated on my own rather than other co-researchers’ analyses of these matters, if only for pragmatic reasons that most of the speculating and theorising in this study is the product of the thesis-writing project itself. Given the personal nature of all perceptions, it was appropriate to use my own reflective distillation of our collaborative inquiry as a test case in meaning making.

Further critical reflection and dialogue will reveal what aspects of this project hold greatest promise for further explanation and development. I hope the following will find their place in the great conversation:

- Open system learning theory, as articulated in this study, makes a contribution to our understanding of the nature of the human drive for meaning, the impetus behind meaning making; and of the comprehensive scope of such an endeavor for aspiring open system learners.

- This study is a reflective practitioner’s contribution to the dialogue about the human quest for integration—of thoughts and feelings, of rational, aesthetic and spiritual experience. The text itself, by weaving a complex path, has opened some peep-holes onto the construction site of a cognizer’s world order, where we find an aspiring open system learner trying to feel his way. It’s almost as if the three eyes of the soul—of flesh, of reason, and of contemplation—were closed on this journey, allowing undifferentiated perception to flow—flow, obscuring whatever worlds it will.

- I have demonstrated that the idiosyncrasies of individual meaning making are not aberrations to be discounted; they are integral to the gestalt of the open system learning experience. If you had been in my shoes in this project, the albatross around your neck would probably not have been a whirling derisive, but you would have had something to weigh you down. A theory of open system learning and its inquiry processes must be sensitive enough to accommodate individual differences. Without individual differences, there’d only be one learner, one seat of consciousness, and the lone cognizer would have no social inheritance out of which to create language, culture, thought and meaning—no possibility of learning in the human sense of the term. An open system learning system—such as a living curriculum (see McKenzie 1992)—must be centred on the individual learner and his or her emergent worlds.

- By exploring the notion of emergence, this study has
shed light on the conditions in which researchers may claim 'empirical' findings. Research is empirical if its claims can be verified or disproved by observation or experiment. If we follow David Bohm's (1984) theory of the implicate order, we accept the universe as a phenomenon whose primary characteristic is unmanifest. He offers a discussion of how reality can be considered as in essence a set of forms in an underlying universal movement or process, then asks how our knowledge can be considered in the same manner. Thus, the way could be opened for a world view in which consciousness and reality would not be fragmented from each other (p. 41).

In this bold view traditional distinctions between matter and consciousness blur. If everything is emergent, for how long, then, might a researcher need to wait for the hoped-for result to be observable? It made intuitive sense for me to speculate in article 5 that if I can't prove or disprove an intuition today, maybe I will see things—including the question itself—differently tomorrow. Yes, perhaps the hoped-for outcome will crystallise out of the background, but every research project is socio-economically notified, research funding priorities change, and the conceptual context of research (the knowledge base of a particular discipline at a point in time, plus what Kuhn calls its disciplinary matrix(8)) is always in a state of ferment. Matter and consciousness may well have shifting boundaries, and while we are waiting for our results, the question we wanted answers to could easily change as well. Why would we expect anything else? What follows from this is that just as there are harder and softer forms of scientific inquiry, so there are more and less clearly defined standards of empirical verification. At the fuzzy end of documented response—the roguery second thoughts of my residential school survey respondents (figure 6), for example—the only phenomena I have really established is ambiguity.

- The methods used in this inquiry (like the principle of assumed consensus), its forms of critique, and the intuitions I have aired in this project have all been aimed at destabilising conventional understandings (like assumptions about what farmer-learners want), at cultivating a high tolerance for ambiguity and uncertainty, at fostering co-researcher mutual trust and awe for journey's end. These approaches hold as much promise as the theory and models they spawned. Of course, they are one. In this study, the method is the content. They will sink or swim together.

Up to this point my thesis has not conclusively defended the case put forward in the opening hypothesis. Rather, as far as it has been something like the journal of a self-collective traveller who was committed to the belief that some larger coherence could be found beyond the present horizon—a coherence to be won in the quest to understand the human quest for understanding(19). This belief in, this anticipation of the price of greater coherence, is rooted in one's personal value system—other: unknown... the realm of unknowing.

It is a belief we hold already or one we can cultivate—it is the same anticipation of coherence beyond the horizon that has inspired scientist, artists and mystics of all ages.

Does this study cohere? Have I proved my hypothesis?

Soon I shall deal with the significance of this work for my practice as a farm management educator. Before I do this, I need to clarify what this thesis can claim to have established.

In article 5 I spent some time discussing the surface argument of a text and its second tier logic. I mentioned several organising principles that were guiding me in the composition of this thesis, and I suggested that this text would cohere or hold together to the extent that it fulfilled the varying claims of its organising principles. This becomes the criterion by which we judge the coherence of any text.

In the case of most academic theses, a critical distinction is drawn between the coherence—the shape and internal logical consistency—of the dissertation, and the validity of its claims. A thesis fails if the experimental program is

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Footnotes:

1) In our quest for understanding, we are all holograms of our species, each one a cameo of the whole; see also footnote 11.

Part C. The Widest Sweep of Cognitive Embrace
found to be flawed, no matter how coherently the dissertation reads.

In this research program, greater coherence has been embraced as the defining characteristic of growth in understanding. Insofar as this thesis has claimed to be the account of a shared journey to greater understanding or reflective judgment, no clear distinction can be drawn between coherence of dissertation and proof of hypothesis. This is likely in the evidence produced by the experimental program. I am ready to have the value of open system learning theory judged on the basis of this thesis, in major artefact. I have argued that the extent and nature of growth in my co-researchers' understanding was not able to be assessed in the time available, even though all agreed we had progressed in some sense together. Carefully note the role of my co-researchers in what is being claimed. This thesis has not yet obtained the endorsement of co-researchers. They were consulted during the thesis writing phase, but their contribution and availability had changed since they volunteered for this research program. I took their full participation in the role play simulation and our earlier collaboration as co-researchers as a launching pad for my own critical reflection and theory building. I justified this decision on two grounds: one, we had accepted the constraint, on principle and by necessity, of dialogue at a distance, and because of their form and other responsibilities, it was not possible for the whole group to maintain a high level of participation; and two, meaning making is always a personal activity, and I considered that a detailed account of my own distillation of our project would make a useful contribution to professional discourse.

Structure of validation. In article 5 I embraced Manicas and Second's proposition that "the practices of science generate their own rational criteria in terms of which the theory is accepted or rejected". When I wrote the Preface to my learning module, The World of Open Learning, I thought the "inner circle" of co-researchers would eventually be given a "provisional endorsement" of the findings of this inquiry, then wait for the wider community's endorsement or refutation. This was going to be the structure of validation of what we had done. The thesis as a whole would be more like a theory than a fact, or rather somewhere between the two. Now the structure (or criterion) of validation has not changed, but the composition of the inner circle has shrank somewhat. This thesis is my testimony of what we did, and what sense I have made of it all. My co-researchers will read this, and by comparing my version of the inquiry with their own recollections, their capacity for critical self-reflection will be enhanced. They will then be in a position to endorse or refine the theory of open system learning. As the circle of critique widens, others can also give their assessment, provided they appreciate the theory fairly, validly, by testing it themselves first. Recall Marcia Salter's argument? Students of general systems theory not only need to have reached a certain stage of epistemological development, but they need to have "integrated particular epistemological assumptions into their overall world views." (Salter 1986). Here then is a corollary to the structure of validation of this thesis:

Open system learning is a way of approaching the world. It is not possible to pass judgment on this way of living from the outside. The only way of gauging the coherence... validity... usefulness of this approach is to expose it to the depth of one's own experience. Each critically reflective practitioner will then be in a position to judge whether the theory illuminates his or her journey to understanding. The utility of the theory will be gauged finally by the weight—by the depth and extent—of critical endorsement.

So far this thesis has the full endorsement of one such learner. Because theorising is a social activity, what is contained in this thesis will, I hope, evolve as teachers and learners hold it up to their own experience. It is not important whether the theory at articulated here receives wide endorsement. What seems clear—if one toggles for instance between reading Bolkin and others (1979) and following world events—is that emancipatory and transformative learning (see Mezirow 1990 and 1991) will be critical in determining the capacity of the species to

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Improving the Effectiveness of Distance Education for Farmers

14 A global and visionary study for the Club of Rome that asked what kind of educational response will be adequate to meet the kinds of human problems we are now facing.
respond to the challenges ahead. It may be that open system learning (in its validated, mature form) will also be found to have something to offer in equipping us for the future.

What about the farmers?

The stated goal of this inquiry was to discover how I might improve the effectiveness of distance education for farmers. You probably decided from my opening hypothesis that my argument was going to be rather convoluted. In order to show a dividend for farmer-learners, I was first going to develop, explicate and test a model of open system learning; then I was going to show how open system learning could help farmers develop certain useful qualities or skills. It was in this roundabout way that I intended to defend my hypothesis.

In Part D I plan to show how open system learning has relevance to the task of farm management education.
Part D: 

*Implications and applications*
PLEASE NOTE

The greatest amount of care has been taken while scanning the following pages. The best possible results have been obtained.
Looking back, looking ahead

In this final article I intend to discuss the relevance of this research to my professional involvement in farm management distance education.

Reconfiguring research program outcomes in terms of my farmer clients

It will be helpful first to summarise the broad argument of my thesis, this time within the framework of my farmer clients.

- Family farming is a highly (and increasingly) complex and risky way of life; problems are ill-defined and multi-dimensional; stakeholders (farmers and their families) must weigh up unlike things, including personal and family member needs. Various attempts have been made to define the kinds of competence farm managers need to operate effectively in this environment. Three overlapping areas of competence were nominated for particular attention in this inquiry:
  - the capacity to discern and understand ever more subtle distinctions and relationships within one’s sphere of operation
  - the capacity to be sensitive and mentally responsive to one’s multiple contexts
  - the capacity to adapt oneself and one’s behaviour as conditions change.

Clearly these are only a small part of the overall
competency profile of successful farm managers; but if they are considered essential, then they should be fostered in the most effective way possible, even if that most effective way doesn’t fragment them as this list does.

- Open system learning, it has been argued, is an approach to study, to work and to life that fosters these very skills while yielding other rewards as well. Because open system learning implies whole person inquiry, its significance goes way beyond the individual’s vocational education needs—it sheds light on the learner’s sense of self in the world. Moreover, the learner’s past and future are brought into present consciousness in a new way, creating the conditions for an epistemologically enlarged global understanding. Landmark-knowing, even if it is slow in coming, enables one to recognise in the black hole a bottomless cup of refreshing lifelong learning.

- Distance education programs for farmers can be enriched—made more effective—through the application of open system learning insights.

- Open system learning has benefits for both teachers and learners, and in fact creates a strong sense of collaboration between them: all parties develop a sense of sharing a common purpose.

- Farm management distance educators—curriculum developers, course writers, and tutors, consultants or mentors—will find in open system learning theory a perspective for evaluating professional practice, and a template for action.

**FURTHER REFLECTIONS ON THE NEEDS OF FARM MANAGEMENT STUDENTS**

Very early in this study I described a survey taken at the 1995 Farm Office Management Course residential school. Responses from that sample group suggested that when farmers and aspiring farmers pursue vocational education, their orientation to their studies can be quite diverse. One dimension that showed this was the variation in students’ fields of concern—some have a single-minded, hard-headed business concern, while others also acknowledge a more holistic sense of their lifelong learning needs. We also saw an eclectic variability in response when students were asked to have second thoughts about their fields of concern.

Depending on one’s meaning perspective, the results of this survey will appear to be more or less significant. From my vantage point, through the binoculars of an open system learning theorist, the result is important. Of the 42 students surveyed, 39 were something more than totally narrow-focus, hard-nosed, profit-at-all-cost managers or would-be managers. At the very least, these 42 students give curriculum writers cause to reflect. A more right brain commentator might point out that in the journey of this inquiry, as in *The Hitchhiker’s Guide to the Galaxy*¹, the meaning of life, the universe and everything is contained in the number 42!

I commented in article 2 that by the end of this study we would be in a position to consider how the research project, still in progress at the time, influenced the nature of questions that were posed. With little more than intuition to guide me at the time, I took care not to set up a clearcut dichotomy. (Ackoff, 1989, demonstrates the way simple dichotomies err by assuming the variable being measured can be reduced to a single dimension.) Thus the eastern extremity position was not the opposite of the western position; rather, as figure 14 shows, the eastern position subsumes the western position, then steps back in an unrestricted way; the wording of the eastern position is suggestive but not limiting.

Narrow focus field: For the next five years I would like to do everything possible to develop my technical, business and conceptual skills. My aim is to secure the survival of the family farm and achieve some measure of financial security for family members.

Wide focus field: I am more than a farmer and a family member. I want to develop my powers of reflection and judgment in all the important areas of my life. While I'm in farming, my goals are to become a cleverer farmer and a more fulfilled person. The key to both is continuous growth in understanding.

