

Part 1

Setting the scene

Chapter 1

Moving towards being an Holistic teacher

Introduction

This chapter is a holographic introduction to the whole thesis – a taste of the questions, dilemmas and layers of concern. It is an introduction to my disorienting dilemma – *how can I integrate my spiritual self with my scientific self in the space of a physics classroom?* It also introduces Holistic Education; its educational concerns, its relevance, its community processes and why I use it as a key referent. It provides a sense of what motivates me on my journey as researcher and now writer. I introduce a fictional group of curriculum planners in **Arial font** who like to ask lots of questions and continue to do so throughout the thesis.

June 14, 2004 – Orienting myself for a day in the classroom

I am lying in bed, thoughts swirling around my brain somewhat anxiously. It is Monday morning 6am, the first day of second term. I have an hour before I have to get up and start the process of becoming a teacher. After two weeks of holidays I am feeling very reluctant to get back to school. Yet education is my passion. I have spent the last two weeks big picture thinking for the current review of Year 11/12 College curriculum for our state, Tasmania; particularly looking at the underpinning worldviews that we bring to any thinking on it.

I have been exploring a holistic worldview for over a decade now; its implications for classrooms, disciplines, professional development, whole schools. More and more teachers are looking to something like ‘holistic’ as an answer to the many problems that we have with our education system and particularly a large cohort of students which it appears to be failing.

We have already had four years of changes in the K-10 domain – *The Essential Learnings* (ELs). But we college teachers of Years 11/12 have been largely insulated from this process. There is a lot of fear about the impact of the ELs on us and our institutions. What impact will the new focus of *Integrated Learning* and *Teaching for Understanding* have on our status quo?

But I need to wrench my thoughts away from these considerations and orientate myself (let's be honest... I mean psyche myself up) for my classroom and the everyday school issues I will be facing.

My Maths class....

sigh

Why do I feel the energy drain out of me as I think of it? This is what is called a 'low level' maths class which aims to build numeracy – maths for life - in students who have a range of difficulties with maths (e.g. Some don't get place value, don't know when to divide or multiply, don't really see the meaning of numbers... is 20% off a good discount or not?) Some students would be considered around Grade 2 level- others up to Grade 8 in maths ability. But they are 16, 17, 18 and yep one 40 year old. We have five classes at about this level in a college of 1000 students.

However, it is not their level of maths that is the problem with my maths class - though I spend many anguished moments trying to understand how they each conceptualise and learn - it is the fact that most of them are on the most wanted list by either the police or the school. Bullying, stealing, being rude and obstructive to teachers, poor attendance.... Some of these students don't know what it means to be out of trouble.... it is a way of life. When I go into class frazzled I find myself buying into *The Game... Us versus The World*. The class is like resistant mud which I am trying too hard to move through or corral.

Take Brandon who has a history of bullying, who uses tantrums, emotional manipulation, accusations to get what he wants. Sometimes I allow myself to get sucked into his habit pattern of interacting with the world. But almost from the first lesson something clicked between he and I... a connection, a recognition... I see him... and he knows he has been seen. What I see is not the bully but something deeper, beyond words... almost a sense of waiting. I know his mother is a bully and treats him like nothing, his father left them, I know he wants to be loved and liked and is consumed by fear. But this is a mental knowing or seeing... I am talking about something more fundamental.

Do I love him? There is a sense of a connection, an empathy and compassion, a warmth in my heart even though exasperation is in my head. There is a sense that we two are on a journey together and perhaps I can help him see himself and he will help me to see myself. He challenges me, makes me think about what I value and how I see the world and in what

ways I am in the world. What ways of being can I be that may resonate with him, speak to him? And the answer is not that far away... being mindful. He demands me to be mindful in the moment and allow authentic focused being.

I always manage to do the wrong thing when I am distracted and I am trying to juggle too many balls in the air, have too many other students make demands on me. Each of these students requires such mindfulness. They are such complex beings - so used to hurt and fear that it is so easy in my rush to miss the key body language, the hidden plea. But time is always the problem... how can I extend time?

I can. I'll do it now. I start my deep breathing and put a cocoon of golden light around myself. I see the classroom and the students in it and fill it with golden light. I begin to see the energy patterns around each student... out of control whirring, the dark wisps and suddenly I find myself next to Jason. He talks back to teachers and has been suspended 13 times during high school. His mouth goes on and on, disconnected from his heart and mind. I see it like a wall around him keeping everyone out, trying to hide his fear. Jason, who is so difficult and incites so many of the others that when absent the class runs a hundred times more smoothly and I sigh a guilty sigh of relief. Jason, how can I help you connect your heart to your voice... what sort of project could you do which might allow you to become whole? What sort of relationships could you have?

I breathe. I see. I will remember. Time will slow when I am with you and I will not react but be with you.

Time to get up and have a shower. But my thoughts can't go away. I love the shower. That is often when ideas and connections come to me. But today I am remembering. Remembering the passion I have for teaching physics and the wonderful sense of community we have in my classes - scientists together, energetically and curiously exploring the world... using all our being and all our faculties to come to know. How we think about our thinking, play with ideas and play with the idea of science itself. The joy of being perturbed and finding something new. Our enchantment with the cosmos.

It is another planet to my maths class. My physics class embodies what I think of as holistic practice... what learning is all about. My maths class is a cause of perturbation for me, a thorn in my side of complacency. A reminder of how far we have to go in providing meaningful education for all students... not just the elite bright ones with happy homes. Should I be even trying to teach something called 'maths' to such students? What does it

mean to provide holistic education within a class, within a school within a whole education system? Would such education be helpful? What does it look like? Is it a curriculum, a way of being, a perspective?

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What is Holistic Education exactly?

