

Tackling Risk

A Field Guide to Risk and Learning



Dr Robert Long and Roy Fitzgerald



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Forewords

During my career I have built a range of leadership tools from the base of formal training but more importantly many years of practical application. Each time I used this tool kit I refined my approach based on the effectiveness of application and feedback from the people I worked with.

However it wasn't until I was introduced to Doctor Robert Long that I was really able to satisfy many of the questions that I had. Rob was able to translate highly technical academic information into practical useful tools for our business based on his many years of application and client feedback.

Rob has been part of our business for the past five years and through his guidance we have seen amazing results. Our employees speak and think differently, we engage with each other at another level and the knowledge we have learnt has become part of the fabric of our daily operational business.

I am excited to be able to provide this foreword for you the reader as I know that the information within this book will change the way you may perceive risk and safety.

Damian Ziebarth
General Manager Operations
Queensland Sugar Limited

I have known Rob for over ten years and Roy for five years and I am so glad that they have combined their many years of knowledge into an insightful book on learning and risk. As you read through this book you will see that it is not a theory book but a very practical piece which we have been implementing within our business for the past 5 years with extraordinary results.

I first met Rob when I was involved in high-risk work for a global chemicals company and found his message refreshing and different. What he said resonated with my mindset that was not anchored in a rationalist space but how humans make decisions and recognition of the influence our unconscious has. I really enjoyed his approach on tackling and developing risk maturity in people.

I had an interesting and broad approach to finding my career however my first formal qualification was in commercial design with a passion for semiotics and how signs and symbols communicate consciously and unconsciously. There seemed to be a void in Australia on the discipline of semiotics within organisations and when I came across Rob's work in this area it aligned completely to what I had been taught and practicing from my early days within design. Unfortunately there is still not an association for Semiotics in Australia and we are forced to travel abroad to learn more on this foundational topic that helps explain why humans warm to certain things and how we make choices in our daily lives. A knowledge of semiotics was foundational in marketing and advertising and I was surprised when I transitioned into a role in management and leadership in risk and safety that there was nothing about this subject.

In 2016 I completed my Graduate Diploma in the Social Psychology of Risk under Rob's guidance. This is also where I met Roy. Roy too is an educationalist and we connected instantly because of all his semiotic work through his unique methodology. Roy's work globally speaks volumes for his insight into learning and risk. His tools are also very practical and can be applied immediately.

As you read through the book I hope you learn more about the challenges of understanding how humans 'tackle' risk. Gone are the days when we consider the challenges of risk as some paperwork exercise, a simple problem of 'checklisting'. We know that excessive paperwork just makes the process of tackling risk more elusive; the old 'tick and flick' rules supreme. To really help people understand and tackle risk effectively we need to better understand the risk making and decision making process.



My studies in the Social Psychology of Risk has really helped transform the way we tackle risk in my organization. If you were to visit and walk about and listen you will hear a whole new language and semiotic about how we understand and practically tackle risk. We have transformed the old view of risk and safety into a new and more relevant dynamic that actually works, and this is where this field guide may help you. Yes, there are a few spots in this book, as in previous books, that are a little academic but we need this challenge, we need to be placed into dissonance to learn. If the academic material is not your thing then you will certainly engage with the stories and semiotics/graphics in this book.

I recommend this book to you (and also the previous books) as a source of inspiration and motivation to engage in a more sophisticated way in thinking and practicing risk. As the sub-title states, this is a book about learning. We have nothing to fear about learning, growing and maturing, it is the energy of living.

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Introduction

Welcome to the sixth book in the series on The Social Psychology of Risk (SPoR). Dr Rob Long has teamed up with Roy Fitzgerald to explore the challenges of Tackling Risk and Learning. Both Rob and Roy have extensive experience in learning and education including tackling risk in: schools, higher education, workplace training, leadership, risk intelligence education and executive critical thinking. They have international experience for the planning and design of learning and education programmes for small and very large groups. They have worked with government, non-government and community organisations and many other sectors of industry, which includes manufacturing, building and construction, remote mining, oil and gas, logistics, operations and maintenance divisions.