Western extremity: narrow focus field

Eastern extremity: wide focus field

Which centre of whose universe? The ideas that have formed the backbone of this thesis were gestating at the time of the survey design, but I see now that I was trying through the survey to gauge the need for learning experiences located within the learner's life-world rather than a world centred upon the plot they knew as their farm. Perhaps the question a farm management course provider needs to ask, is this: should students' needs be defined for them (or even by them) within a conceptual world based on the farm? or can a farm management curriculum centre upon the lifelong learning needs of the manager-person rather than the investment? That is a provocative and divisive question unlikely to encourage critical reflection on practice; it sounds far too radical, or perhaps simply out of touch... and unrealistic too, given that the whole national training reform agenda is committed to workplace reform—that is, reform with a physical locus focus! I will leave the question hanging in air, and try a different route.

FURTHER REFLECTIONS ON COMPETENCY BASED TRAINING

The work that has been done to identify farm business management competencies has involved a massive amount of work; so the endorsed National Competencies, plus more recent add-ons—Behrendt and Walsh, 1993, for instance—are an invaluable resource when designing training programs.

However, article 3 ended on a note of uncertainty. I said that we may query a model of curriculum development in which the profile of competence for effective job performance can be no more abstract or sophisticated than the consultative group of high achieving managers can conceive and articulate.

Having acknowledged the value of the competency based approach to farm management training—and the futility of fighting it—no one should object if I say it is a reductionist system: the National Competency Standards for Farm Business Management is organised around a list of the component skills that constitute competence in this work area. Few should mind if I then add the comment that reductionist approaches don't necessarily preserve the whole they purport to analyse. A camel is more than its component parts put together: it is an animal.

One insight that flows from this study is that verb pictures may offer us more, or offer us something more durable, than noun constructs. Let's consider this possibility in the contrast between a skill based model (a noun construct) and the open system learning model (a verb picture). Note carefully that I am not placing these models in opposition to each other; as we shall see very soon, they can be used together. The contrast, however, is worth making. The key difference between the two is revealed by asking, what is the underlying epistemology of these two approaches to adult education? What constitutes knowledge within each domain, and what role does the learner have in defining the subject of investigation?
The epistemology of competency based training. It seems to me that a CBT provider is saying to the student that "if you acquire the competencies that we have specified (or that high achieving practitioners have specified) then you will have demonstrated your competence to enter this field yourself". The qualification mentioned in article 3—that there is always a gap, sometimes a sizeable gap, between competence to meet the requirements of a training course, and competence to perform successfully on the job—is treated as an impediment whose effect can be minimised in a curriculum that provides an effective interface between institutional and workplace training. Competency based training has a noun-based epistemology: a set of competencies exist 'out there' that the learner can acquire, and thereby meet his or her objectives. Success is measured by the degree of self-modification to some external standard.

The epistemology of open system learning. Open system learning by contrast has a verb-based epistemology, based on a model of doing. Open system learning is a way of approaching the world—of bringing forth a world through the process of living. Knowledge is personal, as is mind. 'Mind' and 'knowledge' are different, but they are both 'what we make of the world'. Whereas the idea of knowledge the noun sits in consciousness as a loose family name for a multitude of component nouns, understanding is dynamic and emergent: landmark-knowing is proto-epistemic understanding—feeling our way with our hands, feeling our way with our minds. The road to epistemic competence is by reflection-in-action.

A recurring idea throughout this study has been the importance of the individual's meaning perspective in governing one's thought and approach to learning. We have also seen that something like a meaning perspective also operates within domains of academic discourse—what Kuhn first called a 'paradigm', then a 'disciplinary matrix'. By extension, let's consider the epistemology of an educational or training curriculum as the unseen parameter from which everything else flows. This will be clearer if we consider two hypothetical curricula—one based on the competency based model, the other on an open system learning model. If we accept the above descriptions of these contrasting curriculum epistemologies, we may draw two conclusions:

- personal inquiry carried out within an open system learning curriculum offers landmark-knowing and therefore epistemic understanding as realisable goals—stars that have been discovered and plotted onto the learner's chart of heavenly possibilities.

- personal inquiry carried out within a competency based curriculum makes no promises about anything except providing a path to vocational competence.

There will probably be many in the training and education community who will say that offering a path to vocational competence is all a vocational curriculum needs to do. Their solutions to the challenge of equipping farmers with "the capacity to remain adaptive", or "the capacity to discern and understand ever more subtle distinctions and relationships within one's sphere of operation" will provide interesting reading. They will say that these competencies can be taught within a competency based curriculum, and perhaps I will agree with them. But they will still not be acknowledging the learner's chart of heavenly possibilities... and I fear the camel will still be lying in pieces.

Does open system learning have anything to offer farmers?

Ever since the Farm Management Certificate Course began in 1970, it has been practically orientated, offering students skills that can be immediately applied to their business management. This ethos permeated all facets of course development and delivery. In the light of this, I must now query the suitability of open system learning approaches for farmers.

I want to respond to this question on two levels. First, I shall return briefly to the vexed problem of linguistic (subsuming literacy) competence of my farmer learners, tied to the broader, more diffuse issue of a learner's conceptual-affective comfort zone. Second, I shall query the suggestion, perhaps implied in this thesis, that farmers will gain business or personal advantage from developing skills in theoretical modelling.
Objections to my thought and language. I am ready to be
told that most of the language in this thesis will be a turn-
off for my farmer-clients. The bewildering forest of words
could tax my learners' difficulty threshold, and the
'unmanly', 'soft underbelly' imagery (like, a world of
thought having 'the delicacy of a flower') could tax their
self-exposure threshold! My reply will be... yes, multi-
dimensional:

• **Self-exposure threshold.** We all have our
  characteristic ways of relating to the world; we
  disclose our feelings in varying degrees and ways.
  Accepting the differences in others means accepting
  the differences in oneself, and cultural morés often
  militate against this.

  'Feeling one's way' implies whole person inquiry.
  When (in a manner of speaking) I close the three eyes
  of my soul, I am able to advance in undifferentiated
  understanding, a state of emergent awareness where
  distinctions between thoughts, feelings and intentions
  are unthinkable.

  That is a private journey. What, then, of open system
  teaching and learning?

  The open system teacher tries to be alert to the needs
  of his or her learners, and treads gently; the learner’s
  ‘difficulty threshold’ and ‘self-exposure threshold’
  are context-variable, and given the right conditions—
  the context-sensitive balance between support and
  challenge—learners can grow in ways they’d scarcely
  thought possible.

• **Difficulty threshold.** The complexity of thought, the
  multiple layers of discourse, the unbridled
  abstractions of this thesis are the idiosyncasies of one
  person alone. Others, whose skills lie in unscrambling
  complex thought, will make good team mates!

  There is nothing special about the language I have
  used in this thesis; the aspiring open system learner
  must not become too possessive about this favourite
  toy phrase or that one. This thesis is either the end or
  just the beginning of open system learning. If it
  survives, it will survive by being discussed and tried
  and adapted to the situations where it is being used.

Whole new vocabularies will spring from new circles
of open system learners, who will contribute their
own treasuries of word pictures to the communal
repository of understandings. Or else they won’t.

I cannot conceive all the obstacles in the way of
putting this vision into effect. The time for critique
will come soon enough.

• As explained in article 5 (Our first role play
  encounter in hindsight), I had written The World of
  Open Learning for an audience that was ‘at least
  latently open’ to the possibility of gaining advantage
  from a learning strategy enrichment program. We
  may assume that three of my 42 residential school
  survey respondents would be hard to persuade, but
  that a substantial number nearer the wide focus
  extremity of the field of concern continuum would
  have higher difficulty and self-exposure thresholds
  and a keen intrinsic motivation to experiment. I will
  explain shortly how the needs of the adventurous,
  latent open system learners may be addressed in a
  teaching program without creating barriers for those
  with a single-minded goal and simpler lists of needs.

A need to theorise? I do not intend to argue that farmers
will gain business or personal advantage from from
developing skills in theoretical modelling, in the sense
advocated in soft systems methodology (Checkland 1989).
To explain, I shall draw a contrast between the practicing
farmer and the 'agricultural systems practitioner' discussed

Bawden and Packham's paper is concerned with the pre-
and in-service professional development of systems
agriculturalists; it asks what is an appropriate professional
preparation for people intending to work in rural extension
or consultancies. The Hawkesbury agricultural action
research praxis draws heavily on Checkland's distinction
between “the real world flux of events and ideas” and
"systems thinking [theorising] about the real world". In
soft systems methodology, the researcher moves back and
forth between the real world and the theoretical models
conceived to make sense of the real world's 'rich picture'.
In their paper Bawden and Packham articulate the faculty's
conviction about the importance of the approach they have
evolved through years of collaboration.

Farmers have different needs. The position of this thesis is that farmers can grow in critical reflection and self-reflection (that is, reflexive) skills, they can ‘grow in understanding’, with no experience or skill in theoretical modelling. As proposed in this thesis, learners can set out on the journey of open system learning on an intuitive (that is, theory-free) plane. A journey that may have commenced with reflections about one’s sense of self and one’s sense of everything will naturally help the learner acclimatise to ever more abstract thought, ever subtler distinctions, ever more comprehensive standpoints. Verb pictures can become the dominant currency of thought in place of theoretical modelling.

A model for all. The beauty of open system learning theory is that the same model of growth can be followed by all learners, whether they are farmers setting out on an intuitive, theory-free plane, or professionals operating on a metacognitive-epistemic plane. The model provides for theory-hungry and theory-intolerant learners; and for perambulating-unstructured as well as goal-driven learners; which seems to cover most adult learner needs. Table 6 describes the flexibility of the model in terms of four modes of open system inquiry.

<table>
<thead>
<tr>
<th>Orientation to learning</th>
<th>Field of concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory hungry</td>
<td>Open system thinking— metacognitive-epistemic plane</td>
</tr>
<tr>
<td>Theory tolerant</td>
<td>Open system thinking— intuitive plane</td>
</tr>
<tr>
<td>Theory intolerant</td>
<td>Open system thinking— intuitive plane</td>
</tr>
</tbody>
</table>

**Table 6: The four modes of open system inquiry**

Implications of this research for the Farm Management Course

I shall first deal with broader questions flowing from the particular nature of the present curriculum for the Farm Management Course, then briefly consider how change might be contemplated.

*Part D. Implications and Applications*
CURRICULUM CONSIDERATIONS

In article 2, footnote 3, I suggested that 'training' and 'education' differentiate themselves by the different theoretical frameworks from which they materialise. I also suggested that it is possible for an adult education curriculum to use the mechanisms of competency based training as part of a broader-based educational engagement with students.

When we turn specifically to the Farm Management Course, clarification is needed on the matter of curriculum. The Farm Management Course of NSW Agriculture is defined and accredited by virtue of its declared learning outcomes, and these outcomes are structured around the National Competencies in Farm Business Management. To this extent, the curriculum may be said to be competency based; and to this extent, the curriculum—the theory and practice of the system—is a vocational training program. The issue then is one of asking whether any of the perspectives of contemporary adult education theory may be drawn into the curriculum for the benefit of our farmer clients.

The last paragraph actually oversimplifies things, because actual practice within the Farm Management Course isn't fully reflected in the curriculum document. For one thing, staff who come from an educational background bring to the job their own reinterpretations of practice in the light of various pedagogical, andragogical and critical traditions. Already the sharper definitions of the training perspective (discussed in article 3) are softened in response to the mitigating circumstances discernible from an educational perspective.

Various educational perspectives are thus brought to bear on the practice of teaching and learning, even though these contributions are unprogrammed and sometimes undocumented. It seems to me that one implication of this research is that the College should ask itself if the curriculum could perform a more sophisticated job, more subtly meeting the learner at the learner's point of need, by incorporating an epistemological development variable in the task analysis and course development and delivery subsystems.

If the College answers yes and affirms this as a principle for curriculum design, the door will be opened to introduce trials of some of the approaches referred to in this study.

Earlier in this article I somewhat cheekily asked whether a farm management curriculum could place the lifelong learning needs of the manager-person at the centre of its universe rather than the physical farm—whether we might unfocus, and allow a new landmark to emerge. I quickly added that such a suggestion is unlikely to get very far, when this College is fully integrated into an emerging national network of rural business management 'education' providers. The forthcoming National Diploma and Advanced Diploma programs will be based on the National Competencies in Rural Business Management.

Ideas that come along suggesting new ways of doing things sometimes succeed, and sometimes fail. The theory of open system learning presented in this thesis is just another of these. New ideas may either anticipate the environment they are moving into and learn to acclimatise, accommodating the new environment's conditions of entry; or else remain pure. The history of civilisation shows that syncretism rather than non-adulteration is a safer-bet strategy for a new idea's survival. Now, open system inquiry emphasises one's need to contextualise oneself. open system learners develop ways of seeing that will help them maintain adaptation in their multiple environments. We would therefore expect that open system learning theory to have its own acclamising capacity, and it does. This capacity can be seen in the way the theory can successfully adapt itself in at least two learning contexts: in an action research environment, and a competency based environment.