Herhem. Thank you for coming here today. As you know our topic is Holistic Education and how it might inform our current curriculum review process for the reframing of year 11 and 12 curriculum. We are using the word 'holistic' more and more to describe the sort of education we want... *holistic* curriculum ... *holistic* learning, education for the *whole* person. What do we really mean by this?

So what might Holistic Education have to say about what we value in education, about the role of disciplines, and our curriculum and assessment frameworks? What sort of learning experiences do we want to give our students and what sort of teachers do we want to be? I would like to share with you some of my journey in exploring these questions as well as describing the holistic principles and pedagogies. Perhaps by teasing out some of the dilemmas I have faced, we can see the implicit assumptions in our current system and ask *where do we want to go?* Any questions?

Yes, you at the back... "What is Holistic Education exactly?" a good question... it is a good idea to get some hard and fast definitions on the table first rather than just talking about it nebulously. Would it help if I draw you up a table? Yes? Good....

Oh damn, my chalk broke..... I am just going to have to do this another way....

Maybe you should all come and sit in a circle...

The animals of the forest were gathering together for a picnic under the big tree. As usual Rabbit was bossing everyone around; where to put food and where to sit, and as usual everyone was doing their own thing anyway, but in a very good hearted way.

Now Pooh was just settling down to contemplating the lovely array of treats when there were some very loud crashing and splitting and falling sounds coming from the big tree. Then a few seconds of silence followed by a big whump, which landed right in the middle of the picnic cloth. All the animals crowded in to look.

“Well,” said Rabbit, “that looks like a very big book”

“*The Almost Comprehensive and Complete Guide to Holistic Education,*” read owl slowly, enunciating each letter.

“Why would it be *almost* comprehensive?” squeaked Piglet. “It looks pretty comprehensively huge to me.”

“Obviously there are pages missing” said Rabbit

“Obviously,” said Owl, “it is trying to indicate that while it is aiming to be comprehensive there might actually be gaps in its knowledge, so should these gaps be found by the reader it would not negate everything else the book says.”

“Or perhaps,” said Pooh thoughtfully, “it can only be complete when there is someone actually reading it?”

“Well what is Holistic Education anyway?” asked Kanga curiously, “With Roo growing up there are so many questions I would like to ask.”

Owl flicked over the pages. “Holistic, obviously,” said owl, “is a word that means something like whole or complete or inclusive. For example, like whole person.... holistic medicine takes into account all aspects of a person... spiritual, mental, physical, emotional.”

“Isn’t that Wholistic with a W?” asked Pooh. “Does the W make a difference?”

“Holistic could come from holographic” squeaked Piglet.

He shrank smaller and smaller under all the eyes that turned his way. Tigger bounced next to him.

“Ummm,” Piglet squeaked apologetically, because being a small animal next to big bouncing animals like Tigger was very hard on the nerves. “If you break a hologram in bits then you can see the whole picture in each bit. But if you break a photo into bits you have only that bit. So Tigger, your thumb contains the universe!”

“**My** thumb contains the universe?” said Tigger, trying to hold it reverently while bouncing with excitement. “Everyone come look at **my** thumb, the universe!”

“Hummmph,” said owl, “that is just non-rational religious nonsense!”

“Yes” said Eyeore “it disadvantages all us non-thumb animals who don’t have universes in their hooves.”

“Holons” announced Pooh. “Holistic holons... there could be a relationship? You know, holons, emergent systems with new properties containing smaller systems”

“Oh you mean Systems Theory!” said Owl knowledgeably. “Feedback loops, dynamics...an excellent engineering and planning tool!”

“Holons ...like the Russian dolls?” asked Kanga. “One within another?”

“The web of life?” asked Piglet, “like how we are all interconnected in ever increasing systems of complexity - cell, organs, whole body, ecosystem, biosphere?”

“Like social systems,” said Rabbit “Please don’t talk to me about interconnectivity and relationships,” Rabbit’s left eye began to twitch as his head vibrated from side to side. “Have you ever tried to keep track of the relationships between 300 rabbits? Imagine trying to understand the rest of the universe! Impossible!”

“Ummm, well,” said Pooh, “holons help us understand life and the universe – the physical world as well as our interior worlds... the great chain of being... from body, mind, soul to spirit.... each higher holon containing the other... showing our ultimate interconnectivity and interpenetration through spirit. We are connected through much more than the physical reality of the web of life.”

There was a bit of silence as the animals tried to digest this complexity of words which were straining to reveal how the complexity of life was actually quite simple to understand, if only you could get your head around it... but then again, maybe it was something that was impossible to understand through the *eye of the mind* - you might only be able to understand it through the *eye of the spirit*. There was a bit of shuffling of feet, and looking out the corner of eyes (which weren’t quite used to seeing in other ways) as no-one wanted to admit they didn’t have a clue what Pooh meant, but at the same time they didn’t want to hurt Pooh’s feelings (except Owl, whom one wonders if he knows whether feelings exist.)

There was a bit more silence, real silence this time - less worry and more contemplation - and in that space between the silence some interpenetration happened ... gently...smilingly... connectingly...

“Umm, what is the difference between soul and spirit, Pooh?” asked Kanga after a pause.

“Soul is about the individual – their spirituality, their being in the world. Spirit refers to a universal spirit which is called different things in different religions – non-dual reality, God, nirvana....”

“Why do we keep coming back to religion?” hmmmphed Owl, “irrational nonsense!”

“Well,” said Pooh, “the spiritual dimension is a key aspect of holistic – it allows you to unlock a whole other side to existence and learning. Educational research has done a lot in trying to understand how people develop and learn throughout their lives but if researchers only consider the physical, mental, emotional and social aspects and leave out the spiritual ones then they can only come up with incomplete models.”