This is the fourth book using a collaborative approach to authorship, which in itself is intended to exemplify a central theme in learning philosophy. Collaboration is foundational to a SOCIAL Psychology of Risk, an approach that takes seriously Martin Buber's *i-thou*. There is no real education or learning that is not social, nor is there any sense in which an educational philosophy can be individualistic. Just as tackling risk and developing risk intelligence is for 'social good', learning and education is also for the 'upbuilding' of community, society and collective well being. It is through learning and education we develop social maturity and the shaping of personhood. This is the meaning and purpose of education and learning. It is the nature of propaganda, indoctrination, power discourse and fundamentalism to exploit, dehumanise, control and to manipulate; and these cannot be 'educative'.

Whilst there are strong links to other books in the series, this book can also be read as a stand-alone. However, an understanding of the Social Psychology of Risk gleaned from previous books will assist in getting the most from reading this book.

Dedication

This book is especially dedicated to our dear friend and fellow traveller in life-long learning and risk - Max Geyer. Max joined the journey in the Social Psychology of Risk with two-dozen others in 2014 when the Programme was first conducted at the Australian Catholic University, in Canberra.

Those who meet Max are instantly infected by his positivity, happiness and love for others. It is nothing to be with Max and watch him break into tears as he talks about the people who are dear to him. He understands what matters and has little time for the love of objects over subjects. Max hasn't done an education degree but he is a teacher, he has no Community Services degree but knows all about caring and helping. His passion for learning through relationships, love and community is infectious.

At the time of writing this book Max took ill, spent some time in hospital and is currently convalescing at home; and so this dedication is to Max. Many a time has been spent in Rob's study with Max who always shows up for coaching and learning with gifts of rare wine to enjoy and savour after a day of discussion, questions and laughter. This book is a prayer for Max, Sylvia and family.

Acknowledgements

A big thanks to Roy and Julie who have done the painstaking work of editing this book, as well as the many discussions on learning and tackling risk, the short field-trips and semiotic walks with Roy and for contributions on specific chapters and ideas.

To Roy's daughter Niobe, a first year BSc Psychology student, a special thank you for your support and understanding during the many times spent apart; and to Julie for the inspiration and tireless encouragement for the work we do in tackling risk and assisting others in education and learning.



To Rob's daughters Kerrie who is in her final year of Teacher Education, and Jenni in her final year of Nursing Education, may this book confirm our many conversations. A special thanks to Helen, Rick and Josh for your support.

What This Book Is About

When Josh and Rob considered writing the first book they were tempted not to call it *Risk Makes Sense* but rather, *Learning Makes Sense*. They were not sure if it would have been as successful: as everyone considers them-self as an expert in learning. There is no living without learning just as there is no learning without risk. In one sense we are all experts in learning if we embrace risk; but in another sense we are not experts in learning. Not many step back and analyse their experiences and meta-learning, which goes beyond to the method and philosophy of learning. This book seeks to explore meta-learning and its dynamics in relation to a Social Psychology of Risk.

I must say it has been such a delight to meet Roy and get to know him and his family. It was through a unique connection with his brother David and Roy's Post Grad studies with me in Social Psychology of Risk. Roy is one of those humble guys who quietly goes about his work as an educator, facilitator and thinker, enabling executives and leaders to better think, plan and design 'visual' learning and risk forums. Roy does so much work overseas and yet not many know of his work here in Australia. I hope this book might change that. His work with Visualisation was certainly new to me at the time we met, but I am so glad we are working together now as we share such a similar vision for learning and risk.

Why write such a book on learning and tackling risk?

It is simply because many parts of the wider community and most industry sectors don't talk about learning and risk. The notion of education and learning within these sectors is known more for parroting in training and indoctrination; rather than open trans-disciplinary learning. There is seemingly a fixation on objects, numerics and mechanics, not the learning of subjects. This book seeks to address this issue by making humans-in-learning 'known' to the discourse in risk.

Why have we used the word 'tackle' in the title of this book?

The challenges for the community and industry to deal with risk are not just complex problems; they are 'Wicked Problems'. Wicked Problems have been discussed extensively in previous books. In the face of a Wicked Problem there is no possibility of 'taming', 'solving' or 'fixing' situations. Wicked Problems are intractable, messy and for every action there is always a trade-off and complex by-product. What appear to be solutions usually result in greater alienation and necessity, creating a paradox. For example, risk aversion mitigates learning by making a group or individuals who are less experienced more 'fragile'. This fragility leads to greater risk. Sometimes we seek technical solutions only to pay the price in depersonalised processes and alienation in meaning and purpose in work.

