

Chapter 2

Integral Theory

Questions:

- *What is integral theory?*
- *Why is it useful?*
- *What implications does it have for educators?*
- *What might it be like to teach it in a classroom?*
- *How can it help me integrate science and soul?*

Introduction

My ‘disorienting dilemma’ is related to the demarcation of spirituality and science. I would like to integrate spirituality in my science teaching. But what does this mean? Being a more spiritual person as I teach? Introducing spiritual ideas to my students alongside physics ideas? Building their capacity as spiritual beings? Helping them to connect to their inner selves and the world more deeply? Helping them explore the world using spiritual inquiry as well scientific inquiry?

In 1992 my dilemma meant wondering how I could help my physics students challenge the status of the prevailing science paradigm - see the implications of Newtonian thinking in our world today and ask what other views and ways of thinking there might be. But I felt uncomfortable with this as I thought I was pushing my own views too much. While there was a lot of literature about spirituality, it certainly wasn’t considered in the same conversation as science.

In 1993 I thought spirituality in science might be the **WOW** factor – **Wonder Of the World**, enchanting my students with the cosmos. But is this all it can be?

In 1994 I thought perhaps spirituality in science could be seen in quantum foam, fractals and the new sciences... that the world itself revealed its spiritual origins and therefore the examination of it helped us understand the nature of spirituality.

In 1995 I thought perhaps integrating science and spirituality was in the quality of experience my students had as they went about being scientists using their whole selves. That the process of doing science included other ways of being than purely the empirical and rational modes of

inquiry – imagination, visualization, experiential. I wondered if there was a role for spiritual practice in science classes as a way of building capacity to see the world with other eyes and new perspectives.

In 1996 I thought perhaps spirituality in science was in my students' evolution as human beings and I wondered what my role might be in that as a science teacher. What role do I have in helping to develop all aspects of my students from cognitive mind to spiritual consciousness to whole beings?

In 1997 I read Wilber's *Eye of the Spirit* which introduced his 4 quadrant model where he demarcates our ways of exploring reality. It tries to show where the different approaches lie and how we need to give each approach equal consideration. It seemed to me a powerful model which could help me justify the role of spirituality. But it firmly separated the physical reality and the spiritual reality, saying that the new sciences did not reveal the *inner* spiritual reality, but were just an *exterior* expression of reality. So I had to make a few adjustments in my thinking about the new sciences. But did I really understand such a model? It opened me up to more than just the spiritual and physical divide – I was introduced to the role in all this of the social sciences.

So now I think that it might be useful to introduce Wilber's model to my classes as a way of helping them situate physics within a bigger framework and look critically at its claim to know the world and its validity. I do this in an instructor fashion because this is quite new to me. I realize that for many of my students the model is interesting but not necessarily significant. I don't really get them to do anything with it. Perhaps a model is really only useful if it solves a problem.

So in 1998 I decide to introduce it again but now with an activity for my students to do. It is the beginning of the topic on quantum theory and I want to situate the major paradigm shift in thinking that occurred as a result of the theory of quantization. What are the ways we see Newtonian thinking in our lives and in society? How has a Newtonian to quantum view shifted our ways of thinking about the world? What claims can physics have in understanding the world? Have ideas from physics colonized all other thinking?

I am back into my 1992 head of thinking about spirituality and science as a demarcation of paradigms. I am about to enter my 1998 classroom and I invite you to come with me. What happens in this classroom is a key in my journey of utilizing the evolving Integral Theory as a means for reconciling science and soul, and legitimizing various notions of science and spirituality in education.

The episode in the classroom serves to introduce the issues which clamor for some sort of solution which I find in Integral theory. I also use it to introduce you to my physics class. It is an important moment for me because this is a tentative time for me. I have just discovered a mental model that might prove fruitful and I am coming to grips with it. My students play out for me the questions and issues I have and they push me into further questions and understanding. Without this interaction I am not sure I would have progressed with it... it might be one of those interesting things you read but never really use because you haven't got inside it enough.

So this is just a little taste of getting inside it and then I follow that up with looking at the 2005 version of Integral Theory.

So why is integral theory important for me? It offers both the structure and the method in helping me find a way of reconciling spirituality and science in my teaching. It became a powerful way for my thinking about curriculum, the purpose of education and the role of teachers. So while my tension between physics and spirituality worked for 10 years to force me to transform my teaching practice and conceptions of science, integral theory has been the tool for understanding that process in a way that might be generalisable for others. So these models that I introduce here are the key referents I use throughout my thesis and the basis for my grand conception of integral science.

The meaning of life is... Introducing Integral Theory to a Year 12 Physics class

Sept 1998

It is third term. Just 6 teaching weeks to go. I am introducing the topic on quantum theory. The students are very attentive because this is something we have been looking forward to for a

while... yes I have kept them in suspense about the wave/particle duality and they want a solution. I get into introducer mode:

“Before we start exploring quantum theory in detail, I would like us to explore the significance of what we are going to find. Quantum Theory has thrown up some pretty amazing claims about the universe...e.g.

- At a fundamental level of reality – electrons, photons, protons - everything is connected
- As we try to examine things more closely, the more uncertain other aspects of them become (Heisenberg’s Uncertainty principle or quantum fuzziness)
- Particles can just pop out of nothing and return to nothing (quantum foam and zero point energy.)
- Both light and particles seem to have a dual nature – acting either as a wave or a particle.

“You have probably all heard by now the famous quote by Bohr *“if you are not shocked by quantum mechanics then you don’t understand it.”* Should we be shocked? Are you? Are these just interesting facts that only apply to photons and electrons... do they have any meaning for your everyday world that you are living in?

“Some thinkers from business, education and computing are asking whether we can apply these ideas as metaphors to the way we do things. Some claim that quantum thinking would enable us to solve problems that we haven’t been able to tackle successfully before because we have been locked into a more linear discrete way of thinking that comes from Newtonian ‘billiard-ball’ physics. Many physicists say that applying principles of quantum theory to the macro world is a complete misuse of the ideas. Where do you stand on this? Any ideas?

“So what we are doing today is a little exercise which will get you thinking about whether what we find out about quantum only applies to quantum or whether it can answer the big questions about life, the universe and everything... and whether like some people claim, it even leads us to God! Ready?

“Your task... I would like you to explore this question: **What is the essence and purpose of the universe and where would you need to look to find your answer?** There are 6 groups for you to choose from each representing how different disciplines or ways of thinking might tackle this

question... Physics, Biology, Philosophy, Sociology, Holistic and Spiritual. I have designated a leader for each group. You will be presenting your findings to the class in 15 minutes.”

I know it was a lot of talk... there was some discussion throughout it, so it wasn't all me. And I have probably made it more fluent than it actually was. So what happens next? The students get into their groups and from the start appear really engaged... leaning close to each other in huddles, talking excitedly. I was called over to clarify or assist sometimes but soon they were ready and eager to present their findings to the class. Some were looking quite pleased with themselves and others a bit more tentative.

Physics group: Sean: “We thought perhaps you could look at the very small –quantum - and the very big - Big Bang and galaxies. We don't think that physics would be able to comment on whether the universe had a purpose but we think we would be able to say what its essence was.”
“Yeah,” said Erica, “Possibly made up of fundamental particles. We are not sure whether the principles of quantum theory are an *essence* or give some clue as to the *nature* of the universe.”
“And gravity and the other fundamental forces comes in there somewhere” said John.

No surprises here, I think.

Biology group: Angie: “We decided to look at the history of life... how we have evolved from single cells to more complex life forms. So we were thinking perhaps that evolution might be the purpose of the universe. Perhaps life is the essence.”

My eyes open wide. The notion of evolution was really insightful... it hadn't occurred to me at all. I thought they would come up with notions of life, but to see the *whole pattern* of life was another level of awareness. It was quite different to the physics group which was looking at *things* rather than *principles*. I was quite astonished. And it is causing me to think about the 4 quadrant model that I am about to introduce.

“But we are not sure how that explains rocks.” said Leon.

“I wonder if you see evolution as a principle when you look at the Big Bang and creation of galaxies and solar systems” said Angie turning to the physics group.

“How would you explain stars dying then?” asked Sean (from Physics) “perhaps growth **and** decay are better principles.”

Philosophy group: Scott: “Well we actually didn’t get to answering the question. In fact we don’t believe that the question is valid and we spent the whole time arguing on whether you can actually even ask that!”

We all laugh. The philosophy group huddled closer and another argument broke out. The rest of the class looked at each other, rolled their eyes and shook their heads. They knew Scott and his deep interest in philosophy.