Open system inquiry in an action research environment.

This thesis has demonstrated that it is possible to design research that fits the pattern of the action research paradigm and employs the open system inquiry technique of feeling one's way. I have not considered using action research as a learning method for farm managers; indeed, I suspect that theoretical modelling processes could meet resistance from farmers who as a group tend to expect learning to have an obvious and immediate practical application. (Open system approaches will not suit everyone either, but at least there is no requirement in open system inquiry to theorise.) So although open system inquiry can unfold within an action research environment, this is not relevant to my immediate topic, and will not be pursued here any further. I simply
note my belief that open system approaches hold the potential to transform praxis in higher, vocational and lifelong learning contexts.

**Open system inquiry in a competency based environment.** A purist might look at the competency based model and the open system inquiry model, and say that because they have conflicting epistemologies, they are incompatible within the one learning environment or curriculum. But from my standpoint, where there is a will, there is a way, especially if the alternative is a stillborn infant model! If this research has any implications for the Farm Management Course, they need to be spelled out in ways that dovetail with the existing competency based curriculum. In the next section I raise several aspects of this dilemma.

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**OPEN SYSTEM INQUIRY—BARNACLE OR YEAST?**

How might open system learning be incorporated into the Farm Management Course?

Would open system inquiry cling to the farm management competency based curriculum like a barnacle, like an afterthought, over to one side, as a little area preserved for students who want to try something different? Or might it transform, from the learner’s point of view, the whole learning experience, as yeast changes the very texture of its host? Or be a bit of both? Or neither?

In 1993, during the progress of this research inquiry, I participated in two professional development workshops for the Distance Education Association of Southern Africa (DEASA). The workshops, held in Swaziland and South Africa, were concerned with a situation comparable in one respect to the situation being explored in this study. In both cases, adult distance educators had the task of responding to a complex educational need:

- on the one hand, there was a need for a vocational training system that was attuned to the needs of workers, of industry and of government
- on the other hand, there was a recognition of the lifelong learning needs of adults within their respective target audiences.

The differences between the two situations are very great, but the complex problem confronting DEASA produced a conceptual response in the workshops that may have something to offer us in the context presently under study.

In our report on workshop process and outcomes (see Mbatha and McKenzie 1993), Thakane Mbatha and I describe a notion of curriculum development that may be useful in the present discussion:

...some term was needed to describe the idealised program that would meet [the specifications of an ‘appropriate’ curriculum]. The ideal came to be known as adult vocational and lifelong education at a distance, or AVLEAD. In this context the ideal of a ‘mega-curriculum’ was born. The mega-curriculum is a composite curriculum model that integrates vocational/technical and lifelong education. It is a composite curriculum in that it comprises two component curricula—the vocational curriculum and the lifelong education curriculum. It is an integrated model in that the component curricula somehow articulate into each other.

While that report indicated successful workshop outcomes, I am unaware of any substantive progress since then on the notion of a mega-curriculum.

In the present argument, however, the mega-curriculum construct offers a way of melding the competency based curriculum of the Farm Management Course with an open system inquiry, lifelong learning map for growth. The elaboration of this idea must wait for another occasion.

All this goes to explain why I adopted such a non-specific, broad-spectrum goal as ‘growth in understanding’ as the appropriate final goal for all adults in their lifelong learning. My hunch at the outset of this inquiry has been borne out to my satisfaction: the so-called core competencies in farm management—conceptual competence, technical competence, integrative competence, contextual competence and adaptive competence—are too generic, too universal, to be adequately and organically nurtured in a vocational training setting. These are competencies that may be fostered by committing oneself to a quest for greater understanding, by searching for the path from landmark-spotting to landmark-knowing.

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Part D. Implications and Applications
The challenge for the adult educator is to learn how to enable this to happen as a shared quest with one’s learners.

For the vocational adult educator, maybe this means playing the barnacle, or playing the yeast...

Sample ideas to encourage open system learning

Finally, I draw this study to a close with a few ideas about how to apply the principles and intent of open system learning theory in the Farm Management Course.

BEING POSITIVE ABOUT STUDENTS’ DIVERGENT FIELDS OF CONCERN

Aspiring open system teachers will tend to feel strongly about their responsibility to encourage critical and reflexive thinking among all their students. However, in an increasingly competitive education industry, students are paying customers who expect their courses to be tailored to their needs. It will therefore probably be necessary to provide a narrow focus service to those students with narrow focus fields of concern. This will remain the case while that remains their choice. Of more interest to open system teachers are those with a wider field of concern. These students are likely to be open to the possibility of benefitting from a learning strategy enrichment program, namely (for us), open system learning.

In order to accommodate the varying needs of different students, the College will need to:

- provide at least two paths through the course, distinguished not by subject matter but by the depth of inquiry appropriate to different learners’ needs
- develop ways of helping students find the depth of inquiry that suits them best.

Students choose their preferred depth of inquiry. This may be done by asking students on enrolment to select, from a menu of options, their preferred field of concern. Some carefully crafted menu, perhaps in the form of concentric rings, might be easy enough to explain and administer. Figure 15 shows two draft attempts to define narrower and wider fields of concern.

Once a course developer knows what the desired learning outcomes will be at the end of each pathway, appropriate learning experiences can be devised.

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To equip myself to deal with my biggest challenges over the next 5–10 years...

1. I must extend my competence in managing risk in my farm business operations.
2. Not only do I need to work on (1); I also need to share the responsibility around, ensuring that the family is involved in decisions about the future of the farm.
3. Not only do I need to work on (1) and (2); I also need to take care of my own deepest needs and aspirations; my desire to keep pushing back the frontiers of my own understanding is not a luxury item; I must continue to strive to achieve my potential in the areas that are most important to me; and I must cultivate myself to be an agent of change.

Figure 15: Draft menus for selecting students’ preferred depth of inquiry in agricultural education

The following sample menu was drafted as a means of helping beef management students select their preferred depth of inquiry.

1. My aim is to acquire the technical competencies needed to produce better beef for target markets
2. In addition to (1), I want to develop the attributes and skills needed to achieve and maintain farm viability now and in the future; such skills as conceptual competence, technical competence, integrative competence, contextual competence and adaptive competence
3. In addition to (1) and (2), I want to learn how to better look after the family farm and the farm family. I want to help us all to achieve our potential, on or off the farm. I want us all to be adaptable as conditions change.

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Improving the Effectiveness of Distance Education for Farmers
THE E TEXT, TWENTY MEMORIES AND GOALS & DREAM WISHES ACTIVITIES

My co-research group members all found these activities helpful, not only in encouraging a deeper understanding of self and a deeper respect for each other, but also a fuller realisation of the way our personal histories leave their mark on our feeling, thinking, and judging. The subjectivity of all knowing, as I have argued in this study, is the defining feature of landmark-knowing, which—I now understand—was the goal of our journey together. Where the conditions are right for a journey in open system learning, the teacher can build on the processes documented in this study, and produce a sequence that links these three activities with the verb pictures landmark spotting and landmark-knowing.

The process I began with my co-researchers will reach its conclusion when they read this thesis. In other words, the three exercises are effective in preparing learners for a personal vision of the Conch of Heaven; but there also needs to be a reconfiguring of insight in which the learner personalises this re-ordering of one’s world order. In a real life teaching-learning context, the teacher can help create the preconditions for passing from landmark-spotting to landmark-knowing; this involves working behind the scenes to cultivate in learners those predisposing qualities, without which our journey unravels elsewhere. In a distance education setting, this journey together will require an interaction, extended in time, between teacher and a cohesive group of student travellers.

LAYERS OF TEXTUAL INTENT AND LEARNERS’ CRITICAL REFLECTION

In The World of Open Learning, I wrote about the layers of intent behind a writer’s text in distance teaching materials. One path to greater understanding is opened up as learners develop their ability to critique the tacit no entry signs imbedded within a text. In this way a learner may become metacognitively and perhaps epistemically aware of the relations between oneself, one’s teacher, and the text.

THE PERSONAL JOURNAL

There is a small but important literature on the personal diary or journal as a vehicle for growth in self-knowledge and critical self-reflection. This device is likely to play an important part in developing in students an extended reflexive inquiry process.

WIN WIN! A WORKSHOP ACTIVITY

The following activity was developed for use at the 1995 Farm Office Management residential school. Even though it was not used, it remains an example of one kind of activity that encourages whole person inquiry and even more subtle distinctions.

Win Win!

In this game, the Browns are an Australian farm family. They’re becoming restless about the future now that Mother and Father are starting to feel their age.

About this game. One group member agrees to act as moderator, whose extra job is to keep the game rolling. There will be a short individual task; then the game itself is played in 2 stages.

The moderator is in charge of the list of tasks. The group should complete one task before moving on to the next.

Before the game starts...

Character profiles. In this game you have to make a number of important decisions in character as one of the Browns. To help you feel your way into your role, there are some personal details you need to decide on.

Task 1—Who you’d like to be

What kind of person do you want to turn into?

(an open-ended menu is provided)
Task 2—What you’d like to do
What would be your preferred (work & lifestyle) >>> (retirement & lifestyle) pathway?
(examples or menu provided)

Group members declare their character details. Before doing the next task, each player needs to give a short description of his or her character; include the kind of person your character wants to be, and what style of life this person wants now and in future.

STAGE 1
The goal of this stage is for you, a member of the Brown family, to admit to yourself how badly you want to achieve your dreams—for yourself and for the farm; and how much you value the dreams of the rest of the Brown family.

People will soon be arriving for a family conference. The conference has been called to talk things over.

In Win Win we don’t act out the family conference itself. Rather, we do some character development on the Browns, as if we were writing a novel or TV script. By delving into our characters’ thoughts, we will get an idea how they might behave in the proposed conference.

The choices you make for your character in tasks 3–7 will not be disclosed to other members of the group.

Task 3—Make a private wish.
Your long-lost uncle has sent you 20 wish vouchers. If you had twenty chances to secure your own life goals or to secure the life goals of other family members for them, and you had to spend them now, on whom would you spend them? (The vouchers are not guaranteed to work. Like a scratch lottery, the more cards you buy for someone, the greater that person’s chance of winning.)

Task 4—Hedging your bets.
If you could spend some wish vouchers now and some later, how many would you spend now, and on whom?

Task 5—Goals for the farm
What is your dream for the farm over the next 20 years? (You may have one ideal, or several dream farms in your imagination, depending on conditions. Multiple dreams should be numbered.)

(an example could be given)

Task 6—A complex wish-list
If you had 20 wishes to spend now on your family and the farm, how would you spend them?

Task 7—Hedging your complex bets
If you could spend some now and some later, how many would you spend now, and how would you spend them?

STAGE 2
In this stage, group members declare how they decided to spend their vouchers in task 6; then task 7. In task 8, someone suggests that more vouchers might be spent on the farm if they can agree on their dream for the farm.

Task 8—Horse trading
How many wishes is the family willing to spend by negotiation (horse trading) on the farm?

Time Out reflections... Are some members more willing than others to spend their ‘farm wish’ vouchers regardless of the group’s spending policies? Did you find it difficult or unpleasant horse trading vouchers on other people’s futures? (Every extra voucher you spend on the farm is one voucher less for you.)

Followup—small group discussion
1 What is the overall family wish for the farm?
2 What human qualities enable a farm family to work together effectively?
3 As observers, what do you think the Browns should be aiming for as a family over the next five years?
4 Now that you’ve played Win Win what do you
think is the most difficult thing the Browns have to overcome to achieve a result that all family members would accept?

5 If the Browns really existed, maybe they would have agreed to a conference; but some farm families haven’t reached that point yet.
   a What things can hold a family back from having a conference?
   b Should any members of the Brown family be taking any initiatives in the leadup to the forthcoming conference?
   c Sometimes a farm family asks a friend or adviser to help with the conference. What kind of outsider would the Browns find useful to invite to their conference?
   d What could the outsider do to improve the chances of a satisfactory outcome?

The final word

Perhaps like me you are feeling a little word weary after such a tortuous journey. I have attempted to draw my various strands of thought together at various stops along the way, but you must be the judge whether or not this study finally coheres as a world of thought. I hope I have established one principle—that we are the makers of meaning, the arbiters of coherence. Our judgment must finally be personal, because we are observers from within.

I have tried to convey a picture of open system learning as a lifelong journey into the unknown, which must be a fitting thought on which to end our perambulation. Aspiring open system learners are in fine company, scientists, poets and mystics among them. We are nomads whose sojourns here and there are sometimes recorded in written or spoken or other media artefacts, or perhaps only by the tent clearings we have left behind.