Does this mean we give up if risk is a paradox when something contradicts what we want to do or is it seemingly unacceptable to proceed? Of course not, because we can always 'tackle' a problem and make improvements, adjustments and alleviate aspects of the problem rather than just step back and let the problem evolve. Most of all, the process of 'tackling' is all about the movement of learning. The challenge is determining, maintaining and sustaining the trajectory of humanising, against the forces that dehumanise in the name of control and compliance. The challenge is to make humans 'known' to the discourse of risk and to claim a place for people amongst the ideology of objects.

We have used the tackling metaphor to conjure up ideas informed by sport such as blocking, charging, checking, holding and bringing someone down; but this is only limited attribution giving meaning to the word 'tackle'. In this book the word 'tackle' means to 'take hold of', to 'grapple with', 'to struggle with' and to 'strategically engage'. We cannot tackle something if we don't understand, cannot 'see' or perceive it. The tackling metaphor is intended to stir up the essential need for change and movement in education and learning. This is why the notions of

dialectic, technique and a triarchic dynamic are discussed in this book. Unless we focus on moving the discourse of risk away from binary dynamics to more open and flowing dynamics, education and learning will remain foreign territory.

The tackling metaphor is most associated with 'Wicked Problems' where the language of 'taming' and 'tackling' are held in juxtaposition e.g. Brown, Harris & Russel, (2010) *Tackling Wicked Problems: Through the Transdisciplinary Imagination*. A focus on tackling learning is also a focus on maturation. Learning is neither 'fast or slow' as Kahneman supposes but rather everything in between. A Social Psychology of Risk understands the human mind as Fast-Slow, with an emphasis on the hyphen as the necessary triarchic tension and dialectic where social forces and contradictions need further enquiry. Learning is all about the 'movement between' and learning maturation, which is rarely quick, or easy. Humans don't just 'arrive' but are always journeying, always fallible, always maturing in face of the seduction of perfection and utopias.

It is also important to grapple with Wicked Problems with suitable methods and a sound methodology. When it comes to complexity and 'Wickedity', simple training will not suffice. Risk cannot be 'tamed', it can never be 'fixed'. What is needed to tackle Wicked Problems is a transdisciplinary and 'open' approach to education and learning. This is the approach taken by Julia Sloan (*Learning to Think Strategically*) and comments:

Executives, consultants, and executive development professionals have succumbed to the business culture myth of simple and short with regard to strategy thinking, seeking a quick how-to approach for even the most complex of problems. Our unchallenged mantra is fast, faster, fastest equals good, better, best. The lure of the myth has enticed us to deny or ignore the complexity, ambiguity, paradoxes, and contradictions that are inherent in the learning process required to think strategically.

As Senge et. al. (*Schools That Learn*) reminds us, learning and maturation is best served by the metaphor of 'the dance' rather than the metaphor of 'banking' by Freire (*Cultural Action for Freedom*). Tackling risk has more in common with the tango than the mechanics of deposits and withdrawals. Metaphors of certainty and control simply don't capture the paradox, uncertainty and faith required to tackle risk and learning. We need not be afraid of the dance; its beauty and flow should engage us, even though we don't know the next step. Yes, we make mis-steps as we learn a dance and it takes years to get the flow of the dance and even then it is not about the technique of the dance but rather the art and emotion of the dance. In the tango, we wait and pause and consider the next step. The tango demonstrates to us and teaches us the validity of that moment of doubt. The dance captures the essence of *Following-Leading in Risk as a Humanising Dynamic*.

People often ask what is the underlying philosophy and whilst it would be easy to give this a name Rob prefers 'existential dialectic' but this would in no way do it justice. The Body of Knowledge depicted in Chapter 4 of this book provides some idea of the complexity of the philosophy of The Social Psychology of Risk; but essentially it involves a community and person-centred hermeneutic as an interpretation of life and text. This means the focus of learning must be social and people-centred and that object-centredness must be rejected as a discourse for dehumanising, de-personalising and on a trajectory, which is mis-educative.

There is a limit to what we can put forward in a book and in many places we have knowingly skipped over concepts and simply highlighted them in bold text. These are for you to investigate and discover, research or postpone for another time. We have tried to keep a balance between academic expressions, ideas, stories, graphics and practical tips. This book is a combination of all of these. If anything, it is a generalist scan of all that is available for those seeking a new way of tackling risk.

What is a Field Guide?