“Do you want to explain that,” I ask.

“Well,” said Scott, “asking us to find the essence and purpose of the universe presupposes the existence of a universe. Even if there was one it does not logically follow that it has to have an essence or a purpose.”

“But if it did?”

“Hmmm. Well. The essence could be thought, but then again there are flaws in the derivation of that argument.”

I think that the whole response to the question was possibly typical of a philosophical perspective. But I couldn’t have predicted it when I set this task...again, in hindsight it seemed almost obvious.

Spiritual: Tiffany: “Well we decided that spirituality is personal. It is something inside yourself. You have to go inside. It is how you experience it that counts. So the essence and purpose might be different for different people.”

Wow... again another interesting perspective. Tiffany was a Catholic who was going through a bit of crisis of faith... re-examining her values and coming to her own notions of what is spirit and what is reality rather than the party line. This seemed to summarize the journey she had been on this year.

Jenny: “We talked about God and the difference between God as this person you worship – something outside of you - and the notion of god/spirit you feel inside you. Perhaps there is an underlying spirit which is the essence of the universe which is everything or in everything.”

“Perhaps, it is just a figment of your imaginations?” said Sean (from the physics group) “How do you know it really is there?”

“Because I feel it!” said Tiffany. “You cannot deny what I am feeling just because you can’t measure it!”

I could see this was going to be a big argument so I stop them and say “we will have a chance to discuss the different viewpoints later... but let’s get them out onto the table first.”

Sociology group: Ryan: “We were looking at society and we realized there were different types of groups in society... big communities, workplaces, schools, friends. We decided to look at what we thought was an important unit of society – the family. So we went inside the family and looked at what held them together. We took away the walls of the house... we looked at how families interact and we tried to look past the actual actions into what was really holding things together, what was motivating people. We decided it was... **love.**”

There was a big gasp of surprise from the class... this was totally unexpected by everyone. Another amazing insight. I am thinking how truly amazing my students are and I am not sure that I would have been able to strip away to the bare essence as much as they did – perhaps I had too much baggage.

“So we think the essence of the universe is love...” Ryan turned to the physics group “... and perhaps that is the reason why gravity happens... attraction... a love for other matter.”

I could see Sean’s feathers rustling as he took exception to this claim. “Later,” I mouthed at him. However the Spiritual group were all nodding and smiling at the sociology camp as if they were vindicated.

Holistic: Matthew: “Well, it took us a little while to really think out what a holistic view would be and in the end we decided that the view it would take is whatever is most useful to whatever you are doing or thinking.”

Again I am really surprised...I narrow my eyes as I wonder if this is a cop out and then I think... perhaps this really insightful... a magician-like dance to cope with complexity and multi-dimensional reality. Did they really mean that?

“OK, guys” I said, “it is now open slather... you can ask any group to explain their ideas more or question them... but we will do it in an orderly fashion.”

At this point we had a very engaging and intense discussion between groups. Ok, lets be honest ... the philosophy group argued with everyone... saying they were applying the wrong sort of thinking to things. The Physics group and the Spiritual group had an argument which got more and more emotional and the players further and further apart. We had the Spiritual and Sociology groups siding against Philosophy and Physics, with Biology and Holistic groups watching on with delight.

It was not the collaborative dialogical practice that I had come to expect from my class. It was heated and intense. People were emotional, buying into the stance they had chosen to take, which was unusual for them. I watched as this happened and felt they were replaying for me some of my conflicts. No wonder this had been such an issue for me in my teaching the last 8 years. It was emotive and problematic.

“Let’s take a deep breath,” I said.

“Let’s think about what is happening here,” I said.

“They are just not listening to us,” said Tiffany. “It is like they are on a different wavelength. Why can’t they accept that my point of view is as valid as theirs?”

“Will you feel better,” I said, “if you know that in the last hour you have been reliving the same arguments that science and religion have had in the last 300 years?”

“What!” they said.

“What are your choices in resolving your argument?” I ask.

“Agree to disagree,” said Tiffany “...science can go and look at the physical universe but agrees not to make judgments on my internal one.”

“So is that how it is now? Different disciplines which look at the world in different ways stay isolated in their little corners and never interact? Is that how you see all your different subjects? Are they separate or do you try to integrate them?”

We then had a very interesting discussion with most students saying how they compartmentalize their various subjects; for example, Physics and English, Chemistry and Sociology. “Nothing you do in one relates to the other, except perhaps Physics and Chemistry. But that is the way it is.” says Erica.

“Is there any way we can connect our different knowledge and different ways of seeing and experiencing the world?” I ask. There is silence and bemusement “Like what,” says Sean.

I draw up on the board some models of how we construct knowledge – isolated bits, or building blocks, jigsaws, a tree of knowledge, an interconnected web, a tapestry, the elephant (which they are all familiar with), the notion of the river where you can never have the same experience again. I have captured the elements of these in Fig 2.1 on the following page.

“Is there one truth that we are all looking at but seeing in a different way? Is even thinking there is one truth, a particular way of thinking? Which of these metaphors do you think describes how you make sense of all the different types of knowledge and ways of knowing that you have?”

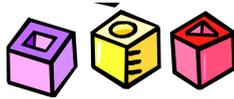
The students discuss these and it is interesting how different they are, some positioning themselves in two or more metaphors. Several like the river metaphor of reality while others prefer the building blocks or jigsaw models. I then say that there is another model which tries to reconcile the different way we see things which might help us to look at their different group positions in a new way. I introduce Wilber’s 4 quadrant model.

Wilber suggests that we experience the world in three distinct ways...

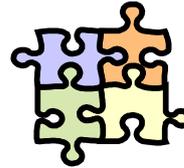
1. **from a first person perspective**... how we are feeling and thinking inside... it is our experience ... this is when we use **‘I’** to describe the experience.

Knowledge Metaphors

How do you think of the relationships between knowledge which you have gained from different disciplines or different aspects of your life? How do you integrate them?



Knowledge gained from different disciplines is quite separate and you can't integrate them.



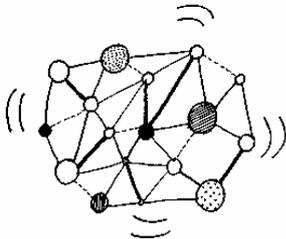
Knowledge from different disciplines fit together like a jigsaw puzzle.



You can build knowledge from different disciplines, but some disciplines are more foundational than others. Is there unlimited potential for building knowledge or is it restricted by its foundations?



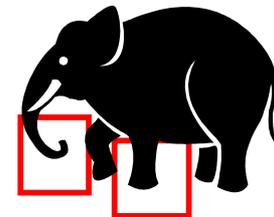
There is a tree of knowledge... metaphysics explains maths explains physics explains chemistry explains biology explains love. Is there knowledge to be found outside the branches of the tree?



When you allow different disciplines to interrelate they create emergent understandings and new types of questions. Do our questions create the universe to be discovered?



Knowledge is nested within greater knowledge perspectives; each new level includes and transcends earlier ones.



There is one truth to be found. Each discipline sees one aspect of this truth, which could give a distorted view. We need to bring in all perspectives to see the whole. What perspectives might be missing?



Whatever level of reality you look at you see reflections of the whole.



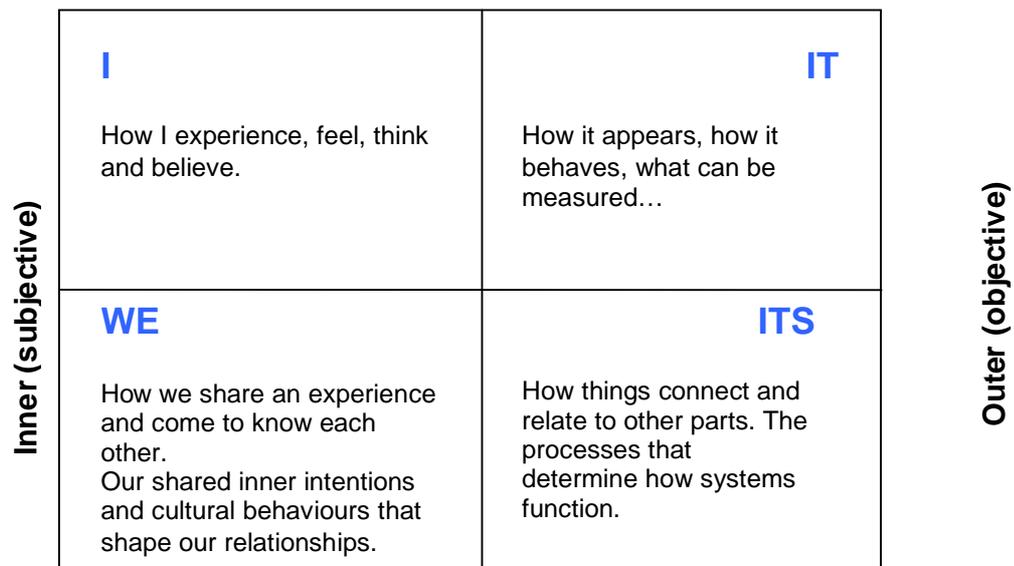
Knowledge is like a river... it moves and changes. If you dip your toe into the river tomorrow, you will experience a different river to today. There is no truth which stands still to be found.