I will leave you with a poem by German poet, Rainer Maria Rilke (1875–1926). Let me remind you of the passage by Robert Pirsig, quoted in article 5 (p42), about the high country of the mind, where thinkers go. For Rilke, travel in the high country is a felt experience. We travellers each construe our journey in pictures derived from our deepest and most personal life experiences.

Part D. Implications and Applications
Exposed on the Alps of the Heart

Exposed on the alps of the heart. See, how small there,
see: the last hamlet of words, and higher,
but how small, too, a last
farmstead of feeling. Can you discern it?
Exposed on the alps of the heart. Stoneground
under your grip. True, something still
flowers here: out of the mute slope,
chanting, an ignorant herb comes forth.
But the sage? Ah, he who has begun to know
grows silent now, exposed on the alps of the heart.
There pass indeed without peril,
led by uninjured awareness, the mountain deer,
pass and abide. And the huge secure bird
circles around the peaks' pure denial.—But
insecure, here on the alps of the heart.

Open system inquiry is a fitting process by which to bring
forth a world. It is a journey we can take with a friend, yet
one in which we reach a plane of thought where we can only
go alone. Beyond the last farmstead of feeling we may
continue our quest for undifferentiated knowledge. We
may then discern, within the black hole, the bottomless cup
of refreshing open system learning.

Farmers, meanwhile, produce the food and fibre that fuels
the entire human project. Their lifelong learning needs
include a core of technical competence, but the boundaries
around their needs, as we have found, can be fuzzy,
boundless. A curriculum that can take account of this will
be wide indeed.

Salner (1986) sees a strong role for liberal arts approaches
in cultivating epistemic understanding. Open system
learning is no more than a way of approaching the world,
which can be used to enrich any learning environment.
These are all important matters for farm management
curriculum designers to consider.

* Poem written in German by Rainer Maria Rilke, translated by Francis Golffing. From Barnstone, W (ed) (1966),
Appendices
Terminology Crosscheck
Bibliography
PLEASE NOTE

The greatest amount of care has been taken while scanning the following pages. The best possible results have been obtained.
The World of Open Learning—Adventures for Distance Learners

by A D McKenzie

This document is for private circulation. It is part of an action research project being undertaken in the Master of Science (Honours) program of the University of Western Sydney Hawkesbury, Faculty of Agriculture.

"I've always had impulses to do things: see a crack in the footpath—hop over it; see someone's spelling mistake—fix it; see a cover page with space for a picture, where they've forgotten to do one—do one!"

All in good time, dear reader. Let's talk about the missing picture on our cover when we've finished this study, and the turf's covered, and the crowd's gone home.
Preface

Some way into this study, you will come to a discussion about essays, books, or any bodies of writing as self-contained—as structured wholes.

The World of Open Learning will perhaps be the exception that casts the rule in bolder relief.

I expect that at the end of this study we will be able to turn around and see a kind of unity; but I hope that we will not have a sense that the final curtain has fallen.

What I hope to do in this study is engage in a dialogue with readers at a distance, a dialogue fractured in time and space. This study will not be published until there has been time for my inner circle of readers—my co-researchers—to reflect on and discuss its contents. It will then be reframed in response to the co-researchers’ reflections and critique.

The document submitted to the university will have been ‘provisionally authenticated’ by the co-research group. If it is ever to be read by a wider circle, the inner circle will wait for the larger readership to endorse or qualify what has been written—an ever-widening circle of endorsement.

In this sense, this project will be a never-ending story. Whenever, wherever The World of Open Learning is read, the project, our important business, continues.

If the subject of this study is knowledge, and how we come to get it—the world of open learning, human learning at its zenith—its purpose is to be a catalyst for personal open system learning to happen on the ground... within and between us; not by the exchange of factual information, but in a far broader, deeper, richer, more complex, more life-changing sense.

Before we set out together, I say thankyou to my co-researchers. Please make this your project too.

Tony McKenzie
PART A—

Movements and sightings

"What's the difference between a riddle and a world?" I asked.

"That's not a riddle!" cried the scriptwriter.

"Discuss," insisted the examination paper.

"But that's absurd!" said the student.

"By whose standard?" asked the world.
Where I am

"What I need to do is set my bearings."

 Mostly we let words roll past us; but sometimes a statement can reverberate in our minds.

 What I need to do is set my bearings."

 What I find arresting can easily go unnoticed by others; unless I point it out.

 Even when we are struck by the same phrase, the words can trigger off different things for different people:

 - bearings...
 - locate oneself...
 - why am I here?...
 - what is 'here'?
 - which me?

 The journey ahead

 As you can see, this study doesn't begin with a table of contents, giving you an overview of the subject. The decision to deprive you of an overview was deliberate. Here's why...

 A table of contents is often an invitation to the reader to pick and choose topics of interest. While that is perfectly okay when reading a textbook, that is not what you are doing now.

 To get anything from this study, you need to approach it like a work of art; take it in on its own terms; agree to spend time and take in the whole work; and then be in a position to make a personal judgment about it.

 That is not to say everyone will read all this in the same way. People will always have their own familiar methods of studying things.

 Writers are just the same—they're all different; and so is their writing.

 The World of Open Learning is, above all, a tentative and personal attempt at uncovering a subject without bounds.

 The subtitle, 'Adventures for Distance Learners', betrays my hope that, in the course of our journey together, these pages will propel us into a sea of reflections, and that, as in a reverie, we will delve into reaches of awareness that we seldom penetrate. It promises to be a journey that you take with a friend, but one which leads to a plane of thought where you can only go alone.

 Notice

 This book asks you to work through it like a search party, or a busload of detectives! Find all the themes you can, and consider how you would sum up the whole thing to a friend.

 If you approach the study in this way, the world of open learning will appear to open up. When anything opens up, you enlarge your capacity for understanding. If you achieve that here, you will be able to call on your new openness, your heightened awareness, your refined powers of questioning, whatever job you have to do.

 What's the point?

 A figure could be standing before us, fidgeting, as if there was nothing to do. But I am not concerned with the fidgeter; I want to look around us... at the world... and ourselves within it—people busy trying to make sense of things.

 Let's not be too concerned that our reason for being here is pretty vague; we can treat this activity as Time Out. We're usually so good at finding time to be really focussed on things; education has placed a high value on clear thinking. But we're not always so good at being unfocussed, or rather, open-minded—mentally ready to engage with a learning opportunity in the manner it deserves. (I have in mind the risk of being so focussed I may miss out on important things happening in the wings.)

 For now, let's consider the possibility that purpose, meaning, can be something that emerges slowly, like a friend walking towards you out of the sleet or mist.

 Appendix 1. The World of Open Learning
This is the path to understanding. Come, you who hope to understand.

One of us smiles inside; or do we both?

We experience things

People might tell you that life is a sequence of experiences; and that we attach greater importance to some experiences, and lesser importance to others. It is one of the ways by which we make meaning of our lives, see patterns emerging.

Let's look at one case; this person is thinking about a random event...

**The day the donkey died among us**

On Maundy Thursday, 1994, our donkey died of advanced cancer of the small intestine. We found her lying dead in the paddock. No one in the household had known she was about to die. The children now recall that she had shown no interest in eating for some time; and I remember asking them to check why she was lying down the other day.

The donkey had learned to adjust her diet to her condition. (No trace of solids in the intestine; but water everywhere: she knew what caused pain and what didn’t.)

In hindsight, the family knows there were signs that something was wrong, but each of us was preoccupied with other things; so Misty received no special attention. She didn’t eat, and didn’t eat, and died. No signs of discomfort that we could tell. She went about her business as we went about ours.

**TELL ME...**

**WHAT WAS THAT WRITER REALLY DEALING WITH IN THIS PASSAGE?**

The writer was really trying to...
Landmarks

The death of a donkey, like any change in the things we value, becomes a sort of landmark in our lives.

Can we agree on the way we're going to use 'landmark'? The word usually refers to an easily recognised feature in the landscape. A landmark is useful because it helps travellers to find their bearings and decide on the route to take. We will enlarge this meaning of the word; for us, 'landmark' will be anything that stands out against the background of our experience. Soon we'll consider what makes our landmarks stand out for us.

We are not straying from our subject—knowledge, and how we come to get it—when we talk about our landmarks. One of the themes of this study will be the association between my landmark-spotting and my learning. (There's no instant logic to support this connection; rather, connections will emerge as we continue on our journey.)

What I see and what I value

In the passage about the dead donkey, I sense a link between what the writer valued and what the writer saw. This is how I think the situation unfolded. The immediate experience was the slice of life on the day the donkey died. Below the surface, what might have been seen as a random event stood out instead as a landmark because the writer judged this event to be more significant than others that day. (It doesn't take much delving into the narrative to hear value judgments dormant within the description of events.)

Where do our 'value judgments' come from?

We can say that our value judgments come to the surface in our daily lives because we each have our own 'value system'. In this story, the writer's value system was more fundamental—or hidden—reality than either the donkey's death or his sighting of a family landmark.

Does the following definition ring true for you?

Value system—a deeply ingrained set of valuing biases that makes it possible for us to judge what is more important to us, and what is less.

My value system is the engine room of my value judgments; with it, I weigh up the importance of this silver and that sliver, of this factor and that. All of this goes on below consciousness; whatever the trigger, we make a rounded, composite human response to each landmark. The milestones of my life are all my landmarks, and my complex relations with them.

I think to myself, here's something to ponder on: what I see is what stands out from the background; what stands out is what I value; yet where do my values come from, if not from what I see?

What I value and what I need

At the risk of sounding like a navel-gazer, I have to add a further notion to the discussion—our human needs. It will help us to think about human needs as another 'construct'—like human values—lying behind the life we experience.

For now we'll simply record for later reflection the notion that our value system is responsive to our needs at any given stage of life. Perhaps this will prove to be at least part of the answer to the question where our value systems come from. We may also turn our attention to human goals and human ideals.

There could be other constructs that experts pick on to explain the way we perceive things. There will be neuro-muscular accounts, psychological accounts, and more, but these lie beyond our present purposes.

And if I should change?

We will also need to consider the influence of personal growth (atrophy, stagnation) on our landmark-spotting. If my set of values is dynamic, fluid, interacting with my whole experience, my changing needs over time, I can expect my personal landmarks to be fluid also. (More landscapes of rubbery figures!)
A proposition is an asserted belief—something that we intend to test. In this case our test will be by reflective self-examination: and by comparing our experiences, to see if any common threads emerge. (Note: floating numbers in the text refer to extra comments at the end of each chapter. The floating number one—in this margin note tells you there is a little more found at endnote 1 at the end of Part A. Checking the endnotes is optional: as we said earlier, only follow the fading ripples of ideas if you want to.)

Did you notice a mixed metaphor in that sentence? (Building goes on at a construction site; but sifting goes on in the kitchen or at the gold fields; that’s mixing one’s metaphors.) They used to tell us not to mix our metaphors, as if it was a stylistic crime. But poets could get away with it, if they had a need. Let’s put on notice our intention to monitor the use of metaphor in this study. When we’re ready, we’ll weigh up the author’s reliance on metaphor. We mustn’t forget!

Along the road to maturity, how closely are our sightings of landmarks—in this development stage or that—responses to our inner needs?

Later in this study we will have a much broader base of ideas from which to construct our response to the First Proposition. Meanwhile, there are many other threads to weave into our tapestry backdrop.

Cast a stone upon the water
Perhaps it is not too soon to cast a proposition into the stream of thought that carries us...

First Proposition
The process by which I place greater or lesser significance on things is often an unmeditated act of selection, yet it is the foundation-stone of all my acts of knowing.

Tell me...
WHAT DO YOU THINK OF USING A BUILDING CONSTRUCTION METAPHOR ('FOUNDATION-STONE') WHEN OUR JOB IS TO SIFT THROUGH HUMAN LEARNING BEHAVIOUR?

I find the use of ‘foundation stone’ is...

Tell me...
WHAT DO YOU THINK A SECTION CALLED 'TETHERED TO LANGUAGE' IS GOING TO BE ABOUT?
YOU'RE THE SEARCH PARTY, THE BUSLOAD OF DETECTIVES. WHAT CLUES HAVE YOU FOUND IN THE HEADING AND THE TWO SENTENCES YOU'VE INSPECTED SO FAR?

Later in this study we will have a much broader base of ideas from which to construct our response to the First Proposition. Meanwhile, there are many other threads to weave into our tapestry backdrop.

Tethered to language
Here am I, thinking what to write, then writing it; and there you are—I hope you are there!—reading away.

The large, fuzzy globe which we are presently inflating together could have no existence without words.