Some may understand the idea of a 'field guide' as a 'how to' book and others as a resource available to help 'identify' and 'guide' understanding of something. The latter sense is the approach we have decided to take; and it is the purpose of this field-guide to help managers and leaders in the community and in sectors of industry to better



identify the nature of education and learning with respect to tackling risk. It is also a book of 'meta-learning', id est, learning-about-learning and to go beyond single and double loop learning for its application to risk.

The nature of training in small and the largest of organisations is such that the need to establish understanding about learning and education seems to be accepted as unnecessary. Many industries misunderstand training as education and learning. This is evidenced by current practices for workplace inductions, training and approaches to knowledge transfer. It seems to be that the idea of education and learning is confused for schooling, which can be left to educators and other disciplines; where all we need to deal with risk is a checklist.

Education and learning are mostly foreign territory for tackling risk in both the community and industry sectors. There is next to nothing in training or in any courses for a training and assessment qualification that has a mature approach to education and learning. Hence the perceived need for this book.

This is not a book about trouble shooting or a 'how to' guide. It is a book about education, learning and risk with the praxis, as the enacted theory, of the risk / learning paradox. There can be no learning without risk.

A Risky Philosophy

In some ways this book is a Philosophy of education and learning, which involves some risk of 'movement' to discussion of philosophical concepts. In past books the values have been present, but we have not ventured into a specific philosophical discourse because this makes the book less appealing and more difficult to read for some people. Venturing into a discourse in philosophy is a risk we had to take.

So, some new concepts that are critical to a Social Psychology of Risk have been articulated at a deeper and more philosophical level in this book. This is why a chapter at the end of the book is committed to a glossary. Evenso, the concepts discussed in this book are not new and are embedded in the work of previous books but were not discussed explicitly. For this reason, some of the concepts introduced in more detail in this book are:

- Archetypes.
- Dialectic.
- Hidden Curriculum.
- Meta-Learning.
- Personhood.
- Praxis.
- Semiotics and Visual Learning.
- Technique.
- Triarchic Thinking.
- Wickedity.

These concepts are crucial for understanding a theory of learning and education in a Social Psychology of Risk. We trust the words themselves do not become a block to your reading and that the stories and graphics that are included will help you navigate through the tough bits.

Bold Highlighted Text

Any words highlighted in bold text throughout the book designate critical concepts for education, learning and risk. Whilst a comprehensive Glossary is provided at Chapter 6, it is assumed the reader will further research such key ideas or already have an understanding of such concepts. For the purpose of this book, each highlighted concept will not be explored or footnoted so as to maintain the flow of the narrative.

Some key concepts are reinforced through the use of semiotics from previous books in the series.

Structure and Use of the Book

This book is structured in two parts.

Section One: Learning, Knowing and Signalling Risk

This section sets out a discussion on education and learning fundamentals as a foundation for understanding the structure of risk and risk intelligence. Chapter 1 explores 'modes' of learning, motivation and psychology of goals. The critical issues of personhood and learning are discussed with regard to the erroneous idea of 'machine learning'. Chapter 2 explores an overview of research about learning, including the notion of 'education'. The critical issue of 'dialectic', 'indoctrination', 'pedagogy' and 'technique' are discussed. Chapter 3 looks at experiential learning, immersion, play and learning climates. Three experiential learning activities are provided as examples and the section concludes with a discussion of micro-training and semiotic experiences.

Section Two: Meta-Learning

This section concentrates on the nature and use of visual learning with a special emphasis on the philosophy and practice of meta-learning using visualisation methods.

The Meaning of Icons

There are three icons at the base of the book cover and each page. These signify a focus on Risk, Wickedity and Dialogue. The dice remind us that risk is about faith in the face of uncertainty and trust that our movements in risk will be reliable. The celtic knot signifies a never ending triarchic flow of one into three and three into one, a dialectic dance that knows no end. The knot poses a wicked problem which cannot be 'fixed' as the web of flow of learning and risk intertwine into one. Wickedity can only be tackled, hence the title of the book. The third icon signifies the importance of dialogue between the binary black and white and polarities of binary thinking. It is in dialogue that we develop praxis and learning, in listening, conversing and visualising risk. The icons form a semiotic framework for the book and an iconic rationale for understanding.