What alternative metaphors do you have?

Fig 2.1

2. **from a second person perspective** ... this is the **'WE'** ... how we share an experience, a culture, the language we use... how we come to know each other... the feelings between us... the connection we feel between each other. The **WE** is affected by the different cultural perspectives and the worldviews we have.
3. **from a 3rd person perspective**... this is when we look on the outside of something.... We see the chair, can measure its height. I see you – what you are wearing, how you are sitting, but I cannot know what it is you are experiencing. This is the world of **'IT'** or **'ITS'** ... the physical world.

Wilber's 4 Quadrant Model Individual



Collective

Fig 2.2

On his model he divides things into four – on the left hand side are the interiors, the subjective reality – the **I** and **WE** quadrants. On the right hand side are the exteriors, the objective reality which we all can see – the **IT** and **ITS**. Along the top are the individual quadrants - **I** and **IT**. Along the bottom the collective ones - **WE** and **ITS**.

The **ITS** relate to systems such as... ecosystems, social systems, galaxies and *how* they work - the relationships and processes between the parts – what we see happening. The **WE** are like the inner intentions and meanings of those systems – *why* they are doing what they are doing. Wilber suggests that there is perhaps one reality and that the **IT** and **ITS** enable us to see the outside aspects and the **I** and **WE** the interiors. When I feel love, you can measure the change in my body using an **IT** approach, but it is only using the **I** and **WE** approach you can really understand how that feels. We need all perspectives to see the whole.

“So where might each group go on this map?” I asked.

Sean “Well obviously quantum would be an exterior and probably an **IT** whereas the galaxy would be an **ITS**”

Tiffany: “The spiritual perspective is definitely coming from the **I** - it is seeing a completely different part of the elephant to physics.”

Ryan: “Our perspective is looking at a social system, which is collective, but what is it? A **WE** or an **ITS**?”

“Love has to be an interior experience, doesn’t it?” says Tiffany. “So it is a **WE**?”

“But social systems could be **ITS**?”, says Ryan.

Yes, interesting. This is making me think it is not so easy to demarcate things – it depends how you are looking at them. When we are making shared meaning it is a **WE** but when we are dealing with the networks and structures of society then it is an **ITS**.

Scott: “Well Philosophy covers all the aspects. We are interested in the internal motivations of the individual when we consider ethics. We look at the existence of God... I think we are everywhere on this chart.”

Tiffany: “But how do you look at the existence of god? Are you doing it through those logical arguments you so love, Scott, or are you having a direct experience of god? I think you are only looking at the world from a 3rd person perspective!”

Scott: "I disagree! I am using my mind which is internal to me. I can use it to examine exteriors and interiors."

Ryan leapt in passionately, "In philosophy you are using your mind to talk about and analyse love... that is not the same as an experience of the heart, of love itself!"

"But, Ryan," said Scott reasonably, "you are using your mind to make sense of that love experience. Mind is really your only reality."

"Uunngh!" said Ryan shaking his head in frustration, "I can't talk to you!"

Yet Scott is so logical. I am almost sucked into his argument. I think I can solve it, but I will come back to it.

"So at this stage we have a bit of an impasse" I said... "let's just put philosophy outside the chart for the minute.... A pending question. What about Biology?"

Angie: "Well I think it is both **IT** and **ITS**... **IT** for evolution of cells and **ITS** for evolution of ecosystems."

Matthew: "I think holistic would support every point of view, but perhaps there is a suitability to them depending on what questions you are asking. Like how long my toast takes to cook is really not an **I** or **WE** question is it?"

Good point.



Fig 2.3

And now for my next trick I decide to introduce Wilber's model of Holons – the notion of evolution from *body –mind –soul – spirit*. Each subsequent holon includes and transcends the earlier ones with each having its own eye or way of seeing reality. So a rock or an atom might just be at the body stage whereas a human would have all aspects.

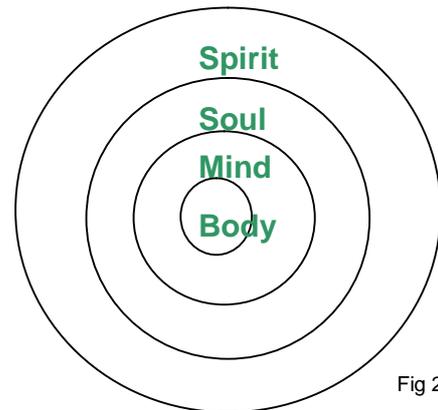


Fig 2.4

I draw this up on the board and think that this might solve Scott's contention that mind is the way to experience everything. Tiffany is nodding her head. She likes the idea that spirituality includes everything. Others are looking a little puzzled. What does it really mean to them? But Scott comes up to the board and redraws it. He puts mind on the outside and says that it is mind which includes everything. Spirit can be in there somewhere but it isn't the overarching part. Tiffany disagrees. Ryan, says puzzled "Where is heart on this model? Where does love come in?"

At that point I am floored, but look at the time, we have gone over recess time! I finish up the lesson, I haven't even got to where I wanted to go, drawing in all the conclusions about the relevance to quantum theory and what we can claim to know. It is problematic. The model is problematic and it certainly is not one which all of us agree on and understand. Can it still be the basis for discussion? I need some thinking time. There is a lot here for me to process, and I need to go back and look at the literature. Was I just looking at it at a surface level, without really understanding the implications because it could simply solve my own spirituality and science demarcation issue? What about the other bits, I hadn't really paid attention to those aspects much? And had the model really solved my problem anyway? Wasn't there a lot more to spirituality than just a way of coming to know the world? I am confused!

Just as well Wilber kept writing books that pulled together more and more aspects of consciousness, epistemology, psychological development, cultural evolution. I need to get deeply into each of these aspects to really understand these nice tools to map reality. And are they any more fruitful than the metaphor of the elephant or the one of the river? And what assumptions is Integral Theory making about the nature of TRUTH? Was there one? But were we just seeing it through different lenses? Could there really be a grand narrative in this postmodern world?

Later, Tiffany wrote this in her 'I wonder' journal:

The Essence of the Universe

The essence of the universe
Is what is inside you.

It's not the smallest particle,
Nor the gluons which hold things together.
It's not the neurons which live in your brain.
No.
No, it's much more complex than that.

The essence is you,
Your soul,
Your emotions, your beliefs,
Your hopes, your dreams,
The disappointments you encounter,
The mistakes you make
And whether you learn from the mistakes.

The essence of life and the universe
Is the soul.
Without the soul there would be no life.
Stars would still burn and decay,
But life would not exist, at least as we know it.
Without the soul,
We would be meaningless, directionless, senseless,
Just floating along,
Fatalistic,
With no thought for today,
Tomorrow,
Or yesterday.

Maybe I am just a very spiritual person,
Religious, soulful
And that's what I feel.
But you can't have life without a soul
And that is the essence of the universe.

Some curriculum planners engage in some thinking and debriefing in listening to the above story:

“Thanks Sue, for that story. It certainly seemed like the students were doing some really insightful thinking. It is almost too good to be true. Did it happen?”

“Actually yes, though I have paraphrased their arguments to make it more readable...I tried to capture the emotions of the students as well as their thoughts and language.... Perhaps overtime I have value-added the story, though it was a pretty amazing lesson... and a real tribute to that group of students. The following year I tried it with a new class, but the students weren't mature enough in their thinking about thinking to come up with good principles for each discipline... they floundered a bit. This first session was invaluable for me in seeing the ideas being played out... helping me to tease out my understanding of the quadrant model... it certainly left me with lots of questions about it!”

“I have to say, Sue, that I found it really interesting how the different disciplines aligned themselves with one or two of Wilber's quadrants. We could certainly tease this out further. Do they really sit where the students suggested? Does it matter who might be doing the discipline? Would Deep Ecology be just in **ITS** or in **I** and **WE**?”