“Where does learning actually occur anyway,” asked Piglet, “is it just in the mind or the heart or the soul or all of them?”

Christopher Robin had been very quiet up till then but he leant forward earnestly, “I would really like to know more about how learning occurs. Is there another way than sitting at my desk all day doing what the teacher tells me to do and really not learning as much as I do being in the forest with you...”

“Though,” he added thoughtfully, “I don’t mind learning about Ancient Greece, sometimes.”
“*Palladium Cesium Mania*”, pronounced Owl ponderously, “Ancient Greece is absolutely critical to the curriculum, I don’t know where I would be without it.”

Kanga hid a smile and then turned to Pooh.

“So Holistic Education would want to understand how people learn and how they develop in all their being?” asked Kanga. “Does it have a guide for mothers? When to expect what?” she covered her mouth with her hand and said “I think Roo is going through a phase just now and I want to ensure I don’t damage his spiritual growth.”

“Hogwash!” exploded owl “Fairy stories! Next he will be dancing around pretending he is a fairy! Ill-informed mothers. New-age nonsense.”

“But, Owl,” said Kanga, “a lot of this stuff is actually very good and well researched. Take the multiple intelligences. It used to be on the fringe, but now everyone is embracing it. There is even a naturalist intelligence and a new one called existentialist which is recognizing a spiritual element. Notice how well Tigger is doing at school once his teachers realized he was a kinesthetic learner.”

“All this blabbing on,” said Eyeore,” and as usual you have missed the point.”

Everyone turned around and looked at Eyeore, who was trying not to appear too smug and as usual failing.

“It is obvious. You have to ask ‘what is the purpose of education?’ What does holistic have to say about that then, huh?”

“Well,” said Owl, importantly as he turned the pages “surely it is obvious what education is for...”

“Like how to be a good rabbit and fit in with the rest of the rabbits.” interrupted Rabbit

“Like how to be a very good bouncer,” said Tigger who would like someone to help him master the double somersault and twist bounce, (and also someone to massage him with tiger balm oil while he was in the process of mastering it.) “And to be able to balance.”

“Or to help even very small and frightened animals to find that inner very big animal which exists inside them?” squeaked Piglet who sometimes dreamt that he was a rather large leopard.

“Or how to appreciate life to its fullest” said Pooh who had befriended a jar of honey and was tasting whether it actually was honey with great pleasure, an exercise where body-heart-mind-soul were integrated in the moment, “though do you need education to tell you that?” “Maybe education could help you contribute to the world in a positive and creative way,” mused Christopher Robin who would like to design a non-ozone depleting car.

“Obviously the purpose of education is to know things,” said Owl, finally getting a word in. “But why,” asked Kanga? “What sort of knowledge and for what? Should I let Roo discover things for himself or should I teach him? Should I be teaching him disciplines or thematically? Attitudes, skills or knowledge?”

“Perhaps you could help him learn how to think, be and relate for himself?” said Pooh.

“And anyway,” said Kanga, wouldn’t it be better if he has wisdom rather than knowledge?”

“What is wisdom?” asked Christopher Robin “We talk about it a lot but how could you teach it, where does it come from?”

“Hmmm,” said Pooh, “maybe it comes from experience, moments of insight, effort to understand, perpetual unwrapping to get to the bottom of things – not taking things for granted and questioning your perspective, intuition, connecting to a greater consciousness. A journey of inquiry, self-transformation and integration. A process of waking up to reality. I see something new today and it effects the way I am in the world, so I am wiser today than I was yesterday.”

“I’m not,” said Eyeore.

“We know,” said everyone at once and then they all laughed.

“Education for wisdom would be a lifetime endeavor,” said Kanga looking at Eyeore admonishingly. “Or maybe three or four lifetimes in your case.”

“Perhaps,” said Pooh, “we are thinking of education as something we adults do *to* younger children, when maybe education is the whole process of interaction between teacher/student/community/life and is happening simultaneously in the adult and the child and all the space in between.”

“What concerns me, said Kanga, is that there are so many conflicting views. Which one is right? What happens if I choose one way and it damages Roo for the rest of his life?”

“Perhaps everyone has their own purpose or path with education.... so there can’t be just one size fits all for everyone, one right answer.” said Pooh, “Perhaps you are not the one who should be doing all the choosing, perhaps Roo should be part of that?”

“But that would be chaos!” said Owl. “Schools wouldn’t be able to run like they do,” exclaimed Owl, “How can you expect a young child to make reasonable choices?” hyperventilated Owl.

“Perhaps there is an education system which allows you to have a bet each way – enables all the conflicting views about how people learn, and the purposes of education to exist together,” said Christopher Robin.

“Wouldn’t that be worse, a mishmash of different ideas, no coherence?” asked Kanga..

“So is it important then for there to be a coherent system? Where we have a coherent understanding of the world in all its reality, of what it means to be a person, how people develop mentally, emotionally, socially, spiritually, how people learn across all their intelligences?” asked Christopher Robin.

“So is Holistic Education offering a coherent system? Is it comprehensive and will it answer all my questions?” asked Kanga “what does the book say, Owl?”

Owl flicked through the book until he came to about halfway. “The rest is empty pages, he said in amazement.

“Perhaps we are meant to fill them in,” said Pooh who by now had come to the end of the honey pot and was looking inquiringly inside it to see if anything was left in its dark depths.

“Perhaps,” Pooh muffled as he stuck his head and shoulders into the pot, coming triumphantly out with a last lick of honey, “you have to go deep for the answers.”

“Eugh!”said Eyeore in disgust, “But you get too sticky!”