SECTION ONE

Learning, Knowing and
Signalling Risk



CHAPTER 1

Learning, the Flip Side of Risk

The 'humanism' of the 'banking' approach masks the effort to turn men into automatons - the very negation of their ontological vocation to be more fully human. Freire - Pedagogy of the Oppressed

But why assume that sensation and rationality are the only points of correspondence between the human self and the world? Parker J. Palmer - To Know as We are Known

Learning to Risk

What's Under the Bonnet

My eldest brother Bruce ran Long Tiling Company in Adelaide for thirty years and I worked for him two days a week. It was my first year of University, back then called a College of Advanced Education (CAE). I had just left Marion High School after jumping a year and had turned seventeen years of age. I had my vehicle driver's licence for a year, was on the lookout for a car and was working towards getting an 'old bomb' but thought that was some time away. I had also been working (cleaning) after school three nights a week in a mechanics workshop on the corner of South Road and Daws Road (long before they built the over pass).

It was 1971 and my first year at Bedford Park Teachers' College. Back then we were 'bonded students' which meant we received a small allowance to study under a contract to go wherever we could be 'posted' at the end of our third year of study. This meant we could be 'posted' anywhere in South Australia from Nungicompeta to Mount Gambier and from Ceduna to Leigh Creek. If the bond was broken the study fees had to be paid back. As it happens after three years my first posting was to Lucindale in the South East of South Australia to an 'Area School'. But I'm getting ahead of the story.

I started to work with my brother Bruce a few days each week to supplement my student teacher allowance. It was experience where I learnt a trade and managed to save for my first car. One day we were working on a block of flats when I saw an FJ Holden for sale in the driveway of a house beside the job. The FJ was a 1954 model, the same year I was born, two tone blue with 'spats', roof racks and needed a paint job. The price was \$50 and a bargain at that. It blew a little smoke (oil) but that was OK according to Bruce. The price of petrol back then was twenty-eight cents a gallon (or eight cents a litre) and oil was cheap.

Knowing nothing about cars I relied on Bruce for his wise judgement and advice. I bought the 'J' and was as excited as a kid in a toyshop. Bruce had heaps of experience with cars. He had left school at the age of fourteen and played with cars in our backyard in Epping, a suburb of Sydney, when we were kids. His first two cars were an old Vauxhall and the other was a Vanguard. Our home in Epping had a backyard big enough for him to drive them around in circles. Back then Epping was an outer suburb with plenty of farm country and houses built on huge blocks of land. Bruce was often under and learning about the cars, in the school off 'hard knocks'. His third car was a legend, a hotted up FJ Holden with wide mag-wheels and a metallic green paint job, a magnet for police attention. He had his own old shed in the backyard and worked on his car with his mates and sometimes on his own. He worked during the day as a tiler and at night on his car. I never participated in 'tinkering' at the time but was rather more interested in playing music and sports. Little did I know then that Bruce would become my mentor and coach, in many things, including mechanics.

I bought the 'J', drove it home, showed my parents and opened up the bonnet of a car for the first time. I had no idea what I was looking at. I bought a maintenance Manual for the 'J' on the way home but relied on Bruce and his knowledge of cars. What a great older brother he was and always so generous and patient.

I learned pretty quickly that I had purchased a 'bomb' that would need a valve grind, a reconditioned 'head' and plenty of TLC. I learned that I had bought a six-volt car and this would be a huge problem when I needed parts or auto electrical work. But I had a car and was keen to learn as this would save money and give me all the mobility and independence I craved at the age of seventeen.

When I first started driving the 'J' I tended to ignore the mystery of what was under the bonnet.

As long as it worked and wasn't making too many noises, all was fine. It did not take long before I was jolted into a new mindset by a number of breakdowns. The breakdowns were inconvenient, like dropping the tailshaft on the corner of North and West Terrace when a universal joint snapped. I was quickly motivated with a passion for mechanics.

I had to learn a whole new language and system of thinking. The more I learnt about the 'J'; the more I began to keep spares in anticipation of troubles and this included water, oil and a toolkit. I remember driving for the first time up to Renmark to see my girlfriend, Helen (later to become my wife) and carrying half a mechanics workshop in the boot. No GPS back then and got lost on the way getting out of Adelaide. I had never driven on a country road before.

The 'J' soon became a form of identity with Helen and I; with each of our friends also having 'old bombs'. My best mate Craig bought an old Ford Prefect panel van and he and his brother dropped a six cylinder Holden motor in it, wow did it go! My other friends had a Mini, Austin 1800 and a VW. When we all got together it was often conversation about friends and cars, what we learnt and what we knew.