“Sue, I have been wondering about where philosophy does sit in all of it. What is the difference between heart, soul and mind and where they fit on the quadrants? Does the holon model of body-heart-mind-soul actually sit in the quadrants? And was Matthew correct in his role for holistic according the literature?”

“Yes, and where is the soul in all this... is it only in the **I** and **We** quadrants? Could soul be used to connect the quadrants?”

“And what about love? I was interested in Ryan's question of where love sat.”

“Could love be something that existed at every holon level? Perhaps at **body level**, it is about sensual love, at **mind level** it could be cultivation of appreciation and affinity, at **soul level** it is an expression of the heart, and at spirit level.... Well, perhaps that is the

loving source of everything.... The creative energy which draws us up in evolutionary progress, the energy which infuses our daily living and which we can bring into ourselves at any time to experience our true wholeness.”

“That is a very beautiful idea - isn't that the principle of evolution and involution. We evolve to something, while at the same time we draw in what is already there.”

“Now that is too confusing for me. But I am wondering now whether love might also be on all the quadrants.”

“How would that go? I am thinking about English Literature and how we are looking at aspects of love at the moment, romantic and mythic love, for example. Where would they go on the quadrants? Could we draw a table?”

Integral Map of Love

<p>Upper Left: “I” Interior-Individual I feel loved I love Unconditional Love</p>	<p>Upper Right: “IT” Exterior-Individual Love as a chemical reaction Love as sex Love as ‘animal magnetism’</p>
<p>Lower Left: “WE” Interior-Collective Romantic Love Mythology of Love Erotic Art</p>	<p>Lower Right: “ITS” Exterior-Collective Love for species survival Parental Love Love for social harmony</p>

All approaches are valued

Fig 2.5

“You know this might even be useful to discuss in my English class – perhaps it could help my students see different aspects... we discuss inter-objectivity and inter-subjectivity but often it doesn't click – perhaps a chart like this does help put things into perspective.”

“Hmmm. As long as it is not making us too smug and thinking we have solved everything!”

“Sue, I am very interested in the notion of evolution – although it was a key principle of biology, isn’t it a key principle for all quadrants... the notion of evolution. Is it in fact a key essence to the whole of life?”

“Sue, I was interested in seeing the tensions coming out of the different disciplines. It reminded me of all this trans-disciplinary stuff we have to consider now. I am wondering if the difficulty they are having at bringing together science, sociology and spirituality perspectives at university level is because everyone is very entrenched in their perspectives of the world and don’t value the others... or can’t even see them. What sort of teaching could help students become expert and rigorous in each perspective and open and flexible in their use of them? Would being able to situate yourself on a chart help in doing so?

“Yes, I would like to see the different disciplines sitting down together and realizing where they sat in relation to each other and beginning to value the other perspectives... perhaps then science might realize that it also needs to include **I** and **WE** when it examines major issues.”

“Or can it just stick to the empirical studies, but then work with other disciplines to ensure all aspects of an issue are covered? A demarcation leading to a multi-disciplinary approach?”

“I also like the idea of trans-disciplinary where new ways of inquiring might result from cross fertilization of perspectives and methods from one discipline to another. Perhaps here there is opportunity for both. Part of the issue is having a mental model like this which can help you see the issues and possibilities of integration.”

“Could this be a new way of thinking about curriculum?”

“Again, these are really good questions. I had better fill you in on where Wilber is now on his model... and then we can begin to explore some of these.”

A brief summary of Integral Theory

Ken Wilber has been developing an Integral way of knowing the world for over 20 years with over 20 books, lots of articles and several websites. (Some of these include: Wilber 1980, 1983, 1995, 1998, 2000a, 2000b). Currently there are projects all over the world in various disciplines taking his ideas and applying them to various contexts. So there are a plethora of interpretations. The theory is multi-dimensional, complex and deep.

I have been working with a group in the US attached to the Integral Institute trying to apply the ideas to an educational context. The more we engage with the material and try to apply to education the more possibilities arise with ever deeper questions. So here I am going to try to sketch a summary of the main features and later tease out some of the dilemmas and the implications for someone attempting to move to more a holistic and soulful education practice.

A key concern of Integral theory is to bring together disparate ways of knowing and being in the world... to enable a way forward in a world where postmodernism has done away with grand narratives and modernism has separated inner and outer realities (e.g. The Spiritual/Physical divide.) Integral Theory would say that there *are* grand narratives; the way to find them is through a method of generalization... look at the common patterns... realize that every perspective has a truth. Jettison (for now) the dogma and look for the essence. Realize that this truth is partial; but still an important part of the whole. This is a process of *transcending* the differences and *including* all perspectives into new understandings.

An example of this process might be an examination of various religions. What is the common essence? This would be the **perennial philosophy**... the notion that there is a nested or holonic relationship between body/matter, mind, soul and spirit. As one evolves there is a movement to a more expanded awareness of reality which involves transpersonal ways of knowing and being in the world.

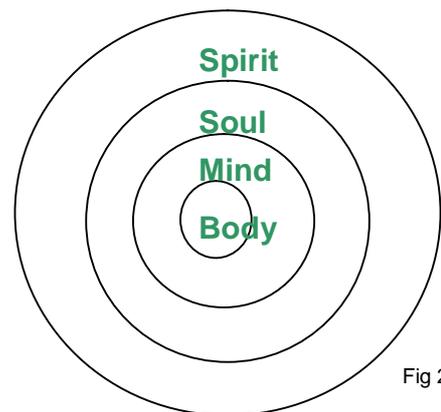


Fig 2.6

Based on this, Wilber has suggested that we need three different *eyes* to see the world – the *eye of the spirit* (e.g. Mysticism), the *eye of the mind* (e.g. rationalism) and the *eye of the body* (e.g.

empiricism). Integral Theory is very much a rational model; it helps us identify the map of the territory but is not a substitute for the actual experience of it. For example, to understand spiritual ways of knowing, one needs to use the *eye of the spirit* through contemplation. To learn how to hammer a nail, one has to do it, rather than just know the theory.

Wilber also looked at different ways we have of **knowing and being** in the world and believe that these can be mapped on a 4 quadrant model.

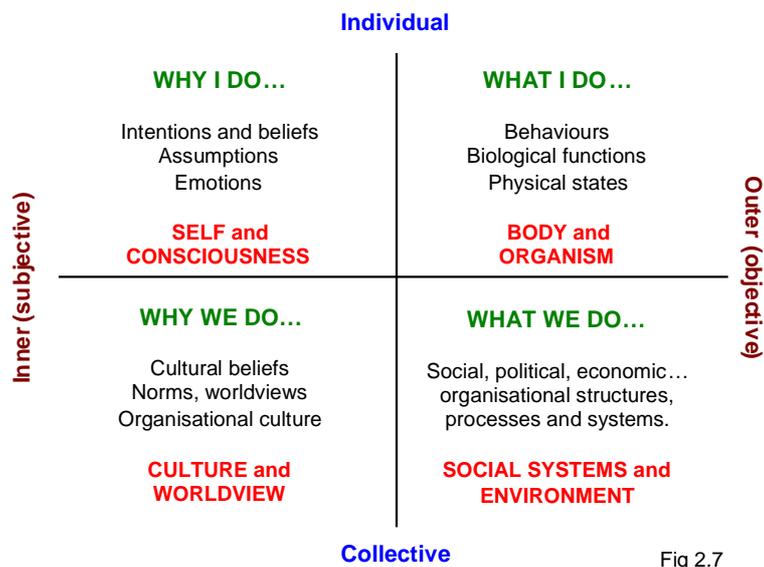


Fig 2.7

So different types of research epistemologies could be mapped as follows:

4 Quadrant Integral Theory

<p>Upper Left:</p> <p>"I"</p> <p>Interior-Individual</p> <p>phenomenology, psychotherapy, meditation, emotional intelligence, personal transformation</p>	<p>Upper Right:</p> <p>"IT"</p> <p>Exterior-Individual</p> <p>empiricism, scientific analysis, quality control, behavioural analysis</p>
<p>Lower Left:</p> <p>"WE"</p> <p>Interior-Collective</p> <p>hermeneutics, multiculturalism, postmodernism, worldviews, corporate culture, collective values</p>	<p>Lower Right:</p> <p>"ITS"</p> <p>Exterior-Collective</p> <p>systems theory, social systems, communications networks, systems analysis</p>

All approaches are valued

Fig 2.8

Wilber (2004) suggests that each quadrant can be further understood by considering *inner* and *outer* perspectives making up 8 *indigenous perspectives*. The *inner* perspective looks at the reality of the quadrant from a 1st person perspective while the *outer* takes a 3rd person perspective on it. Thus research methodologies can be seen as those which explore the interiors of each quadrant and those which look at the structures of those realities.