Tell me...
WHAT DO YOU THINK A SECTION CALLED 'TETHERED TO LANGUAGE' IS GOING TO BE ABOUT?
YOU'RE THE SEARCH PARTY, THE BUSLOAD OF DETECTIVES. WHAT CLUES HAVE YOU FOUND IN THE HEADING AND THE TWO SENTENCES YOU'VE INSPECTED SO FAR?
It will be illuminating for you to come back later and compare your prediction about what is about to unfold, with your assessment of what unfolds in fact.

A tether indeed?
I think of a goat perhaps, or a house cow, tethered with a rope. The owner has restrained the animal to limit the amount of pasture it can graze.

But tethered by language?
It's as if we're being asked to accept that you and I are working on something together, and that when we work on this 'something', we can search no further than the tether of our shared language allows us to.

I'm prepared to ask that of us. Our shared 'something' could be labelled 'communication', but that word is only useful if we're talking about the mechanics of getting my document to you, and your deliberations back to me. I tried to hint at something less tangible, but much richer, with the image of us inflating a fuzzy globe together.

Tell me...
Can you put into words what I'm struggling with?

But keep to the point! I tell myself. “Don’t be diverted here; our topic is our total reliance on language; being bound by it. I can be as inventive in my own language as I choose; and so can you; yet our ideas, even when they are aimed at each other, can very easily pass like trains or bullets in the night. Being adept with words doesn’t mean that speakers and listeners, writers and readers will actually be creating something together.

We’ve said that language is a tether, that defines the limits of where our ideas can go. Now we use a different metaphor — language is a funnel; it shapes the ideas that are being conveyed.

'Tether' or 'funnel'?
I can tell you here that a frequently recurring strand in our tapestry is going to be the way language funnels, channels our thoughts.

Tell me...
If, later, we’re able to get feedback from readers on their impressions of the fuzzy globe image; and if the majority say it’s a weak idea, does that undermine the position of the reader who finds it thought provoking?

Tell me...
You’ve already read a few pages of The World of Open Learning. Can you say anything about the way the language has influenced (funneled) the thoughts flowing through your mind as a result of the ideas presented?
A pause for doubt and reassurance

Don't despair that we're getting bogged down in ideas that have no application. These ideas are not here simply to be spawned or caught in other people's minds. (We are not working with a 'reproduction' or a 'contagious disease' model of teaching and learning.)

It's not the ideas themselves that will expand your learning skills, but the processes of thought that are brought into play during open learning.

It is still too soon to lock open learning into a definition; after all, being an open learner is not 'having a knowledge about a learning technique'; but 'experiencing a process on many levels at once'.

Open learning is more than a method of educational delivery.
For us, it is a way of approaching the world.

If I put you on the spot now, and asked you for an image of open learning for the front cover, how would you behave?
The message we receive from a communication is going to be influenced by all sorts of things within us, and by various elements that arise from the source and the medium of message delivery.

We will test this out from time to time as the rest of our study unfolds. We stand to gain discernment about ourselves; and about our patterns of responding to others.

Let's see if we can explore the funneling effect of language on ideas being conveyed to us. But how will we explore this process in a way that fosters open learning?

I hear voices

We're now going to test the influence of *language* on what a reader or learner perceives during the reading or learning process. I'm going to introduce two parallel discourses on the next topic of discussion; two writers, side by side, will be asked to open up the same broad area of inquiry; but this content will be conceived, valued, filtered or interpreted from different viewpoints.

Let me introduce two characters we'll meet from time to time. Todd and Steven are two figments of my imagination, and therefore I take full responsibility for anything they have to say—whether I agree with it or not!

Todd and Steven are a bit like silent partners in a silent firm. Unlike characters in a story, they don't have a fixed personal background or personality. They are two actor friends who play whatever parts you give them.

Voice testing

I'll be calling on Todd and Steven to do various jobs later; for now, Todd has to play the role of the distance education writer who always tries to use a comfortable, but non-intrusive style. (He's been told to remain aloof from the reader, in order to make the reader concentrate on the subject at hand.) Steven has been given no such limitation. He'll be the teacher who is conscious of the isolation felt by many distance learners; he'll be trying to make up for the missing others that can make a shared learning experience such a stimulating event.

One of the things we can do is monitor our reactions to Todd's account, and then Steven's. Remember that we are trying to isolate—to the extent that this improbable task is possible!—their ideas from their language.

This is voice testing. Note that we're not expecting to find a perfect match (replication) of ideas in the two accounts. As soon as we change voice, we change viewpoint. And what is viewpoint influenced by, if not by the factors we looked at earlier—our values, our landmark-spotting, our needs, our ideals, our goals; we could go on and on. With all these variables coming into play, the content (the ideas) of the following accounts are sure to have their differences.

Overleaf we will hear from Todd and Steven. Todd's *subject-centred discourse* will be on the left side of the page; and Steven's *unrestricted discourse* will be on the right. Margin notes appear in the white space down the middle; they're by me playing myself.
Subject-centred discourse

by Todd

In this study we've been interested in the variables, the contributing factors to 'open learning'. We have been careful until now to avoid giving a precise definition to open learning, except to say open learning has a lot to do with the learner's mental approach to the task. This implies, though we haven't said so yet, that 'open learning' can happen in all sorts of educational settings. We have not drawn attention to distance education as such, although in many English-speaking countries, 'open learning' and 'distance education' are frequently interchangeable terms.

We can highlight some of the qualities of open learning by comparing a face-to-face teaching-learning episode with a distance education activity. We will consider the quality of teacher-learner interaction, and the effect this interaction can have on the quality of teaching and learning.

Here are two features of effective classroom teaching and learning:

• teacher and learners all value the purpose of the lesson. Learners who have been socialised to accept the learner role simply carry out their role. People can be effective learners without this preconditioning when the event itself creates its own value for the learner. For both kinds of learner, the learning experience gives pleasure or contentment. The value of the exercise is further enhanced when the teacher is seen to be fully given to it, and absorbed in it.

• occasionally, in face-to-face teaching-learning, a kind of group identity and a common goal overtake all participants. The greater the interest in the subject, the more likely this is to occur. Various kinds of interaction may occur, but participants willingly allow their own separate trains of thought to be subsumed within the expanding and shared ideas of the group. This is wholly desirable, and does not block individual growth in understanding—for the open learner is a reflective learner, and later, when the time is ripe, the private train of thought can continue on its private, merry way; though richer than it was going to be, before the group lesson enlarged participants' individual perspectives.

Within the expanding and shared ideas of the group: Do you recall our earlier image of inflating a fuzzy globe together?

Gestalt: a German word common in certain schools of psychology, used where there is need to conceive a singular whole to give context to elements that are separate, yet behave in some relation to each other. It is now used in all sorts of fields, and we shall use it too. In Part C we introduce the term, learning act gestalt; its meaning is already implicit in what we have here.

Unrestricted discourse

by Steven

I have been on the writing end of the distance teaching-learning process for years. But back in the old days I was a classroom teacher in a high school.

I remember it well. You'd know instinctively, or maybe intuitively, how to orchestrate the lesson. (Confession—I'm recalling the success stories, of which there were one or two.)

When the time came, you'd have 28 pairs of eyes engaged in our common pursuit with varying degrees of involvement.

If you had rapport with them, if you were inspired by your subject, if you were in good form, if there were no distractions to the lesson, and if they were open to learning—my, what heights you'd soar towards!

You'd be so finely attuned to this gestalt of which you were part, you'd be darting, veering like a swallow. The timbre of your voice, your pausing, your facial expressions—all carefully adjusted to suit the subject that moved you so, and to suit your listeners. If your listeners' enthusiasm kept on mounting, you'd anticipate, you'd subtly change the relations between elements of the whole. Almost imperceptibly. But they'd sense the need for restraint, adjust volume—all for the sake of the wider school community—continuing to circle the light bulb of enlightenment without hesitation, and not the slightest loss of concentration on our subject.

Perhaps I'm embellishing slightly. (And I'm not talking about the disaster lessons or the hum drums.)

These days, working in a distance education program, there's not the same, immediate learner response feedback to reward, enliven, sustain the teacher stimulus.

And yet... and yet... there is a kind of conversation possible in distance teaching-learning. We can support this claim by referring to the ordinary forms of postal, computer and tele-communications. Or we can reflect on the possibility of dialogue—teacher-learner interaction—imbued directly in the open learning course material. That is the area we are interested in here.

Appendix 1. The World of Open Learning
How did that happen?

I need to share with you my reflections on what just happened on the previous page. (There’s another optional activity for you in margin note A. Try this activity now; or read on.)

I had decided on the Todd and Steven idea some time before writing their scripts for them. It was a curious experience composing these two texts. I started with Steven’s; you can probably tell that this passage emerged by stream of consciousness—a writer’s equivalent of the parachutist’s free fall. The decision to go back to the classroom example was not carefully weighed up; rather, the decision to proceed with it was progressive, as I warmed to the train of thought, a sequence that I’m sure emerged out of the words, the languaging.

I feel now that there was some careful footwork going on at the end of the passage to bring the train of thought back to the subject of our inquiry.

Then Todd had to have his say. Do you feel that Todd had seen Steven’s script when he wrote his? I do, though I’m too close to both of them to make a judgment.

As I wrote for Todd, I was conscious of the need to make his discourse more subject-centred. Steven’s had been so Steven-centred, what was I going to write? Todd wasn’t meant to be any less (or more) likeable than Steven.

I realised that Steven had jumped right into his personal experience in the classroom without linking his discourse to what had gone before. That gave me what I needed for Todd’s discourse.

Before (in margin note A), I invited you to put yourself in my shoes; now I slip myself into yours! I realise that it could be difficult for you to say which of the two discourses you preferred, because they have ended up doing rather different things.

Tell me...

Did you have a preference for Todd’s or Steven’s discourse? Why?

As a distance learner, would you enjoy learning materials that Todd and Steven worked on together?
We're reaching the end of the first part of this study. We can draw the voice testing episode together by looking at the 'texture' of distance learning materials². This should help us recognise the main purpose of a discourse; and tell whether there are any sub-surface intentions being played out as well.

Layers of intent

In case you're wondering what we're here for, let's consider why we stand to gain from this discussion.

Why worry?

Why would a learning module about open learning go into something that surely is the business of the course writer? Why does an open learner have to bother about hidden features of the language used?

In fact, this is a complex question if it is to be answered properly; and it needs to be answered properly to equip open learners for their journey of lifelong learning².

We will return to this question in later parts of our study. For now, let's say that the open learner is also an autonomous learner. (I know I said at the start you were taking a journey with a friend. Both of these statements are true of this way of approaching the world.)

As you become an autonomous learner, you will be evaluating the teaching-learning process continuously. If you are able to see what is going on between the course writer's lines; if you are able to discern what's really happening on various levels at once; then you'll be making judgments about where you and your teacher are going; and if you are being given scope to chart your own learning pathway.

The textures of text

What then are the textures to be found in distance learning materials?

For our present purposes we can look at three different textures, or orientations, in distance education texts. We will talk of these categories as 'weightings'; they are weightings in the sense that the text passage will have a composite impact on the learner. The heavier the weighting given in one direction, the stronger the impact of that orientation.

Language is multi-dimensional—a given paragraph can work on several levels at once. Therefore it is possible for a section of text to contain all three.

These are the three orientations:

- the content weighting
- the instructional weighting
- the emergent learner weighting

The content weighting

In many courses there will be a well-defined body of knowledge and skills to be covered. In competency based curricula, writers design their materials around the need for the learner to achieve clearly-specified learning outcomes.

Passages that explicitly, and in detail, concentrate on the knowledge and skills of the subject, have a heavy content weighting.

The instructional weighting

Passages that bear the voice of the instructor and are concerned primarily with the teaching-learning process have an instructional weighting.

In many cases, distance learning materials will switch between content and instructional orientations.

The emergent learner weighting.

The writer who wants to engage the distance learner in the discourse, to create a kind of conversation with the learner, has to reach beyond content and instructional orientations. Just as a skilled actor, alone on stage, can create the semblance of a conversation, so the distance education writer can use language in subtle
ways to anticipate reader participation. Through these techniques, the writer speaks with—not at—the learner, becomes the lone actor in conversation with the missing person. We do not witness some cloistered orator talking at no-one; rather, in every turn of phrase, we know that dialogue, engagement, is under way.

By what means does the writer instil an emergent learner orientation in the discourse? This is another big question, which will be explored at another time; although at the end of Part A you will be invited to suggest the qualities of a discourse that draw you into dialogue.

Expect the best teaching practice

I ask myself—what benefit might distance learners gain by forming some expectations, some standards of acceptable teaching practice in the distance education courses they enrol in; in particular, whether they expect the writer to give the emergent learner encouragement and space in which to grow?

TELL ME...

WHAT WOULD BE YOUR ANSWER TO THAT QUESTION?

________________________________________

________________________________________

________________________________________

What is important for the distance learner who aspires to be an open learner (and therefore, among other things, an autonomous and self-directed learner) is to recognise the layers of intent within the writer’s discourse.