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1990 – Back to the beginning: Teaching Physics

It has been a big year. I have made a tough decision – to move out of the business development sector of government into teaching. I have been offered a position at a new experimental college for Year 11/12 students which is going to emphasize applied and

enterprise learning. My skills in enterprise, business research and development meant they were very keen to get me.....with the proviso that I also teach Year 11 pre-tertiary Physics.

Honestly I never expected to have to do this. Yes, I have a physics degree but I am so disillusioned about physics teaching, especially at high school level where for the sake of simplicity so many partial 'truths' and even lies are taught. I had such big hopes when I studied physics at uni. You might consider me an idealist. But I was swept away by the literature that was about the new quantum physics, and particularly the connection between the organization of subatomic particles and eastern mysticism. I wanted to understand the essence and meaning of the universe and felt that there was a point where physical reality collided with a spiritual one... what could it possibly tell us?

The actual reality of university physics was very different to my hopes and although I went on to do science in industry afterwards (using my physics knowledge) I had felt in many ways I had left physics behind as a meaningful way of revealing what 'reality' really was. I had to look elsewhere – into esoteric knowledge and into spiritual practice – to seek such answers. So physics for me became a pragmatic exercise to solve problems, rather than enable insights. And now I was teaching it. With all this history of disappointment.

I have told you this is a brand new school. Very small – only 250 students – only Year 11 for the first year. I am the only physics teacher. So commenced a period of scouting around the other colleges and teachers for whatever resources they could give me... teaching notes, way of teaching, problem worksheets, tests, experiment instructions. You don't have to look at the type face of these papers to realize these resources are at least 20 years old and been copied year after year with no change. I am overwhelmed with memories of my university physics... dry... ancient... meaningless.

Where do I go from here? How do I use this? I meet the physics teachers at my first moderation meeting... all men...all older than me.... all so seemingly confident and knowledgeable, confusing me with what they effortlessly seem to know... while I really don't get the whole course... what is it about? Is there a theme? Why is this bit relevant? How do these things connect? Why is that so? I know something is wrong with the experiments they use... it isn't real science... the sort I have been used to in industrial research where you go through a process of thinking and investigating. But someone bought all my equipment already... it is all based around these set activities.

I have got into a rhythm in my class based around advice from the other physics teachers... have a discussion or demonstration on the particular topic, write *The Notes* on the board for the students to copy down... do *The Problem Worksheet*... do *The Experiment*... give *The Assignment*... then later give *The Test*.

Robert is ruining my rhythm by asking questions. They are good questions and make me think, but often might not directly correspond to what I need to get done today. I am on a tight schedule with my whole year mapped out. I notice the other students are getting quite cross with him as they like the rhythm and anything off the rhythm means they can't be learning. Right? Then why do I feel that Robert is the only one actually learning?

I feel like I am cut in two in my teaching of physics. There is my spiritual side and understanding which I feel is not being expressed at all in this class. In contrast I am teaching Enterprise which is student centred, messy, project based, applied learning, just-in-time teaching, experiential learning. I love it, although it is chaos. I feel like my physics class is on a different planet (or perhaps in a time warp) – ordered, structured, all thinking the same – and I am the director. Apart from Robert they just want to hear the party line.

I was doing magnetism today and ended up fielding a question about why the earth's magnetic field worked. This wasn't part of my notes so I had no straight answer. So, I presented two theories of it and asked the students what they thought. Some of them got really cross with me. "You tell us," they said. "What is the point of learning two theories if only one is right?" they said. "But perhaps neither of them is right," I said. "Well, why even bother us unless you know the answer," they said.

Hmmm. Was this a product of their education so far, or a product of my own teaching? Had I been training them to expect a science that was cut and dried and only to be interested in learning something if it was to be assessed?

I want to shake them from their complacency that science is fixed and the truth and the only way of seeing the world. Can I do this? I feel like I might be imposing my beliefs and my own disillusionment with science on the students.

I have an idea. I am going to give them a research project where they have to investigate a new and controversial innovation, something which is yet to be pinned down, something which can reveal the messiness of science, the international arguments and the process of how leading-edge science becomes mainstream. Perhaps something like superconductors,

cold fusion, string theory. I know it isn't in the course - the course doesn't have anything more recent than the early 1900's - but maybe having a healthy attitude about science should be a concern of the curriculum.

The students loved doing this. It generated a lot of discussion and thought about what science was. I have selected the best essays on each topic and made them into a booklet which we have made available beyond the classroom - the students are really proud, showing it to their friends and parents. How can I bring this sense of us participating in breaking science into my normal teaching?

I am beginning to see links in the course. Force is a main theme coming up again and again. How can I use this?

The course is so much a Newtonian point of view. We don't do a quantum view, but shouldn't I allude to it? I would like to show the students how a Newtonian point of view has impacted on our thinking beyond science... into the social sciences... into the very assumptions behind most of our lives. What might life and society be like if it was informed by a quantum world view? But can I do this? I feel it is imposing my view on others. It isn't physics. I feel I have to stay within the physics box.

Ok. I did it. But because I wasn't very confident I just presented it on the board... like told them, rather than really allowed them to participate in it. I reckon it fell pretty flat. They couldn't see the relevance to passing the exam.

I mentioned this to some physics teachers. They got on their high horse. "That is the problem, people taking physics ideas out of context... it just isn't done!"

I am reading about systems theory now and chaos. I love the idea of emergent properties and holons. How the parts do not add up to the whole - the whole is much much more. It has given me a whole new question. Can you teach physics as a whole, rather than just parts, like it is now? What does it mean to look at something and try to understand it from a systems point of view? Is there a way of knowing beyond intellectual understanding? Is this perhaps where spirit can intersect with science? I still strongly feel I want to bring them together.