The Eight Indigenous Perspectives

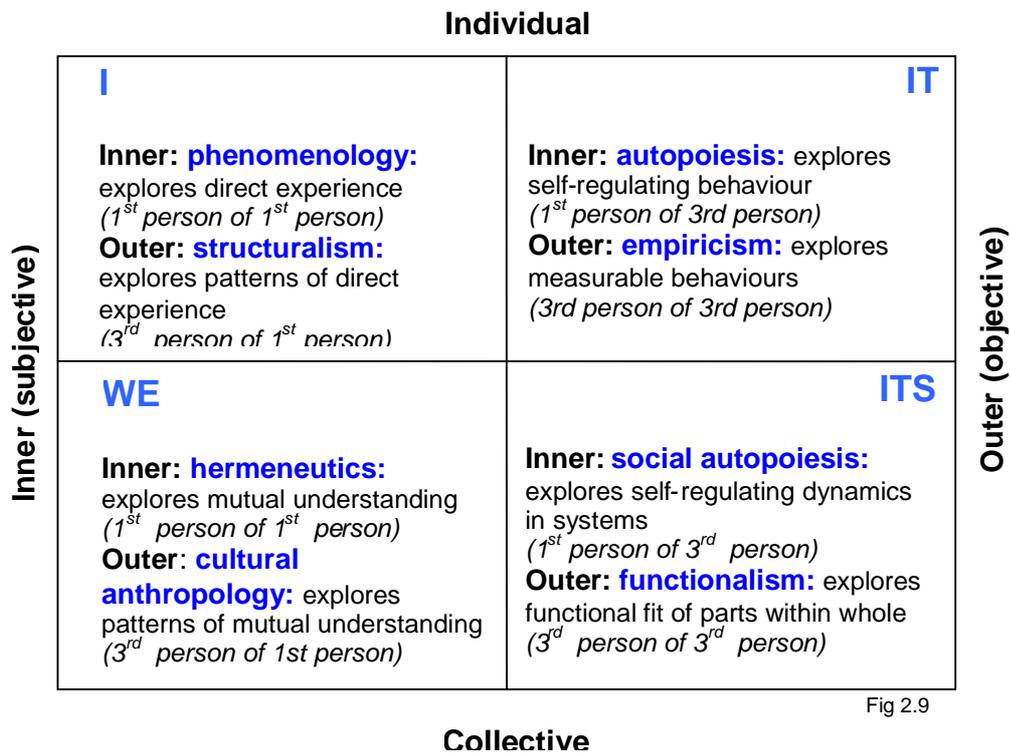


Fig 2.9

For example, researchers studying the behaviour of children in order to come up with theories of learning and development (e.g. Skinner and other Behaviorists) would be in the **IT** quadrant, using a 3rd person perspective of 3rd person realities (outer). They would be gaining empirical data and then using rational interpretations to come up with patterns and theories.

Researchers interested in exploring, say, the intentions of the children in making moral decisions (e.g. Kohlberg) in order to see if there was a pattern of moral development, would be in the **I** quadrant (outer) – using 3rd person perspectives on 1st person realities.

Researchers interested in how students' language and culture influenced their learning (Vygotsky) and whether there were any patterns of cultural development (e.g. Gebser 1985, Beck and Cowan 1996), would be in the **WE** quadrant using 3rd person perspectives on 1st person realities.

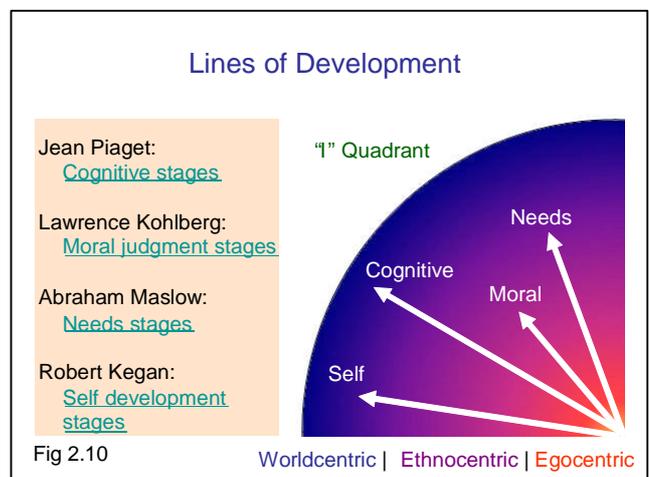
Researchers interested in the relationships of the student with their environments (home, community, class, friends, peers, school, eco-system) and how that affected their learning or development (e.g. Vygotsky and Dewey 1966) would be in the **ITS** quadrant... 3rd person perspective on 3rd person realities (outer).

A researcher or teacher trying to come to an understanding of the **'I world'** of the student would be using a hermeneutic process with the student to ensure that they had gained a shared meaning of the student's interior experiences. (1st person perspective on 1st person perspective).

If, as a teacher, I was interested in my own intentions and experiences in interactions with students then I would be coming from the 1st person perspective in the **I** quadrant (inner). I could be using experiential, reflective or contemplative tools. If I wanted to understand my own development stages and the way my worldviews and culture influenced my intentions then I would be moving to a 3rd person perspective of my inner individual and collective realities.

Confused? So now could you place in the quadrants all the different research and thinking on education? What would you see? Are some of the Indigenous Perspectives more represented than others? What might it mean to include the whole picture? You might also notice that we seem to be much stronger in using the eyes of the body and mind, than we are in using the *eye of the spirit*. Where would we go for information?

So as a result of research so far we have a reasonably good understanding of human development using 3rd person perspectives of **I**, **WE** and **IT** realities up to the mental development stages. Wilber suggests that we can consider that each human being has many distinct **development lines** which are represented in each quadrant,



some of which are ego, consciousness, cognition, emotional, moral, cultural, social, psycho-sexual, artistic, kinesthetic, spiritual, contemplative.

In his book *Integral Psychology*, Wilber (2000b) considers development models from over 80 different researchers or cultures. Each researcher has identified distinguishable stages in each development line (from 3 to 12 stages depending on the line) which Wilber has tried to cross correlate on his own spectrum of consciousness schema. Here is a brief example:

Average age of emergence	Wilber (spectrum of consciousness)	Jane Lovinger (ego stages)	Erik Erikson (Psycho-social stages)	Kohlberg (moral judgment)	H. Gardner (universal waves of development)
0 – 18 months	Matter Sensation Perception	Pre-social autistic	Trust vs mistrust		
1 – 3 years	Exocept Impulse/emotion Image Symbol	Symbiotic Impulsive	Autonomy vs shame and doubt	Magic wish	Pre-conventional Event structuring Analog mapping
3 – 6 years	Endocept Concept	Self protective	Initiative vs guilt anxiety	Punishment/ obedience	Digital mapping Notational systems Symbolic flowering
7 – 10 years	Rule/role	conformist	Industry vs inferiority	Naïve hedonism Approval of others	Conventional Rules / regulations Skills mastery
11 – 21 years	Formal logic (Early) (late)	Conscientious conformist Conscientious Individualistic	Identity vs role confusion Intimacy vs isolation	Law and order Prior rights /social contract	Post- conventional Self critical / relativism
21 years minimum	Vision logic (early) (late)	Autonomous Integrated	Generativity vs stagnation Integrity vs despair	Universal ethic of care	Integration of self and culture
	Transpersonal Stages (4 further levels)				Post – post - conventional

Fig 2.11

There seems to be a generic pattern. Humans (and cultures) move from *pre-conventional* to *conventional* to *post-conventional*. So moral development moves from selfish actions in the world, to following the rules, to a deep sense of a universal ethic of care. Cognition moves from pre-operational, operational to vision-logic.

Wilber was very interested in seeing where the spiritual dimensions go on these development maps. Are they outside, or a separate development line or in fact part of an evolutionary chain as suggested by the perennial philosophy? Wilber examined different religions and the thinking of mystics and discovered a coherent story... the post-conventional stage is more than just a mental knowing of the world... it involves further stages of development involving transpersonal states of awareness and being in the world. This is often referred to as *post-post-conventional*. So Wilber suggests that the later stages of **all** lines have that transpersonal potential... though the researchers probably didn't have the eyes to see it. Thus he sees human development as a grand evolution in line with the perennial philosophies... which is in all quadrants... all lines.