The Second Proposition reads like one of those ‘either/or’ statements, doesn’t it, so we should approach it with caution. I am not saying that acquiring appropriate knowledge and skill isn’t central; what is also central is leaving the learner in the driving seat.

The absence of an emergent learner weighting in a discourse may have various explanations. Maybe the institution is working to a curriculum that is content-centred, and the writers follow suit. Maybe a writer is not aware of the multiple layers of meaning within a communication, or has not reflected on the imbedded layers of intent within his or her teaching practice. (Note that ‘layers of intent’ is my own term; it is not unfamiliarity with the term that could cause problems, but a lack of awareness of the different orientations or textures within a discourse; and the unacknowledged intentions or motivations behind them.)

Let’s drop anchor

In Part A of this study, we have been standing at the bow of the vessel that carries us. We’ve been exposed to all the elements, all the ideas and impressions that the voyage has to offer. And shortly, that’s how we’ll continue on our journey towards understanding. Our senses remain alert—we do not preoccupy ourselves with this or that idea; for then we would be no longer in a state of openness to our surroundings.

Whether this expose yourself to seaspray approach feels comfortable or not, we agree to try it for the time being. (I hope I am speaking for all of us!) We can return in due course to the ideas that need investigation.

There was a headland we passed back there. Can’t recall the detail, but it seemed like an important landmark at the time. Someone said it was called personal open system learning.

I wonder what that means.

Someone has already told them to drop anchor. I’m not sure how we found our way into a little sheltered alcove without trying; but I’m ready for a rest; aren’t you?
1. At this stage of our journey, does the idea of being an open learner appeal to you? Why or why not?

2. Let's consider your experience as a distance learner:
   a. Can you recall any occasions when you were fully immersed in the subject of study? Was the writer present within the discourse?
   b. Is it more important in some subjects than others for the writer to be present in the discourse?
   c. What are some of the ways by which distance education writers are able to draw you into a kind of conversation on the subject?

3. What are your impressions of our journey so far?
Endnotes

One

A note on the proposed method of inquiry. In margin note a on page 136 we said that the First Proposition would be tested in two stages. We can call this the 'reflexion-consensus method':

- reflexion—we individually search our own experience for evidence that supports or challenges the proposition
- consensus—we also listen to what other learners have to say about their behaviour.

This method of inquiry is appropriate for the subject of human learning, in the same way that laboratory testing is appropriate in other investigations. Implicit in this reflexion-consensus method is its open-endedness; at no stage do we get anxious that the final word has not been spoken.

# A fuller discussion of methods of inquiry (as a special form of learning activity) is given in The World of Open Learning Researcher's Companion.

# Open-endedness—we are always ready to reconsider the conclusions we have drawn. In this respect, our method is compatible with empirical modes of inquiry.
Glossary

Construct
A complex image or idea resulting from a synthesis by the mind (The Macquarie Dictionary).

Discernment
A capacity for making refined judgments in the face of subtle variations or complex layers of meaning.

Languaging
Dressing ideas in words within the symbolic universe of the language concerned. (Von Bertalanffy (1981) gives a detailed analysis of the concept of ‘symbolic universe’.)

Proposition
See margin note 4 on page 8.

Reflexion; reflection
In this study, the term ‘reflexion’ is used for a particular kind of reflection. When we reflect, we recollect, ponder on, review something, beyond our immediate sensory awareness. A reflection may be about an experience, a quality or an idea. It is through reflection that we can draw further meaning from an experience; this makes reflection a powerful process of learning. Through reflection, we can sift through an experience in a relatively uninvolved, dispassionate way.

We use the term ‘reflexion’ for those periods of reflection when the recollecting and reviewing is of an earlier process of thought, the rekindling of an earlier mental experience; so reflexion is thinking turned back upon itself.

Norman Denney translated Teilhard de Chardin (1964), The Future of Man into English. He explained in the translator’s note that Teilhard’s use of the French term ‘reflexion’ demanded his use of both ‘reflection’ and ‘reflexion’ in English, according to the context.

I mention Denney’s experience, not to borrow someone else’s historical definitions of words; Teilhard’s vision is a story for another time and place; but to acknowledge Denney’s comment as a landmark in my own journey towards understanding. In our individual journeys, we fill other people’s words with personal meaning. We build upon other people’s meaning.

Subsume
To consider (an idea, term, proposition, etc) as part of a more comprehensive one (The Macquarie Dictionary).
Bibliography


Appendix Two

Stimulus material for co-learner E Texts

A fable...

I don’t remember how we first got to know each other. I have a faded memory of being together in a bus somewhere. I guess that is what always made these people special—we all had a sense of going somewhere together. Even when I’ve been back in my own little world, getting on with my life, I’ve had a persistent idea worming around in the back of my mind, mostly just out of conscious reach, that our bus journey was just about the most important thing in the world.

Actually, I don’t remember whether there ever really was a bus journey. And I can’t tell you precisely who was on the bus. There are some people who, I’m almost sure, were there—faces or names that have crossed my path at some point in my life...

people I’ve known, and people I’ve known about.

Somewhere along the line, we must have started musing about the Big Question, you know, the one that everyone sooner or later gets to ask, in a variety of forms, about what it all means.

One of the women on board offered to teach us a game which, she said, could help us with our puzzle about the Big Question.

I don’t remember her actual words any more. Many of my own barnacle-thoughts have no doubt attached themselves to hers. She never told us who taught her the game; I suppose the original account of the game is long lost by now. Anyway, I’ll tell you my version of the game.

It works for me.

What sort of game is E Text?

E Text is both the game itself and the by-product of the game. To become part of this game, you set yourself the task of bringing into verbal form your unspoken sense of everything.

Your E Text will be your ‘sense of everything statement’.

What is your sense of everything?

For the purpose of this game, we will test the possibility that people have a capacity to draw out of the deeps, to shape, to synthesise the totality of personal experience into a unitary understanding—into something tangible.
If I ponder long and hard enough, my grasp of the outer world and my inner world at any stage in my life journey can be shaped into a summary statement—an overview of my sense of everything.

My sense of everything will convey the current state of my understanding of the material cosmos and of all the things I value within my personal world;

and how I think things came to be this way.

What is the use of defining your sense of everything?

Everything I think, everything I do, I think and do against a backdrop of everything... of my everything.

One of the difficulties we face in our compartmentalised lives is that issues from different areas of life must be evaluated against their own particular backdrops, within their own frames of reference. (Does a farmer allow family needs to impinge on financial decisions within the business? To what extent? Whose value systems will be considered in the allocation of scarce cash? Do ethical standards influence the various contending players equally? Whose standards? And how do we weigh up rights of different kinds?)

When I am able to articulate an overarching sense of everything statement (my E text), I have a final (or primal) backdrop to give my second order backdrops a common context. By playing E text, we are carrying out our own personal inquiry. We are testing the possibility that the E text could provide a language, a set of ideas that will facilitate the weighing up of unlike things.

So, whenever I have an idea, whenever I favour one option over another, I will have my E text to help me see my behaviour in its wider significance.

If there are such things as deep factors influencing my feelings, thoughts and behaviour, moment by moment, they will—by their very existence—influence the evolution and content of my E text.

By consciously producing a verbal snapshot of my sense of everything, I am entering a process of dialogue with the deep influences that propel and constrain me. I am engaging in a process of self-discovery, perhaps even of reconciliation with the hidden parts of myself.

[Note to co-researchers: I realise from the feedback you gave me last time that you could be finding this sort of thing unpalatable for farmers. Can I ask for your patience? I am taking you down this track because of the goal we have set ourselves. We are waiting to see how a more holistic understanding will make us more effective in our personal and working lives. To achieve a more holistic understanding, we need to keep moving back and forth between our everyday lives and the world of abstract thought. There will be time for us to take a second look at my communication problem. Comment by all means on this issue as often as you wish. At this stage of the project, however, I am afraid there may be some adults who will refuse to battle through our abstract landscape. On the other hand, we may decide that the game of E text does have an educational use, but that much of my present discussion is unnecessary when introducing the game.]
How durable will your E text be?

My E text will be just like a snapshot, a record of my sense of everything at a particular point in my journey. No, not so much a snapshot as a kind of self-portrait, because it will be my felt-response to the task, an impression, a work of art.

Then time will pass, my point of observation will change, and so my E text will be more like a historical record than a present reality.

As the game of E text unfolds, I may find that I am compelled to compose a new E text, time and again.

What is the significance of composing your E text?

The game of E text takes us into the realm of Jungian psychology. It offers me a safe way of participating in my own process of individuation.

But it is more. My E text will also contain evidence of:

- the state of my knowledge
- my skill in merging, synthesising, ideas from different realms
- my linguistic and communicative competence
- my preferred patterns of meaning-making.

It will therefore be a very private document, just as a personal diary is.

But the E text itself is not the important thing. The game is. Writing my text is only the beginning. Each player will find that the significance of playing E text is something that emerges.

How good a likeness will your E text have to your sense of everything?

I am not saying that my sense of everything exists as a unitary understanding in my pre-conscious mind. More likely, my E text will be a synthesised, unitary statement of raw data that are not yet organised.

The question then is, how complete, and how well-rounded or integrated will my E text be?

How complete? This is a question that each player asks once the E text is finished. The quality of my awareness of the gap between my E text and my sense of everything is intimately bound up with my progress towards holistic understanding.

How well-rounded? This question is about the organisation of ideas within the document. Players who have been trained in discursive reasoning (logical argumentation) will probably draw on these skills when composing the E text. But there are other genres (forms) of writing, and therefore other patterns of organisation that may suit a player more. A poet, for example, is not concerned with the introduction... body... conclusion form. Nor is a recipe writer. Nor is the composer of epitaphs. When writing an E text, consider the whole (the entire thing) you are seeking to express, and let the shape of your E text emerge with each successive draft.

Appendix 2. Stimulus Material for Co-learner E texts
How to play E TEXT

Here are some guidelines that might help you get started.

1 Reflect on the task as described above.
2 Start scribbling down ideas about your sense of everything that pop into your head. If ideas don’t start popping, be patient. Create some quiet space in your life. Don’t get anxious about the task; remember, E TEXT is a game. Try doodling. Or think about one of these weighty questions...

• What on earth am I doing here?
• What are the main features of my personal understanding of the physical universe?

• What other things do I need to include in my sense of everything? Does my sense of everything provide a key for what we read in history and the other disciplines, for what we hear and see on news reports, for the things that are closest to my heart?

3 Start planning and drafting your E TEXT. Aim for 500 words (about two pages of writing). The finished work should be at least 250 and no more than 750 words. (Later on, players will share their documents with others in the game, so there needs to be some common standard for length.)

Later steps will be given in separate instructions.
Twenty Memories—
an exercise in classifying moments of experience

Material supplied:
• Master sheets for you to write down your brainstorming reflections about your life story.
• Sheets ready for you to cut up into playing cards*. Each card has a small card number in the top left corner.
• On each card there is a blank Fields of Judgment chart. The purpose of the chart is explained in the instructions below.

Instructions

Read through all the following instructions before commencing the activity.

STAGE 1

Recall 20 or more events in your life, important or at least typical of your life experience.

For each event, write down:
• a short title for the event (example: My first day at school)
• a comment that you might have made on that occasion, or a thought that might have passed through your mind.

Use the master sheets to record your ideas as they come to mind. Later you may have to prune the number of your events back to 20. In the initial stages, write down all the contending events in the order in which they spring to mind.

Tip—what kind of thought or comment? At this stage, try to form your comment or thought from your world at the time. Try to keep your present perspective and scale of values at bay. The comment could relate to the surface level of the experience; or, it may show some tendency towards self-reflection, but only if—and only as far as—you were capable of it at the time.

“Was I capable of self-reflection of this kind, and was it a common thing for me to do at that stage of my life?”

Our challenge in this activity will be to make an intuitive judgment about the gap between our reflective capacity, then, and now. But we can’t reflect on that together until we have first played Twenty Memories.)

Tip—‘wide’ and ‘narrow’ band events. A narrow band event is one that happened in a particular time and place. A wide band event is more like an experience that occurred over a period of time; it might be a series of recurring episodes that merge together in memory. You may choose events of any band width, provided they stand out from the background as a distinct pattern in your life experience.

Tip—how open should you be? Your master sheets are for the time being your own private working documents. [Note to co-researchers: we may decide to share information from these documents later, but only if the group decides we need to.] However, you will also be writing an event title—or a code name known only to yourself—on each card, which will be returned to Tony. If you choose to filter out material because it is too personal, or if you decide to convey only the surface of a deeper experience, the important thing is to be reflexively aware of the processes at work behind your editing decisions.