It is the last term and my Enterprise class has been through amazing growth and personal transformation. I have watched my students gain in confidence, responsibility, flexibility, problem solving ability and interpersonal skills in the course of the year. Doing authentic

projects which they are passionate about provide so many opportunities for learning. Every obstacle becomes a personal testing ground, the completion of the task a rite of passage and a time for reflection and story telling. Our originally disparate group becomes a community.

This is learning which seems to integrate heart-mind-body in the very action of doing. Could this be what learning from a 'whole' perspective means... the 'whole self' is called upon ... a 'whole curriculum' emergent surprising properties coming out of a complex task?

Can I prise open the box which so tightly contains physics ... is there a way that some of this messy enterprise learning can happen in physics? But I do not feel confident in doing projects.... I have a syllabus to cover, I can't let the students down – they have to be able to do the exam at the end of the year! Can I teach physics in such a way that engages the whole person, if I stick to a content-driven format? Are there some elements and principles in the way I teach enterprise that I can bring to physics? What other techniques or thinking can help me?

What does the discipline of physics have to offer in ways of seeing the world, in the processes it uses? What in the actual doing of physics could aid in personal development? What can physics offer me? What might enchant me?

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Well, I think we need a little break after all that. Who would like to stretch? Get a coffee?

I'm going to put some thinking music on... Mozart... so feel free to let your thoughts roam - sit quietly or find one or two people to chat with - allow questions to come up... how does this connect to your experiences and your thoughts about education? What sort of things would you like to know more about?

We'll come back together in another 15 minutes and share any thoughts and questions...

"Sue, my group has been discussing how we are beginning to get a sense that you can't just understand Holistic through words alone... it is a much greater experience, a mind-body-heart knowing that you are talking about."

"Yes," adds another group member, "that sense of care and heart that comes through it all... the sense of personal journey by the teacher...both a sense of being and becoming."

"Yet, we also get the sense that there is a model or framework... but you are not giving it to us straight away..."

"Yes, we are thinking that perhaps you are preparing our 'eyes' so we can really 'see' it."

"We have been talking about our different assumptions about what a human being is and what we think education is for... it is really hard to articulate something which is so complex... the classroom is such a complex web of relationships and purposes... we are concerned that as soon as we try to provide a model or map of the territory that it reduces it to its bits."

"Or generalizes it too much..."

"Exactly, but on the other hand we are thinking that having some straight answers or models or theories might help us organize our thinking and enable us to 'see' order out of chaos..."

"...as long as we use the models as temporary stepping stones to deeper understanding."

"So, what do we want to know? We have a list..."

"What exactly is a holistic world view and how does it compare to current ones in schools?"

"Does Holistic Education have a model for curriculum design?"

"Does it have recommended pedagogy?"

"Where does it come from... how does it relate to conventional educational research?"

"Who is doing it around the world and how does it cater to different cultures?"

"Are there teachers being trained in it?"

"What evidence is there that it is giving a better education for students?"

"Yeah, and maybe most importantly, how can it input into our current review and re-visioning of the year 11/12 curriculum?"

Hmmm, really good questions. Bastard questions, but good ones. Just as well I have got internet connected here today and we can do a virtual tour of the world.

Here's a website that will get you started... www.hent.org ... yes I admit to being co-founder of the site with my husband... who does most of the work.

Would each group like to take one question and see what you get and we can come back in say 30 minutes and share what we have? I'll just put on some more up beat music which will get us into action mode...

"As long as it's not the William Tell overture... I am sure that would give me a heart attack....."

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1992 – A process for inventing new curriculum?

My College is now two years old but it hasn't stopped re-visioning itself each year and trying new things. I am involved with a project looking at developing a Vocational Education program in the school. We are one of the first schools in Australia to do this and have major funding for pilot studies which has given us the luxury of professional development, thinking and planning time, and using outside experts.

We are wary of falling into the trap of teaching just for skills; we believe that vocational education can provide a motivation for students who are disenfranchised with current Year 11/12 general education, yet at the same time we can ensure it is more than just vocational specific... if we are clever that is. We have already experimented with enterprise style learning – experiential and project based learning - and wish to incorporate these elements within any program which is more associated with achieving 'tick box' competencies. Yes, there are lots of issues and possible models and we want to ensure that we have a really good understanding first before we leap in.

I have found the workshops for we teachers extremely valuable. It is not just sit around and talk. We are required to experience stuff, go through processes our kids might be expected to go through, put on plays or skits to express our understanding, or create real things, have reading and reflection time as well as be part of the workshop design process. It is encouraging us to be present with all our intelligences and to bring all our learning styles to the table. Everyone is participating 150% and what is emerging is insightful, empowering and very innovative.

In the last workshop our group had put on a little play and, even though I was pretty sure what the issues were when we were planning it, I was amazed at how my understanding seemed to click in at a fundamental level during our presentation. It was one of those ‘Aha!’ moments. I had to live it and be it, not just mentally know it.

We are now in the final stages of planning the Vocational Education curriculum and it is clear what a depth of understanding those who have participated in the workshop program have. We have a shared vision, and a common wavelength which makes decision making very smooth. That doesn’t mean we don’t argue, but it is creative and constructive and there is a sense of shared commitment in coming up with resolutions. The whole process has been very energizing and I feel very connected to the other teachers.

“Sue, can I interrupt? It seems that the point you are making is that we cannot review and design curriculum just from a series of discussions... that it needs a more embodied exploration... particularly if we are trying to design holistic curriculum - which values the multi-dimensionality of beingwe have to get inside all the dimensions... but how? How can I design good curriculum for the spirit if I myself haven’t really experienced it or understood it? It is all very well to get inside vocational education in this way... it is pragmatic... but...holistic?”