Levels (or Stages) of Development

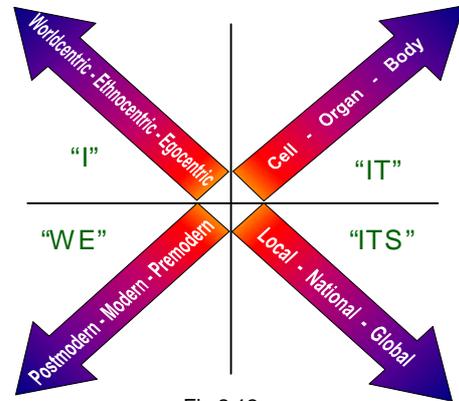
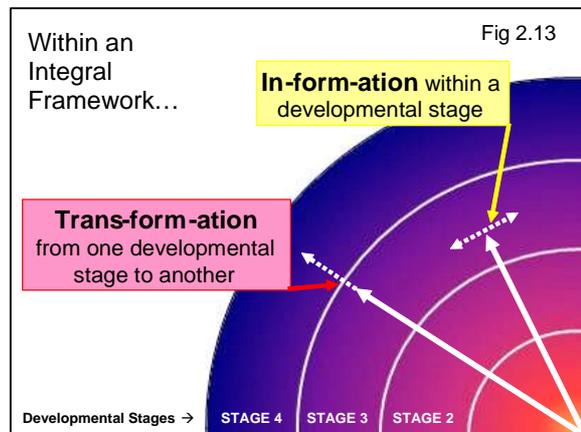


Fig 2.12

Wilber suggests that **integral development** is one which enables individuals to develop in a balanced way. To progress up a stage is called *transformation* and to broaden one's experience in a stage is called *flourishing, translation or information*. Both are needed for healthy development.



In reality, development of the lines is not even, but if some are pushed to grow while others lie undeveloped then pathologies can develop. In particular, healthy development in the transpersonal stages is best supported by use of the imagination and contemplative practice early on. It requires well developed *vision-logic* as an anchor. He refers to the whole development of the person as developing in *waves*.

To broaden this multi-dimensional picture of a human being Wilber says we must also consider **types** and **states**. *Types* can be related to gender types (male, female), learning styles, the enneagram etc. *States* refer to the state of consciousness – *awake* (conscious awareness, gross

body), *dreaming* (subconscious awareness, subtle body) and *deep sleep* (super-consciousness, causal body).

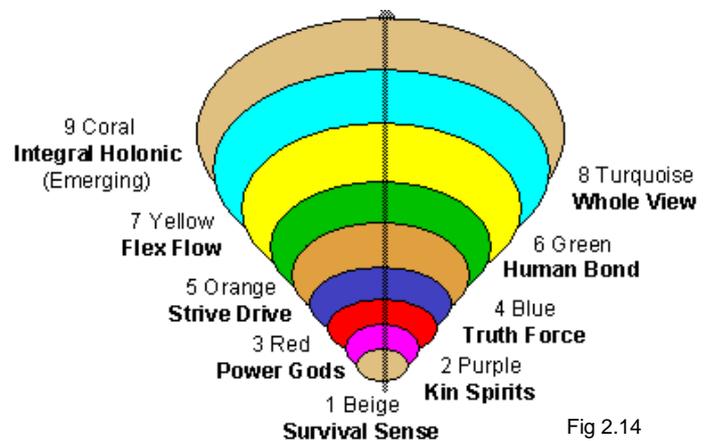
People can have what are called **peak experiences**, which are experiences of upper transpersonal stages or other states. These are temporary experiences and are not sustained because the developmental work in self has not been done.

Wilber describes 5 ways that **spirituality** can be considered in context with the territory he has mapped out:

1. spirituality involves the highest stages of the developmental streams
2. spirituality is the sum total of the highest levels of the development lines
3. spirituality is itself a separate development line
4. spirituality is an attitude (such as openness or love) which you can have at whatever stage you are at
5. spirituality involves peak experiences

Spiral Dynamics (Beck and Cowan 1996) is also a key aspect of Integral Theory, sitting in the **WE** quadrant. It is a model which suggests that societies or cultures move through stages called *vmemes* (value **m**emes, worldviews or shared ways of living and being in the world.) The spiral shape represents the sense of evolving upward, yet the higher levels include the earlier ones in a holonic way. Individuals within a group, organization or culture *tune into* particular memes (I use ‘memes’ as a shorthand way of saying ‘vmeme’ throughout this thesis). They can operate at different meme levels depending on what they are doing... going to church, working, playing sport or being with family. Individuals and organizations can have meme profiles which show how much they might be accessing different memes.

Spiral Dynamics has been a key model used in understanding and enacting organizational or global change... and was specifically used in South Africa in shifting from the system of Apartheid.



So it is not enough to understand the learner as an individual but one also needs to understand their cultural situatedness, the memes they tune into and the dynamics of their relationships with others and the larger environment.

Meme	People Value	People Do	Meaning of Life
Beige	Instinct, Survival, Food, Warmth	What is natural according to instincts	Do what you must to stay alive
Purple	Kinship, Magic, Safe living	What is traditional or what their group does	Keep the spirits happy and the tribe/group safe
Red	Egocentric, Impulsive, Status, Power	What is good for them and gives them control	Be what you are and do what you want
Blue	Stability, Order, Ultimate Peace	What is right according to the rules and Laws	Life has purpose with predetermined outcomes
Orange	Scientific, Strategic, Material	What gets results or puts one ahead	Play the game to win
Green	Sensitive, Humane, Affectionate relations	What is caring to meet the needs of others	Seek inner peace and care for others
Yellow	Integrative, Whole Person, Synthesis	What is good for all systems	Live fully and as responsibly as you can
Turquoise	Holistic, Being, Wisdom	What is wise according to deeper insight	Wholeness of mind and spirit

Fig 2.15

The first 6 meme levels (Beige to Green) are called first tier, and the next ones belong to second tier. 'Second tier thinking' refers to being able to see and operate at any level of the spiral, realizing that each meme has advantages and disadvantages according to the context at hand. Someone who is only operating at first tier level may not be able to see the bigger picture, and be caught in a particular meme without seeing how to adopt a different way of thinking or being. They may also be in conflict with people who are operating at other meme levels.

What are the implications of Integral Theory for educators?

Spiral Dynamics

How do schools operate? At what meme level might administration, teaching or curriculum be tuned to? How might different learning and teaching preferences be mapped on the memes?

Meme	Needs	Learning/Teaching Styles
Beige	Find what you need	Instinctual learning, automatic responses
Purple	Petition the gods with ritual	Reassurance, repetition, honour group customs
Red	Align with those in power to get your needs	Reinforcement, power relations, individual learning, rewards
Blue	Follow the rules, don't exceed roles	Authoritarian, order and discipline, right answers
Orange	Excel, set goals, measure success	Build autonomy, risk taking, competition, enterprise
Green	Appreciate diversity, seek consensus	Collaborative learning, respect for other's views, equity
Yellow	Integrate diversity with discernment, wholeness	Interdisciplinary learning, freedom to be and discover
Turquoise	Peaceful expression of a multidimensional self	Holistic/Integral learning, inner wisdom

Fig 2.16

Within one educational system or one school we might see multiple memes operating, some appropriately for the context and some in conflict. For example, an education system might value empowerment of its students but this could mean different things in different memes. Perhaps taking an integral view enriches the experience for learning, whereas just focussing on one meme may limit possibilities.

Blue meme	Empower students by providing literacies, information, and skills for living and working in today's world. Being able to follow conventions.
Orange meme	Empower students by giving them opportunities to act for themselves - projects, enterprise, having a voice, negotiation of learning. Being autonomous.
Green meme	Empower students by helping them to see a different cultural perspectives that shape their thinking - appreciating and caring for other. Appreciating difference and diversity.
Yellow meme	Empower students by giving them the tools to integrate and synthesise - understanding different worldviews, ways of knowing and ways of thinking. Diversity within unity.
Turquoise meme	Empower students to be fully emancipated beings who act with ethical freedom according to their inner ideals.

Fig 2.17

Can spiral dynamics help educators understand the complexities of curriculum, school management systems and classroom teaching better? Can it help us understand the issues of trying to bring about change?

I will be using this model throughout this 'writing as inquiry' process to help me explicate the various cultures in science, management and curriculum frameworks. It has helped me understand better the issues of trying to transform educational systems and I will be referring to it throughout this study.