STAGE 2

Now decide which 20 events you wish to include in this mini photo album-like summary of your life. Use the left margin on the master sheets to number them 1–20. (The numbers will indicate the order in which these events came to mind.) Then cut up the 20 cards provided. On the top of each numbered card, write the title of the event, or a secret code name that will be meaningful for you. Use a separate card for each event.

* A sample Twenty Memories data card is shown in figure 12, p94.
STAGE 3

Now we will use the Fields of Judgment Chart on each card to make comparisons between the events we have chosen.

There are seven qualities listed in the chart. It is now time to try to compare—or rather, recognise the shades of difference in—your chosen life events. Detailed instructions are given under the heading of each field of judgment. Work through the instructions and complete your analysis of the first field of judgment before going on to the second. Work through all the fields until you reach the end.

Read through the rest of these instructions before you begin your ranking tasks; make sure you read the two guidelines that follow the fields of judgment.

Fields of judgment

FIELD A—CHRONOLOGY

Sort the events in the order in which they occurred in your life (to the best of your memory). Lay the cards out in chronological order. For the earliest event, write the rank number '1' in the space provided on the back of the card for field A. (You have 'ranked' this event as first in the series.) Fill in the rank numbers 2, 3, 4 et cetera in the field A space on each of your cards.

When putting events in chronological order, wide band events should be ranked on the basis of the midpoint: an event lasting six years is centered on the third year.

FIELD B—CLARITY RATING

In field B you will classify your events according to the degree of clarity or vividness with which each event stands out from surrounding events. (If your first day at school was much like your first month at school, it may be less vivid than the day you got engaged.) Sort the events in order of vividness, from low to high clarity, and record the rank order of events in the space for field B.

FIELD C—TIMEFAST RATING

Timefast is like colourfast—the colour (or the memory) has not faded. In field C you will classify your events in terms of your present assessment of the accuracy of each memory. Has each event weathered the passage of time very well in your memory? Record the timefast ranking of events from low to high timefast values.

FIELD D—SATISFACTION RATING

In field D you will classify your events by the amount of satisfaction you gain now from each recollection. Lay the cards out from low to high satisfaction gained, and number each card in the space provided for field D.

FIELD E—PASSION RATING

In field E, arrange your events in order of level of emotion expended at the time (to the best of your memory). Try to give an 'emotional temperature reading' for each event. Sort and number events from low emotion (cool-headed) to high emotion (warm-blooded) experiences. You are not grading experiences into good or bad categories. Note also that calmness is a 'low emotion' state. So, deeply moving experiences that created a feeling of inner peace will score a low temperature reading.

FIELD F—IMPORTANCE RATING

In field F, rank these events according to their importance in shaping you as a person.

FIELD G—INFLUENCE RATING

In field G, arrange your events according to the amount of influence you had on the unfolding situation.

Guidelines

• Dealing with complex experiences. Each field of judgment deals with a distinct quality of experience, but as we know, human experience is multi-layered. If the intensity of an experience is lessened by any factor, slide the event towards the middle of the distribution.

Example: You remember pushing an intensely unpleasant experience out of everyday consciousness. You may give the event a 'high passion' rating; or, you may rank it closer to the middle of the passion field because, in repressing the experience, it became (for the time being) less unpleasant.

• Events that come a dead heat. You may find that you can't always give a consecutive ranking of 20 items, that on occasion, two or more items are inseparable. In such cases, give the items an 'equal place' ranking.

Example: You can't separate five events in the middle of the range. Instead of ranking them 8–12, rank them all '8'. Note that the next item must be ranked '13'. This approach can simplify the ranking task. But also, by grouping items together, we may make connections we've never made before; this can lead to new levels of self-understanding.
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<th>Number your 20 selections</th>
<th>Event Title</th>
<th>Key Thought or Comment at the Time</th>
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Mark's 20 memories in chronological order:

- Walgett
- De La Salle
- Boarding school
- Brother
- Parents split up
- Tamworth
- Madden
- Tech
- Mates
- Freedom

CLARITY:
1. (5)
2. (8)
3. (9)
4. (18)
5. (7)
6. (6)
7. (1)
8. (15)
9. (14)
10. (10)

TIME/FAST:
1. (4)
2. (5)
3. (13)
4. (14)
5. (12)
6. (6)
7. (20)
8. (1)
9. (10)
10. (15)

SATISFACTION:
1. (8)
2. (4)
3. (7)
4. (18)
5. (3)
6. (6)
7. (1)
8. (9)
9. (10)
10. (13)

PASSION:
1. (=1)
2. (=14)
3. (=14)
4. (=14)
5. (=5)
6. (=5)
7. (=14)
8. (=5)
9. (=5)
10. (=5)

IMPORTANCE:
1. (=1)
2. (=6)
3. (=6)
4. (=6)
5. (=6)
6. (=6)
7. (=6)
8. (=6)
9. (=6)
10. (=4)

INFLUENCE:
1. (=2)
2. (=4)
3. (=4)
4. (=4)
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9. (=4)
10. (=4)

Improving the Effectiveness of Distance Education for Farmer.
Vivienne's 20 memories in chronological order

<table>
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<th>Marking desk</th>
<th>Headmistress</th>
<th>Needlework prize</th>
<th>Performance</th>
<th>Missed out</th>
<th>IQ test</th>
<th>First in class</th>
<th>Missing bus</th>
<th>Fairfield Girls</th>
<th>Scholarship</th>
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**Clarity**

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4. (11)
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**Timefast**

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4. (10)
5. (1)
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10. (9)

**Satisfaction**

1. (4)
2. (5)
3. (16)
4. (15)
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7. (12)
8. (9)
9. (11)
10. (14)

**Passion**

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2. (13)
3. (16)
4. (15)
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8. (6)
9. (5)
10. (7)

**Importance**

1. (8)
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3. (13)
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**Influence**

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Improving the Effectiveness of Distance Edu
tC. The Widest Sweep of Cognitive Embrace
Noel's 20 memories in chronological order

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<th>Finger injury</th>
<th>School prize</th>
<th>First flight</th>
<th>Drivers licence</th>
<th>Nat. Service</th>
<th>Birth of son</th>
<th>DFA job</th>
<th>1st trip o'ceans</th>
<th>Saigon rockets</th>
<th>First solo</th>
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### Sue's 20 memories in chronological order

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<th>Father's gift</th>
<th>First solo trip</th>
<th>Butterfly race</th>
<th>Nurse training</th>
<th>Losing money</th>
<th>Casualty ward</th>
<th>Prom concert</th>
<th>Birth of son</th>
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Shapes Taking Form—The Creative Domain of the Human Spirit

Here I present two texts, written a couple of years before I commenced this research project. They are presented here to further highlight certain overt or covert themes in the thesis; and to demonstrate how the formation of a world of thought (such as this thesis) starts to take early form in a single human consciousness. In article 1 I observed that sometimes in the writing process an author can do no more than sit back and marvel at what is disclosed. By including these two texts in this study, I pay homage to the genius of human Creativity.

1. Photogenic Angles—A Personal Reflection on Creativity

Where does my creative drive come from? What compels me to draw on my creative depths?

From one angle, a creative surge of mental activity seems to be my most natural of reactions to a situation-in-flux. A child doesn't know how to do something; or an organisation lacks direction; a new contraption is needed to make something function properly around the home or out on the farm; or a friend looks like falling apart. From whatever depth, for whatever reason, I find myself engaged in searching for a solution, the missing factor capable of integrating the fragments, the missing note bonding noises into harmony.

This most immediate, almost involuntary action I take—again and again—is perhaps the primary characteristic of my social existence. Any assessment of my relationship with the world, of my 'meaning', must recognise within my deep identity a making-whole behaviour reminiscent of the healing processes in biological and ecological systems.

Lofty sentiments indeed—true, to an extent, or rather, true, on occasion. Is there any significance in the ebb-and-flow, the wax-and-wane of this (what I called) primary characteristic? Upon reflection, what is perhaps 'primary' is the wish-to-be, the making-whole intention rather than its expression in consistent living. A state of permanent tension.

Reflection of dreams. A pin forced through an insect on display. I cannot move. Stuck with a conundrum. Affixed, immobile, I can't manoeuvre around my dilemma. Yet... blink the eye, look again! Who has ever known an obstacle able to resist the weathering of time? My 'primary characteristic', my half-hearted, my motley, my irregular, my disappointing... What redeems you, my making-whole intention? Is it after all your persistence?

A creative surge of thought is my reply to a problem. A multi-dextrous, nimble, agile, counter-foil sleight-of-hand. Don't assume how I shall respond to these tired re-runs of problems. The primary characteristic of creativity is that it keeps producing surprises. So, you forces of mediocrity, fragmentation, dissipation, entropy... be warned!

1 This short paper was presented at a seminar on Creativity organised by the Centre for Human Aspects of Science & Technology, University of Sydney, 1988.
A different angle. Subject: a fathomless sea of creativity within me. Assignment: peer deep into that dark silence, for all the world is mirrored there.

Someone is at work. Art is happening.

What is the source of art? What drives me and all the world of would-be artists? For each the answers will differ. (For me... for a start... I must ask you not to hold my statements against me; these words are just a view from one point in time.)

Partly, it’s a question of fulfilling yourself. A watchmaker authenticates himself through his watches; a farmer, through produce; an artist, through artworks. Acclaim would be exquisite recognition, nice; but what is non-negotiable is personal achievement, the artist’s own judgment that a work is complete. So maybe some kind of acceptance of calling is part of the answer, a readiness to wear for a time the mantle prepared for you in the heavens.

Then, too, I think the artist is compelled to create tangible expressions of personal reality-experience. I perceive the world around me. This perception comes with such intensity that a personal response is called forth. Whether I am gripped by an inner experience or something outside myself, I am able to encapsulate its entirety within my artwork, revealing it to the world in the true light in which it came to me.

What do I achieve by modelling reality in tangible art? There’s a sense in which by externalising my vision I step outside of it, gain a measure of liberation, maybe even a firmer footing. Immortality according to folklore is the exclusive prize of the very few world greats. But maybe even would-be artists form part of a permanent living culture that survives mortal decay.

Does art outlive the generations that produce it? Is its survival dependent on patrons and curators? Is it safer in the attics of the collective unconscious? Or somewhere in-between? Or both? Or neither? Or is the question itself flawed? Whatever the answer, the artist is someone engaged in complex interactions with the wholes—and the partials—that constitute life.

The artist is just a special kind of problem-solver. The sea of creativity is the common inheritance of us all, our universal fluid-of-being (to keep our metaphor nautical; metaphoric language provides approximations to our experience, and helps us make sense of it).

How does the hidden sea of human creativity express itself? Does it support left or right brain cognition? It supports both. This written reflection is evidence of that. My powers of analysis and logic are unfettered... no, elaborated... no, metamorphosed... by my picture language, my felt impressions. When both modes are engaged together on a problem, I achieve a broader-based analysis. When I am able to apply all of myself to my problem—thoughts, feelings, values, beliefs—then I am operating as holistically as I’m able. I doer-as-whole face my fragmented problem as type... portent... and promise of the harmonising, the making-whole-to-come. The medium is the message. The observed and observer are one. As mystics have always known, wholeness is within you.

Wheels within wheels within wheels. Any assessment of my relationship with the world must recognise within my deep identity a making-whole behaviour reminiscent of the healing processes of biological and ecological systems.

The sea of creativity is really perhaps a figment of fancy. Yet perhaps even fancy has a place in our analysis if it illuminates our reality-experience.

The sea of creativity is our common inheritance. It is there for all to tap into. Because it is open to all, regardless of individual intent, creative inspiration may be used for good or ill. This is true whether I use my creativity in work or in art.

In the final analysis, every person’s life shows a unique response to the sea-who-waits-to-be-tapped. The quality of each response may be measured by two questions:

- Have I consistently sacrificed the smaller whole in order to enter the larger one always waiting on my horizon?
- Has my making-whole behaviour always brought healing?

One question concerns the order of magnitude of the system I devote myself to; the other, the moral quality of my action.

There is still one feature to mention to complete this photograph. Like the ponderings above, it is a feature inherent within the human making-whole experience. It touches on the relation of the individual to the population at large. Wheels within wheels within wheels. What lies deep within me lies deep within others. The ecology of personhood recognises a common pattern through the entire composite order of discreet wholes. Every doer-as-whole is just another of the myriad types, portents, promises of the (dare I say?) cosmic making-whole-to-come-if-we-please.
Making whole within making whole within making whole. The sea of creativity is our common inheritance. To be human is to be creative. This explains my deep sense of solidarity with others given to a making-whole orientation. It explains why education was my 'if the glove fits wear it' vocation: a teacher has opportunity to uncover the latent making-whole orientation in others, and watch it grow to bear fruit in action.

OUT OF THE MORASS, A PICTURE CRYSTALLISES...

1 Intrinsic to my nature is an orientation to an undefined yet comprehensive order of wholeness. When I am being true to myself, in pursuit of this basic orientation, I became actively engaged in the world in making-whole behaviours.