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1992 – Discovering Holistic Education

I am really excited. My husband and I have just come across a very interesting movement in Education, called Holistic Education. A brief summary:

Holistic Education

Holistic Education is based on the assumption that the universe is an integrated whole in which everything is connected. This assumption of wholeness and unity challenges the mechanistic assumption that underpins most contemporary thinking and practice. The holistic paradigm counters the reductionistic approaches of the last 200 or 300 years that have led to a world view characterized by separation and fragmentation.

Holistic Education is concerned with the growth of every person's intellectual, emotional, social, physical, artistic, creative and spiritual potentials. It actively engages students in the teaching/learning process and encourages personal and collective discernment and responsibility.

Holistic Education is a quest for understanding and meaning. Its aim is to nurture healthy, whole, curious persons who can learn whatever they need to know in any new context. By introducing students to a holistic view of the planet, life on Earth, and the emerging world community, holistic strategies enable students to perceive and understand the various contexts that shape and give meaning to life.

Holistic Education recognizes the innate potential of every student for intelligent, creative, systemic thinking. This includes "students-at-risk" most of whom have severe difficulties learning in a mechanistic, reductionistic paradigm which emphasizes linear, sequential processes.

Holistic Education recognizes that that all knowledge is created within a cultural context and that the 'facts' are seldom more than shared points of view. It encourages the transfer of learning across academic disciplines. A holistic curriculum encourages learners to critically approach the cultural, moral and political contexts of their lives.

Holistic Education values spiritual knowledge (in a non-sectarian sense). Spirituality is a state of connectedness to all life, honoring diversity in unity. It is an experience of being, belonging and caring. It is sensitivity and compassion, joy and hope. It is the harmony between the inner life and the outer life. It is a sense of wonder and reverence for the mysteries of the universe and a feeling of purposefulness of life. It is the moving towards the highest aspirations of the human spirit.

Fig 1.1

Why this excites me is that it is bringing together pedagogies which we have been exploring at my College (such as multiple intelligences, authentic negotiated tasks) with a spiritually based world view. Does this mean that I can somehow legitimately bring my sense of spirit into my teaching? How? What do I mean by spirit anyway? How can I separate my beliefs in order to form a more essential spirituality? What would it look like in my classes? Do I teach it separately?

Am I covering all those other aspects which are valued by a Holistic Education perspective through what and how I teach? What might it mean to do it well?

I want to know more.... What is happening in the world? Is there a book?

OK I admit it. I have bought into this idea. It has so much potential...I am obviously attracted to something which unifies. Am I being discerning enough?

I find there is so much literature out there in this area now we are looking; some which gives the big picture and others which focus on a particular aspect... it is really hard to get it all in my head... do I really understand it? Some of it is really challenging my preconceptions... how can I reconcile such different viewpoints? Is there a common holistic paradigm or are there just a whole lot of individuals doing their own thing? I keep thinking that if Tasmania went the Holistic Education route it would mean total re-visioning of the whole way we see schooling. Would schools even exist?

I am really going to have put this stuff into practice in my class, just one step at a time and see what happens - it is too overwhelming to do all at once... I don't have an end picture in

Holistic Education

Principles

- Connectedness
- Wholeness
- Being

Pedagogies

- Whole-Brain Learning
- Multiple Intelligences
- Cooperative Learning
- Contextual Learning & Process rather than Content
- Integrative Curriculum & Interdisciplinary Knowledge
- Life-Long Learning
- Knowledge of whole systems - Global Literacy
- Multi-Dimensional ways of knowing - Intuitive Knowledge

Informed by:

- New science
- Perennial philosophies, spiritual renewal
- Feminist Perspectives
- Indigenous wisdom
- Critical Theory
- Alternative education
- Ecological and sustainability principles

Fig 1.2

view at all. Maybe I can use an action research model, do it scientifically, get student feedback and see what emerges.

What conferences are there? Who can I link up with? Is anyone interested in being part of a group which tries to make sense of this paradigm?

Connecting, transforming and unifying

If you were to ask me to give a metaphor to describe the next 10 years I would use fractal imagery. That no matter what level of the system... relating with students, investigating a particular classroom, working with physics teachers, engaging in scholarly dialogue, running professional development or workshops for teachers, inputting into state curriculum design, making links across the world or the co-creational process with my husband Roger when you are engaged in holistic inquiry it appears that there are some key characteristics.

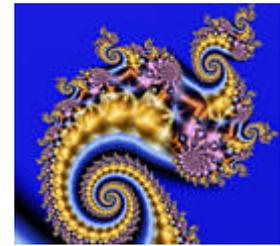


Fig 1.3

One of these is the personal connection. No matter which of the above levels you are operating at, people engaged together on this journey are going deep and making themselves vulnerable. They are willing to expose their vulnerability and through doing this provide a space for authentic heart-felt relationships with others on the journey, whether students or colleagues. Connections made between people during this process are very deep and survive across countries and time. They can be life changing.

Holistic educators are also characterized by a sense that they are trying to walk the talk... they have an integrity and passion and they are fully expressing who they are... some literally shine with their souls vibrantly present. Everyone is at a different stage of the journey and at times may be undergoing major personal transformations – there are times of angst and perturbation as well as effortless flow and laughter. There is a sense of respect – honoring people – for where they are, for their own management of their process.

Egos can be involved too, but generally people engaged in inquiry within a holistic paradigm become very caring; there is a sensitivity to others as a result of increasing sensitivity to and understanding of self.

How do people in the field of holistic inquiry get together? Well, over the years there have been local discussion groups, retreats and workshops, international conferences and internet discussion lists and email. Each of these milieus have developed their own way of operating which attempts to model a holistic approach.

Can you have authentic, heart-felt email you ask? Yes! Just in the same way that discussions can be argumentative and critical and get no-where, there is a whole new protocol for conversation which is reflective, centered, honoring, wondering, connective and emergent. So there is the quick impersonal language of email *or* email as a process of heart-felt reflection to a critical friend, where the heart is as visible as if you were physically present.