Transformative Learning

Transformative Learning has now become more popularized in education, but it comes with various meanings. For example, research by Mezirow (2000) and O'Sullivan (1999) come from the field of *adult learning* (ways of challenging perspectives, habits of mind and underpinning worldviews) whereas Kegan (1982) is looking at transformation of the ego using a development stage model from birth to death. This is more consistent with Wilber's notion that transformation should refer to moving from a lower to a higher stage in the various development lines.

Mezirow sees Transformative learning as something which builds capacity for mindfulness, self-reflectivity, discourse, autonomy, democracy and agency. It is often stimulated by disorienting dilemmas which cause self examination of feelings and underpinning assumptions. It leads to exploration for new courses of action and new roles. There is a trying on of new roles and new habits of mind and seeking new skills to cater for these new experiences. Then there is a time of building confidence through interactions as one moves towards integrating the new self or ways of thinking.

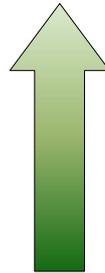
The development of Emotional Intelligence is seen as important in supporting this process as well as being in protective environments where there is a social democracy between teachers and learners.

Transformation is seen as leading out from an established habit of mind. *Information* is within an established habit of mind.

Yorks and Marsick (2000) suggest that we consider the following criteria in the process of moving from information to transformation:

For Kegan (1982), the key to transformation of ego from stage to another is the ability to adopt *new cognitive frameworks* that enable us to manipulate aspects of self that previously were an embedded part of our ego.

Trans-form-ation



In-form-ation

FORM	PROCESS
Adopting new cognitive structures	Reflection on process, content and premises
Adopting new points of view	Reflection on process and content
Analysis within existing frames of reference	Reflection on content
Elaboration within existing frames of reference	Gather content Incidental reflection

Fig 2.18

Kegan’s development model has 6 stages –incorporative, impulsive, imperial, interpersonal, formal-institutional and post-formal –inter-individual. These stages oscillate between a desire for interdependence and a desire to be independent. He suggests that as we grow and transform up the stages our locus of view widens. When we are in a stage, the characteristics of a stage own us. When we move to the next one, what we were *subject to*, now becomes *our object*, something we can now manipulate. A young child, for example, might be *subject to* their feelings – they *are* their feelings. Then in the next stage they find that feelings are something they *have* and they can control... feelings are now an *object*.

At College we see many teenagers (*interpersonal stage*) defining themselves through the relationships they are having, particularly with peers. For them their whole world becomes this interconnected reality of close friends... and it is hard for them to see beyond that. Breaking up a friendship with someone is a breaking up of self, because of the deep entanglement in another’s being ... it can be one of the most painful experiences that these young people go through. Moving out of this stage you see students become less owned by their friendships, more their own person. They *have* friends, rather than self is created through friendships.

Patricia Gordon (personal communication, July 6 2005 and forthcoming paper), part of the Integral Institute team working on applying Integral Theory to education, has synthesized development models of Kegan (1982), Cook-Greuter (2002) and Wilber (2000b) to come up with the following perspectival development stages, suggesting that development of this line is crucial in the development of spirituality and consciousness as well as ego and cognition. Being

able to take ever more spacious perspectives enables us to witness ourselves which helps us transcend and then include.

Perspectival Stages	
<p><u>Pre-conventional</u></p> <p><i>1st person perspective</i></p> <p>Egocentric, magic, preoperational</p>	<p>Fluid Mind Immersed in perceptions and impulses</p> <p>Unsocialized mind – Impulsive mind Treats perceptions and impulses as objects to manipulate and reflect on, making it possible to create categories embedded in its own point of view</p>
<p><u>Conventional</u></p> <p><i>2nd person perspective</i></p> <p>Socio-centric, mythic, concrete operations</p>	<p>Socialized mind Treats categories as objects to manipulate and reflect upon, making it possible to internalize society's rules and values</p>
<p><i>3rd person perspective</i></p> <p>World-centric, rational, formal operations</p>	<p>Self Authoring mind Treats society's rules as objects to reflect upon, making it possible to create its own ideology and identity</p>
<p><u>Post –Conventional</u></p> <p><i>4th person perspective</i></p> <p>World-centric, pluralistic, postmodern, formal operations</p>	<p>Pluralistic mind Treats its own ideology and identity as an object to reflect upon, making it possible to respect diversity</p>
<p><i>4th person perspective expanded</i></p> <p>World-centric, holistic, general systems thinker, formal operations</p>	<p>Systemic mind Treats pluralities and contradictions, both inner and outer as objects to reflect upon, making it possible to organize pluralities</p>
<p><i>5th person perspective</i></p> <p>World-centric, holarchical, integral, vision-logic</p>	<p>Integral mind Reflects upon systems as objects, making it possible to correlate and organize them into meta-frameworks</p>
<p><u>Mystical Levels - transpersonal</u></p> <p><i>6th person perspective</i></p> <p>Theocentric, nature mysticism to deity mysticism to formless mysticism, including and transcending all of the above,</p> <p>Saint to sage, illumined mind, to intuitive mind, to unitary mind to over-mind.</p>	<p>Psychic Mind, Subtle Mind, Causal no-mind, Witness, Non-dual</p> <p>Able to see all experience, including the rational, as phenomena of being, valuing all states of being. Less interested in the seeking as in the being, focussed in the now. Realize that understanding is an illusion. Comprehend things in a visionary and holistic way in addition to apprehending them through the rational mind.</p>

Fig 2.19

A key aspect of Holistic Education is to encourage and support transformation of the teacher – “to transform the world, be a transformed being living in the world.” (Palmer 1997). So what helps transformation in these perspectival levels? Gordon suggests that there are three principles an integral teacher could consider in her own development as well as assisting her students in theirs:

1. **Nonexclusion:** lighting up and actualizing all relevant, current world spaces, or perspectives.
2. **Enfoldment:** evolving into greater world spaces, or perspectives, expanding the range of light, the spaciousness in which it shines.
3. **Flexflow:** flexflowing this light, shifting the patterns of what is lit up according to what is appropriate in the situation.

Although we might think of evolution as linear – an upwards process, she also suggests that perhaps a better metaphor is one of *stretching* and *recovering*...

One of the most effective ways integral practitioners deal with—and find—contractions and dimness is through deliberately **stretching** their current cognitive, emotional, physical, spiritual, and ethical capacities that are limited **and subsequently recovering deeply**. In stretching they bump up against and exceed their limits and in recovering they give time for healing, consolidation, and growth.

So transformation involves not only moving into a new development stage but an embracing and re-integrating of earlier ones. We revisit these and re-contextualize from a new conceptual framework. We find earlier stages which might need further flourishing, so this recovery and consolidation time is an important part of the evolutionary process.

I have found Gordon’s model a very powerful one in thinking about transformation of myself, my students and my colleagues. I will be using this model alongside spiral dynamics to help me understand dynamics of personal and system transformation throughout this study. It becomes an underpinning framework in helping me think about science education and whether this too might have stages.

A key aspect of Holistic Education is transformation of both teacher and student which I discuss further in the next chapter.

Curriculum planners comment:

“Sue, the first thing that comes to mind is how much in our education system we have ignored what it means to be human, based on the multiple dimensions that Wilber has suggested. We seem to be only concerned with the gross body and conscious mind, ignoring the subtle and causal. We are only concerned with stages up to the mental... ignoring the transpersonal. And while we have tried to bring multiple intelligences to our teaching there are still key development lines that don't seem part of the education equation...I haven't even heard of psycho-sexual and what does a spiritual development line look like? Not to mention we have completely disregarded the *eye of the spirit*.”

“Sue, I am really concerned that we don't really have an agreed vision in education about what we are doing it for... there is a sense we are preparing the student for a job or for life... but it seems Integral Theory is suggesting a much grander enterprise... evolution of both individual and collective human consciousness. Can our students progress to the upper stages with the current education system? Have we provided them with the preparation they need, or, in fact have we created problems by the uneven development of lines? Where else do they get development of their whole possibility of lines? Should this be our role? Are we nurturers of the evolving consciousness of humankind?”

“And perhaps students need to be better informed of the processes they are going through. Would it help for them to know the evolution stages of human consciousness?”

“Yes, and this reminds me about the current focus in the curriculum on creating sustainable futures. We seem to be concerned with creating thinking people who can come up with creative systemic solutions to these global problems. Is that sort of thinking on the wrong track? I am interested in this notion of developing a universal ethic of care... how does this develop? If people's actions came from a more aware and caring consciousness then perhaps our current technical solutions would be

superseded... as we would no longer be doing the things that create the problems in the first place.”