2 Making-whole behaviour is the natural expression of human creativity. Creativity is seeing and interpreting afresh. It produces inventive solutions both in art and in living.

3 The artist produces a particular kind of making-whole solution. Through art, the artist is fulfilled, authenticated, liberated. The artist creates wholes: the artwork is the externalised encapsulation of the artist's vision. The artist also participates in the larger whole of an evolving reflective culture.

4 The creative person provides an holistic solution whenever the situation is informed by the full panorama of individual experience. By acting upon an incomplete situation the doer-as-whole foreshadows the making-whole of this situation-in-flux.

5 The recurring acts of making-whole in the world lead to a progressive engulfing of each lower order whole into a larger scale synthesis. Every closed whole serves as a cameo: a signal of the ultimate enfolding of all particular wholes into a final, comprehensive order of wholeness. Not a guarantee but a prized offer.

6 The quality of my life as agent of making-whole may be measured by the order of magnitude of my whole-making, and the moral effect of my acts.

Anthony McKenzie
Paterson, New South Wales
15 August 1989

Appendix 5. The Creative Domain of the Human Spirit
II. Sherd 900725

Here I am by the window
waiting for the words to flow
pen poised like a cobra at prayer
as the sun routinely brushes morning warming
over all...

Layers upon layers is my life
each event stacked upon another
colour-fast only as they cling to the present
in recollection they slip, merge, soluble as dreams.

All these remembrances—
time’s tatters of imagining—
trail away like an unfulfilled promise
decaying from view.
Are not these—
your hearings, seeings,
doings sayings beings—
the stuff of which your world is made?

A modest jewel of heaven
is Earth-space-time
bauble of gods
bedecked
glinting in sun,
but nowhere much to go?
And you,
small of stature
trail of delight
what is your heart’s treasure
that you should adorn her?

If I should meet you for the first time
would you pause to greet me?
We’re all the same, we passers-by
we trains in the night,
we all hump our particular yesterdays
we all herald our particular tomorrows

Strange,
how common building blocks of matter
should stack themselves
with such comely variation.
In every event, every encounter,
every empty space
chosen for you—
or by you—
you form Persona.

There the world is
all humanity of her
all rocks all waters
all airy spaces
Take a full draught
wait upon her
and see opening up before you daily
new shades of knowing

Garb yourself with candour
flying wide your shawl
watch as you wrap the world
in the cape you shape for her.
Look out there upon the waters
across the deep plains
Do you sense her breathing
in your own rising, falling?
Against the backdrop of constellations
the sojourn within unfolds,
Then journey on
journey in...
Reflections are reflections of reflections
and every private journey is the journey of us all.

And dance with us,
The patterns that beguile—
in heaven's canopy
in the filligrees of living
In the warp and woof of your knowing unknowing—
we are One
the patterns are
Any wonder
the deep darkness at the bottom of the well
draws you back to the black of yourself?
Darkness
inviting
cascades of
echoing
plugged up of sense
dense darkness
velvetless
untecture.

The phial of unknowing is forever.
If it should well up,
do not refuse.
In pores of openness
the spores of entreaty are burgeoning.

Anthony McKenzie
25 July 1990

This poem previously appeared in a low circulation religious
publication, *Omega Australia News*, Winter 1990
Adult education. Robin Usher’s (1993) distillation is helpful: “At one level, adult education is both irredeemably hermeneutical in the sense that it is a meaning-giving activity which recognises that there are no fixed meanings, and critical in the sense that dominant, particularly disciplinary, forms of knowledge and totalising explanations can be and are seen as needing to be questioned. In other words, adult education is a signifying process, it is a ‘form of life’ inextricably intertwined with significations or meanings—the meanings which adults bring with them, the context of meanings which they engage with through the process of learning and the changed meanings which they take with them at the end of this process. Moreover, because for adult education learning is not a finite, once and for all process but is seen as continuing throughout life, this contest over meanings is potentially endless” (p99).

Cogniser [US: cognizer]. A knower; one who engages in cognitive acts involving awareness and judgment; a meaning maker.

Cognitive development. Growth in intellectual competence.

Cognitive phenotype. In the realm of physical development, genotype refers to the individual’s genetic makeup, which sets the upper limits for potential physical performance. Phenotype is an expanded measure of growth potential that combines one’s genotype with the further limitations imposed by environmental factors. In this study, cognitive phenotype refers to an individual’s life experience overlaid on his or her genetic potential. This creates the context, boundaries and raw material for growth in understanding (cognitive and epistemological development).

Context. In the picture-language of landmark-spotting, “everything is context”, which means “there is nothing in the worlds of experience or imagination that is not part of the undifferentiated backdrop out of which my patterns of meaning are construed”. The relationship between landmark and background in perception may be found to bear certain resemblances to the relationship between any holon and its environment. Examples:

(a) “As in any ecological system, a kind of synergy evolves between organisms and surroundings. A stable system is one in which inhabitants and habitat in effect preserve each other over large time scales. This is also true of cultural and world view ecosystems” (article 7, Tony’s Sense of Everything)

(b) the suggestion in article 7, Inklings of an emerging synthesis, that a P-individual and its meaning perspective mutually define each other.
(For abstract thinkers, this may or may not prove to be a fruitful seam to follow.)

The linguistic difference between a context and an entity is that within a given frame of reference, only the entity has observable (or emergent) boundaries. However, in the case of nested hierarchies, what is a context on one scale becomes an entity or holon on a larger scale—a succession of holons nested in each other like a set of Russian dolls.
A fertile field of inquiry waits to be explored here in the emergent world of open system learning theory; for an extended discussion on hierarchies in ecosystems, see Allen and Starr (1982).

**Dialogic structure of understanding.** For Gadamer, the individual engages in something like a dialogue with the subject at issue; thus true ‘dialogue’ between persons is, for Gadamer, both a metaphor and a cameo (an example) of the individual’s striving for understanding. Warnke (1994) explicates Gadamer’s view in this way: “the condition of true understanding is the same as that of genuine conversation: a recognition of one’s own lack of knowledge and willingness to learn... The focus of understanding, like that of dialogue, is the ‘truth’ of the subject matter at issue; this requires taking seriously the claims of one’s text (in the broadest sense), defining and testing one’s own prejudices against these claims and coming with the text to a new understanding of the subject matter at issue. Understanding thus represents a new unity of judgment” (p102).

**Epistemological development.** Growth in epistemological understanding. See table 2 and discussion, article 4.

**Hermeneutical inquiry.** Taylor (1993) has a useful explanation: “The theory of hermeneutical understanding approaches practice not as the methodological application of theory to a technical task. Rather, it is a different kind of knowledge altogether, namely practical knowledge... For Gadamer, practical knowledge is not a quest for a method or a technique; it is an attempt to say what happens when we understand. This is really quite different from most pedagogical theories”. See also Taylor’s point about the traveller who has lost a St Christopher medal: article 5, Feeling good about feeling our way.

Warnke (1994) provides a penetrating discussion on hermeneutical understanding. For instance, in a passage about Heidegger’s concept of the fore-structure of understanding, she writes: “His point is that even before I begin consciously to interpret a text or grasp the meaning of an object, I have already placed it within a certain context (Vorhabe), approached it from a certain perspective (Vorsicht) and conceived of it in a certain way (Vorgriff). There is no neutral vantage point from which to survey the ‘real’ meaning of a text or object; even a scientific approach to an object places it within a certain context and takes a certain attitude towards it. The meaning of any object, then, is co-determined by one’s own circumstances... and expectations” (p77).

**Landmarking.** See landmark-spotting and landmark-knowing, defined in article 7, The dawn of knowing; see also article 6, Landmarks.

**Layers of intent.** See The World of Open Learning, Layers of intent. This idea may be a useful tool to help the critical action researcher to refine his or her critique of any constructed meaning. This study has implied that we can find different intents in a text depending on the level of critique being carried out. (For example, on the surface a writer may intend to teach a budgeting skill, but from a certain perspective or level of analysis, there is an unconscious status-quo-preserving intent implicit in the writer’s epistemology.) In this sense, a writer’s multiple intents are layers to be peeled away.

The reader may further explore this idea by reading Jennings (1995). She reminds us of Grundy’s (1982) idea that different intents lie behind technical, practical and empowering or critical action research. Jennings’ paper is concerned with the effects of juxtaposing critical action research praxis with postmodern social theory:

What postmodernism can provide is a new way of accepting that there are multiple representations. In fact postmodernists argue that the overarching ‘meta-narratives’ of the modern period have given way to the ‘little stories’ of the postmodern condition. Language, metaphor and discourse, the central elements of postmodern epistemology, can provide new ways of exposing competing meta-narratives. There are no ‘final’ stories but each story reflects our own way of organising and
understanding the social world (p80).

See also Bagnall (1994).

Lifelong learning. See adult education.

Life-world. The world as I experience it. According to phenomenologist, Edmund Husserl, all human activities, including the objective sciences, arise from within the life-world. Every scientific inquiry reflects the concerns of a specific community and serves its needs. Warnke notes that “Husserl grounds the notion of scientific objectivity itself in the ‘fluid springs’ of life... the concept of scientific objectivity turns out to be itself a historical one; it is not a transcendent idea to which all forms of knowledge must adhere, but rather a standard suited to certain kinds of knowledge with certain purposes and goals”.

Meaning. We become meaning makers as we engage in the social world. We make meaning by experiencing some pre-existent or emergent orderliness, some pattern in the state, environment or process being perceived. It ranges from unconscious and involuntary behaviour (like our unthinking self-orientation while crossing the road) to basic information processing to metacognitive and epistemic thought; see article 4, Where do we want to go? See also article 6, Spotting patterns.

Meaning perspective. “Meaning perspectives, or generalised sets of habitual expectation, act as perceptual and conceptual codes to form, limit, and distort how we think, believe, and feel and how, what, when, and why we learn. They have cognitive, affective, and conative dimensions. These habits of expectation filter both perception and comprehension” (Mezirow, 1991, p34).

Paradigm. A paradigm is a notional framework that provides the parameters, the morés and language forms required to construe meaning in a given discipline of knowledge. It is “notional” in that it is a fabrication inferred by theorists to account for the coherence of dialogue within a given community of discourse. Thomas Kuhn coined the term in 1962 and had a major impact on thinking about the nature of scientific inquiry. Oldroyd (1986) says that a paradigm was more than a cluster of theories: it was “almost a world view—a way of seeing the world through the spectacles provided by a particular branch of science”. When Kuhn first used the term he argued that a paradigm eventually outwears its usefulness, and is replaced by another. Since then Kuhn has stepped back from his earlier insistence on the incommensurability or incompatibility of paradigms, and has now replaced the earlier construct with the notions of exemplar and disciplinary matrix; see Oldroyd (1986) and Kuhn (1970).

Use of paradigm in this study is limited to Dick’s (1991) usage as a term to describe action research.

Person. See self.

Postmodern. See layers of intent.

Self. In this study I follow the position of Harré (1983), who draws a distinction between ‘self’ and ‘person’. A person is a member of society, recognised by that society to possess certain entitlements and obligations. An individual’s inner sense of personal identity on the other hand consists in a conception of one’s uniqueness as a being with a continuous history. This conception engenders a theory of oneself. “By ‘self’ I mean the personal unity I take myself to be, my singular inner being” (p26).

One’s sense of self is not the same as one’s self-concept, if one sticks to Rogers’ original use of the latter term. Self-concept refers to a belief system: “the organised, consistent gestalt composed of the characteristics of the I or me and the perceptions of the relationships of the I or me to others and to various aspects of life, together with the values attached to these perceptions” (Rogers, 1959, cited in Harré, 1983, p77). The construct has been extended to include what people think they would like to be. By contrast, Harré distinguishes this from one’s sense of self, which he says is a more primitive notion than self-concept, and presupposed by it (p26). His concept of sense of self is described in article 7 of this study, Whose seat of consciousness is that?
Understanding. The premise of this research program was that the defining feature of human kind is the fulfilment it gains from growth in understanding. Understanding is the human capacity to make sense of things. The human drive for meaning is the mature form of an infant’s inquisitiveness; it is a desire for ever-greater coherence and comprehensiveness in one’s sense of self in the world. Reaching understanding, or making meaning, is a social activity because it is culturally framed and because thought is pursued through language or other cultural signage. See the flow chart based on work by Heelas and Lock (1981), p 76 of this study.

In this study, ‘growth in understanding’ is a powerful concept that declines to separate ‘cognitive development’ from ‘epistemological development’, not because this distinction isn’t useful, but because the logic of this thesis requires that at a certain level of analysis they are meaningfully conjoined again. See article 5, Making sense of personal epistemology. See also hermeneutical inquiry.

Wisdom. See experiential wisdom, article 7, footnote 5.
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