Australian and International conferences or retreats that we participated in over the years have been based around experiential learning and dialogues, with activities like song and rhythm to help connect ourselves with our spiritual self and each other. Spirit was deliberately woken to be present prior to any of the more intellectual discussions, thus enabling greater insight and creativity.

Over the last 10 years I often felt that what was being played out in my local situation was mirroring what was happening on a global scale. There appeared to be a global field of consciousness which could be tapped into; many of us around the world were working on the same wavelength, independently coming up with similar processes and explanatory models... a number of books might suddenly appear, independently developed, but containing similar things. What was really freaky was that often after our local group had a very deep, emergent conversation I would later read almost the exact thing in a book just hot off the press. You might explain this by saying we were all starting from a similar set of principles so could only end up thinking the same... but the similarity across cultures and disciplines was amazing.

Given we were all coming out of a post-modern world which was trying to show there was no grand narrative... only individual experience... this congruence was really bucking the trend. Were we idealists? Or were we on the threshold of something which could truly unify?

There were a number of key conferences; the 1997 *Spirituality in Education* conference (Colorado, USA) brought together for the first time a range of luminary educational thinkers (like Parker Palmer, Ron Miller, bel hookes, David Orr) with spiritual leaders and researchers (like the Dalai Llama, leading Rabbis and Houston Smith). The 800 participants

came from a milieu of spiritual perspectives and different levels of education; the majority from the USA.

This conference wasn't just about connecting with others and sharing. Such a collection of varied experiences and perspectives engaging in dialogue around things that mattered, making an effort to come to know the other, resulted in what I can only describe as the birth of a new level of collective consciousness – or in terms of systems thinking... an emergent property coming out of a complexly interacting system... developing the next holon layer. Not only have people taken this consciousness back with them as an integral part of a transformed self, but also, in the way of Rupert Sheldrake's morphogenic fields, this consciousness is available to all. A big claim I know. However, we all knew that this conference was a very significant point in the development of the field; something which can't be discerned from the book of conference papers.

The 2003 Spirit of Learning conference (NSW, Australia) is having a similar effect for Australia... it was a major birth of 'soul in education' consciousness in this country and has generated much energy within mainstream education and academia as well as enabling enduring links between individuals and organizations.

So the growth of Holistic as a global consciousness has come about from:

1. personal journey and endeavor – transformation of individual consciousness
2. connecting with the global flow of knowledge
3. connecting deeply at a personal level with others engaged in the field
4. collective consciousness transformation

So what does it mean to move towards being a holistic teacher? It is more than embracing a paradigm or trying out some pedagogies; it is about embracing a process of transformation. And perhaps in transforming self, one can transform what it is one is teaching. Yes, my main game between 1990 and 1999 was being a science teacher – teaching physics. In transforming myself can I also transform science and science education?

Yes, I will get to that later, but back to the real world... back to the maths class I have been preparing myself for...

June 14, 2004 - After my maths class

Time for a reality check. My maths students. The lesson wasn't bad as lessons go. That visualization I did before I got out of bed this morning really helped me in not reacting to Jason's antics – I could respond in a way that not only defused them but steered his energy into more positive expressions. Perhaps we have turned a corner. I think we are moving towards a relationship now.

But the other boy, Brandon, said to me that he knows I am trying to be nice to him and he is going to provoke me until I get mad with him, because he says that is how it works in his life - no matter what - people always get mad at him. He spent the whole lesson trying to push as many of my buttons as he could and he is a master at it. He has made it a competition. And yes I did get mad, trying hard to bottle it up. Trying to deal with his behaviour sensibly and firmly, but in the end losing it more than I would like. This is a problem. Help! I am not a psychologist but perhaps I need to be.

Working with people who obviously have major issues in their lives is a very challenging experience for me. It would be easy to ignore their problems and just be a maths teacher, remorselessly plowing my way through the course, defusing the behaviour issue through behaviour management strategies (which was the approach I used in my first years of teaching maths). But at this moment in time I can't take that approach because of who I have now become. Brandon can't learn maths or anything while he is constrained by these behaviours, issues, and ways of being.

So while teaching physics was about teaching science well and inspiring already self-actualized students, this maths class is about assisting my students *to* a state of self-actualization. But how?

Looking towards Integral Theory for answers

A key aspect of my reading in Holistic Education from 1992 to 2000 was the work of Ken Wilber who has been on a long journey exploring consciousness and what it might mean to integrate spirit within our material world. His work was crucial in helping me find a way to integrate holistic principles and spirit into my teaching of physics. But then, because of my

illness over the past 4 years, I have really put that sort of reading on the backburner... just trying to get well and build up enough resilience to get back into a classroom.

But now in 2004 I have just spent two weeks of the holidays working with my husband creating a whiz bang PowerPoint presentation for teachers. It looks at how we construct worldviews, the history of worldviews and ways of integrating conflicting worldviews – using spiral dynamics and Integral theory.

In revisiting Integral Theory after a four year break, I now could view it from the point of view of someone needing different answers. Not how to integrate science and spirituality – but how to understand people, their development and their issues. And Wilber's models in Integral Psychology (2000b) opened me up to a whole new ball game. It had in it the seeds of a richly articulated educational theory (way beyond the standard Behaviourist approach of Tasmanian Education training) which could support the practice of Holistic Education.

And, fortuitously, there was an international discussion group being set up to particularly look at ways of articulating Wilber's latest extended integral theory into educational contexts. My husband and I joined and over the next year became part of the theory group discussions. We both believe that integral theory has much potential in informing curriculum thinking and have been involved in further dissemination of ideas of integral theory around the state.