“I don’t know about that... surely thinking is important... it helps you be more aware and conscious of what you are doing and the consequences... perhaps thinking is a necessary preparation for a universal ethic of care?”

“Hmmm. Could you develop a sense of care for the environment and for each other in all stages that speaks to each stage? I wouldn’t want us to say, that’s not our job to develop that because that is a later stage.”

“Hmmm, Can children in the pre-conventional stage even understand another’s feelings?”

“OK, probably not, but they can still plant seeds and watch them grow... take care of a pet... our job is perhaps to look at each development line and ask what experiences could assist students in developing these qualities at the stage they are at.”

“Well, I am not too sure I even agree with all the different stages. When you look at students it is not so cut and dried... it is like they are blurring across different stages and lines are intertwined. Is there really a demarcation between the stages?”

“Oh, I don’t know. I think you can really tell when students are going through transformation. Their whole perspective and sense of self changes. It is like a birthing process.”

“Yes, that’s true... but what is interesting is that that doesn’t even seem to be our main concern. We are more interested in whether they have understood the subject than whether they have just transformed into stage 4 of ethics...or stage 5 of ego-consciousness. In fact doesn’t all that teenage angst get in the way of getting good marks!”

“How ironic... you are right... yet this theory would be suggesting that it is those very things that do annoy us that are possibly the most significant thing for them... part of

the process of their transformation! Something that we should be supporting and celebrating!”

“And perhaps we should be accrediting? Though I do not want any more marking load!

“But you have a point there. What is important? Are we too much in the mindset that curriculum is knowledge to learn, rather than development of the human being?”

“But they do need to get jobs or go to university. How do you balance all that together?”

“And we haven’t even mentioned the fact that our own expertise and our own development is also limited. What do I know about transforming students? Let’s face it, I am a science teacher. There is no way I could feel comfortable developing a student’s spiritual line. In fact I have problems with their emotional one! Who is going to teach me? Do I need to start contemplation myself? The fact that this line is underdeveloped in myself, does this mean I am pathological!”

“God forbid! Yes who is going to teach the teachers?”

Interlude: what might transformation look like in a class?

Location: An island of disconsolate emotional angst, adrift in a turbulent sea, holding on for better days

(the forum signature of a year 12 student)

Physics Class 1996

See Justin. He has been sitting over there for nearly 30 minutes just staring into space while his group has continued with their task. I am very surprised and am wondering what is going on. Is he off task, thinking about the weekend? Is he ill?

I go over and ask him if he is OK. He tells me that he needs time to adjust.... He feels he is in a state of shock. Something we have just done has made him question everything he knows about the world. Not a small incident you would think! He has just realized that when he thought of radioactive decay he saw it as one substance decaying into nothing – now he knows it transmutes into something else... a new substance... mother into daughter.

He tells me that he is trying to fit this into what he knows already; he is beginning to wonder if everything else he knows is correct or not. He describes it as a house of cards falling down...pretty scary. "What can I be certain of?" he asks with anguish.

"Can I do anything to help?" I ask.

"I think I just need time?" he says.

I let him sit undisturbed.

What sort of challenge is Justin going through here? A new way of perceiving something? A challenge to his knowledge and his construction of knowledge?

How do we see knowledge? Built on foundations, brick by brick? Do Justin's foundations now need to be re-evaluated as to their validity? Or perhaps knowledge is within a complex web and as one thing is perturbed the whole system self-organizes into a new equilibrium? What other models do we have about knowledge? Does it even lie in our thoughts or is it embedded in our bodies? Hmmm.

What was Justin doing? Working through this by thinking hard... or by just allowing? Did he just need space to get over his shock?

Was this a challenge to his fundamental worldviews? Or even to his deep sense of self? How could we tell?

Physics 1997

Meet Emily. She has just run out of my class in tears while we were doing circular motion. I look over in astonishment and wonder what might be wrong. I go after her, but she waves me back.

*She had been working with Nathan on a worksheet that gets students to really think through the key ideas of circular motion and whether it has acceleration or not. Nathan had been helpfully explaining it to her but she just couldn't accept that something going around in a circle at a constant speed was accelerating because for her acceleration meant **speeding up**. There was no change of speed here, only change in direction. So now she had to extend her view of acceleration to include acceleration caused by change in direction as well as change in speed. Everyone else seems quite unfazed about widening their view about this. But Nathan explains to me with concern how she had got more and more upset as he tried to justify the theory.*

I go home and tell my husband, hypothesising that this was challenging her to rethink what she knew about all her physics knowledge... that it had perturbed it and she needed to find new ways for the knowledge to sit together. "But would she have run out of the class in tears," he asks "there must be something deeper."

So what was her issue?

I began to know Emily a lot more over the course of the year, engaging in many conversations with her about where she was heading. Emily was putting herself through a really tough time that year; questioning her values, what was important to her, who she was and what her future could be. On one hand she was passionate about English literature and wanted to become a writer. On the other hand she felt she couldn't make a living from this, so she decided she was going to become an optometrist.

She thought in Physics she could just learn facts that would enable her to get the knowledge to help her understand optics. But I was asking her to not just learn facts but to make sense of them. She told me that when she was faced with the circular motion example, she realized that she might have to change her very fundamental views about facts and question all her prior 'knowledge' ... and she just couldn't face it... she just liked her naïve view of the world.

After our talks (where I encouraged her to consider following her passion) she settled down in Physics, wanting to give it a go ... adamant that she was still going to do optometry. But it was eating at her inside... something she tried to ignore or even suppress. I was very concerned about Emily, as I am sure you are. But what can you say to someone so determined? Should I have made Physics even more uncomfortable for her?

What happened to her? I heard from one of my other students that she was studying English Literature at university. You can't believe how relieved I was. I hope she is happy now. I wonder what helped her change her mind. Perhaps her whole issue with acceleration changing direction was a deeper metaphor for her soul need – a need to change direction herself – and perhaps when our souls talk to us with such deep messages we have to listen.

What was the transformation that Emily was going through? What should my role be in all this?

Journalism 1998

Meet Michelle. She is a really nice girl, innocent face, wide smile, often uncertain. You might describe her as someone who follows rather than leads. Her writing is big and round and she has a rather naïve view of the world. She wants to write about fashion, come up with fun quiz's and run an advice column just like her favourite magazine Dolly. She fits in really well to a magazine group who together are providing the range of stories and interests for a student magazine.

During the year her eyes are gradually opened to the media. In third term, she teams up with three others to put on a play for the class to provoke discussions about stereotypes in the media. There are three different characters which the group play to show how their actions at school and at home reflect what they read and watch on TV. She plays someone who reads Vogue and has a

picture of a fashion model on her fridge, so when she goes to get food from the fridge she sees it and stops.

Immediately after the performance Michelle says to me with deep concern “I am that girl! When we were making up the play these characters were just characters – not real. But when I played the girl conscious of her weight and her looks, I realized that was me. My whole life is based on trying to be an image. I didn’t think I was influenced by the media at all. But I am!” She looked stunned.

For her *end of the year reflection* on what she had learnt from the course she wrote:

Before I took journalism I think I was wearing shutters over my eyes when it came to the media. Also I never really understood some of it and if I was to be totally honest I still don’t really understand some of it. So I guess my view has changed of the media from completely no view to that I now have an opinion. Take the famous Clinton scandal for example. I found it really interesting that when I asked my family what they thought about the media influence they said it didn’t bother them, they had no opinion.

So here were the two people who have always told me to speak my own opinions on whatever you like and they sit there and say “I don’t really care.” So I found myself giving them my opinion, telling them how I thought that the media went too far and showed too much. Dad told me to be quiet while he watched the news. And mum said “what brought that on?” So my view of the media and its way of working have intrigued me somewhat at the conclusion of the year.

How have I changed as a person? Well I think that I have begun the long journey of crawling out from under my shell, so that is a start. I have become more responsible (even at home mum was very surprised) in the things I have to accomplish. I feel that empowerment is the urge to able yourself to grow, to push yourself to learn. Letting yourself learn more, wanting to learn.

What might you say Michelle’s transformation was? Is it something we commonly see in Year 11 and Year 12 students... moving from *socialized mind* into *self authoring mind*? She is certainly a lot more self reflective, beginning to see herself as different from her parents and beginning to see the cultural influences on her own life. Was this easy for her? A gentle movement?



*The Tao in
Interesting
Times*