But the biggest impact on me was that it helped me to revive my doctorate studies which were based on an *action inquiry* approach which I had undertaken in 1996 - 99. My topic was, *What did it mean to move towards being a holistic teacher?; the lived experience of a science teacher*. I had felt I had really moved on since then, but now this emerging Integral Theory in the context of education, gave me a new interpretative lens in which to examine what it meant to be a holistic teacher, and what science was. The curriculum review of Year 11/12 teaching in the state gave me the impetus – here was an opportunity for renewal, for re-visioning and I could be part of the discussion. My experiences in teaching science, journalism and maths were still very relevant and my approaches were still leading edge.

So in 2005 I begin to write. And the writing itself is inquiry... van Manen's (2003) writing in the dark – I have no idea where it is going. As I write about integral theory, holistic education and spirituality I am forced to go deep, to question and challenge my assumptions and understandings. I go deep into my own spiritual experience. There is some healing and some integration. I cry and laugh and see things with new eyes and from new perspectives –

the process itself is a transformative one for me. But it is all still very raw. I have had too much experience and I try to cover too much. Where do all my different experiences with my different style of classes or student groups come in?

A long break and now in 2006 I have decided to focus more or less on one thread... looking at how to integrate science and spirituality within a context of a holistic/integral educational paradigm. Where does this lead? Can we envision an Integral Science? So now this final work is an integration of the two processes – the broad one of 2005 and the focused one of 2006.

In 2005 I was writing with an audience in mind of curriculum planners engaged in a review of Year 11/12 curriculum and I wrote them into the story giving them a voice. So even though they are not the main audience now, I still give them a voice throughout this work to tease out the implications for both teachers and curriculum. But now there is another audience – one of science educators *of* science teachers – people who might be engaged in visioning structures of science education. I have not given this audience a voice in my work – because, dear reader, you are that audience and you have your own voice.

So where do I go now?

My question is: *What does it mean to integrate science and soul in education?*

To begin to answer it I now introduce the key ideas of integral theory which provide both a solution to the question as well as a lens in looking at it.

I then briefly examine the field of Holistic Education, using integral theory as a way of structuring it. I then explore the field of secular spirituality using my curriculum planners to draw out the implications for educationalists, again using integral theory as a way of structuring it.

And now having got some key ideas out on the table I then begin my own journey as a physics teacher of Year 11/12, starting at the beginning – my first year 1990 – with all my doubts and conflicts. It is a rich noodle soup – each noodle representing a particular theme that I have extracted with the benefit of hindsight.

I introduce three different selves which have created within me an inner conflict– my science self, my spiritual self and my pedagogical self. The physics classroom becomes the space

where these different selves interact. My efforts to integrate these selves and resolve the conflicts draw forth my own evolution and transformation as well as enabling me to develop a rich practice and living educational theories, and to reconceptualise science. I move through different ways of perceiving and being until in 1998/9 the constraints of the current system cause me to challenge deeply the underpinning metaphors and assumptions of our system... something that I couldn't solve then, but now with the benefits of Integral Analysis can begin to see the greater complexities.

In Part 3 I offer some beginning steps that might help us perceive an integral science ... hopefully these ideas provoke further discussion, ideas and possibilities... because this is a process which we are just starting on and needs to be part of a global dialogue.



Involution/evolution

Interlude: Sue takes a walk up a mountain and reflects on the nature of journeys and transformation

Here I am now at the top of Mt Wellington, 1270m. I am surrounded by crystal clear blue skies and the rocky terrain of the mountain... there are views of Hobart and the south west peaks in the distance. I breathe in the air – fresh and tangy. I am ready to start my walk, full of anticipation. I stride out along the main track. I am not really noticing much, I am still in my head, different thoughts demanding my attention. Here is the turn-off. The track is rarely used; it is very rocky, and easy to lose. There are yellow markers every 50 m or so.

I have to concentrate and it is hard to find my walking rhythm as each rock requires careful negotiation. I have my head down, and occasionally I look up and take a bearing on the yellow markers to help me work out where the path is. I am in a state of disequilibrium, sometimes stretching my tendons too far.

I begin to be immersed in these red rocks which I am stepping on and over, beginning to feel that connection with the ground and the enormous mountain underneath my feet. I remind myself to look up and enjoy the view. As I step over one rock I notice some flowering heather. It is like it never existed before.... Now that I've seen this first bush I look up and see a carpet before me. I start appreciating the different hues and foliage, admiring the delicate flowers.

But now I have strayed off the path. I didn't realize this, I was so absorbed in being totally present on this mountain. I have lost sight of the yellow markers. I need to get my bearings, so I climb up a large pillar of red dolomite. It is in the sun and I sit down. My view takes in Hobart with the East coast in the distance, and then down towards the south west.

I get out my pen and paper hoping maybe I can write something insightful, but no thoughts come to me. I allow my eyes to rest on the view, this arc of about 120 degrees. I am so high up I can see the horizon.

I am on an island, surrounded by water. Yes, it hits me, this is my place, this is where I live. Tasmania.

But there is something else. Look at the way the horizon is curving. I can see the shape of the earth way below me! It is a sphere. I can feel it below me. I seem to be moving higher and

higher in view. Yes, I am on a planet, a ball floating in space, sustaining life despite the total vacuum surrounding it. I am looking directly towards the South Pole, the axis of the earth, from my grand height on top of the world. I am sitting still, yet spinning around in space along with other planets, stars and galaxies. I am a member of the universe. This is where I live.

I am still myself, or am I? Have I changed with this new awareness and new way of seeing? Will I remember this?

Where do I go from here? Do I forge my own path, take the one with markers, or go back on that main track? Can I take my new perspective with me as I negotiate all those possibilities?



Touch the sky