Figure 1. Rob with the FJ

After a year of ‘blowing smoke’ with the ‘J’ we decided to change the motor with the help of Bruce and Craig’s brother. Not long after the engine change Helen and I loaded the ‘J’ up to the roof to go to Lucindale, for our first year posted as schoolteachers. The next year we were married and with a teacher’s income we bought a much more reliable car.

In many ways the experience with the ‘J’ was a baptism in learning as well as being in my first year of Teachers’ College. Driven by necessity and desire, I learnt not only what was under the bonnet but a methodology of revelation, a new relationship, trust and hope and reliance on others, not self. Learning is like that; there is so much more to learning than the mysteries of what is under the bonnet or the ingestion of data and content.

Themes in the Book

In this brief interlude to the stories of this chapter there needs to be some discussion of critical themes in understanding this book. In the discussion that follows, critical themes are indicated in bold text. More detailed explanations of themes and ideas are discussed in full in the Glossary at the back of the book. By highlighting these many themes one immediately understands the complexity of learning and that learning is complex.

Before buying the FJ I had no idea what was under the bonnet (for Roy it was his cream coloured 1955 Austin A40) but it would be a mistake to think that knowledge acquired about mechanics is learning. Many confuse data, information, knowledge, **indoctrination** and **propaganda** with learning. Learning is much more than information, just as **meta-learning** (extra learning hidden in the learning process) is much more than method. Meta-learning is the going beyond the phenomenon of learning and is more about learning-to-learn. It is what happens in what is not obvious (under the bonnet) in learning and this makes it distinct from training. Knowledge without change is simply information. Data is not learning and there is no learning without risk. There is much more to learning than knowledge acquisition rather, there is a whole process in learning (meta-learning) that is often hidden to the learners themselves. When one studies in Teacher Education the first thing confronted is the Philosophy of Education. The methodology (philosophy) of education is complex and hidden and we will bring some of this to the surface, which is a purpose of this book.

One of the mysteries of learning about the ‘J’ was understanding its parts. However, humans are not cars even though we have biological ‘parts’. One cannot know the ‘whole’ simply by putting together the sum of its parts, something **dynamic** and **mysterious** is lost in the process. Also one cannot ‘know’ what the ‘whole’ is by analysis of parts (**reductionism**). This is like imagining the workings of a car based upon knowledge of the dashboard. So often in learning it is what is happening in the **unseen** and the **unconscious** that is more important than the dashboard. This is where we need to start if we wish to better understand how humans learn and make decisions about tackling risk.

People often confuse learning for what Freire (1972, p.46) called **‘banking’**. Freire (Pedagogy of the Oppressed) suggests that making knowledge deposits and withdrawals is not learning and we certainly agree with him. Learning is not: schooling, training, data and curriculum (subject content). Freire draws our attention to the politics of learning and the **discourse** of learning (power embedded in methodologies of knowledge transmission) and makes it clear that ‘narration’ or **‘telling’** is not learning. Freire calls this a characteristic of an ‘ideology of oppression’ and demonstrates that a ‘banking’ model of education is fundamentally **‘alienating’**, which is anti-human.

The ‘banking’ metaphor of Freire captures what is delusional about data transmission and withdrawal, as if getting data in objects and extracting data is ‘knowledge’. Data extraction is sometimes called ‘parrot learning’ but there is no learning involved. Knowledge recall is neither comprehension nor learning. Learning is much more than deposits and withdrawals. The **binary** and simplistic notion of training, banking and narration does not capture the **complexity** of learning nor the importance of the **unconscious** in learning.

To illustrate these themes I will tell another story and then continue on with the discussion of themes in this book.

A Road Accident and Learning About Many Things

At twelve-years of age I was a member of a boys' club called The Boys' Brigade that met every Thursday night. The Boys' Brigade was founded in 1883 in Scotland combining military drill, fun and play with supposed 'Christian values'. The stated object of the Boys' Brigade is 'The advancement of Christ's kingdom among Boys and the promotion of habits of Obedience, Reverence, Discipline, Self-respect and all that tends towards a true Christian manliness.' The motto on the Brigade crest chosen by the founder Alexander Smith is from Hebrews 6:16 'Sure and Steadfast' placed between the sign of an anchor and a cross (see Figure 2).

Figure 1. The Boys' Brigade Crest

My best friend David didn't really like the club because of its religious emphasis but his older brother Peter joined. I used to walk to the church hall every Thursday with Peter and this involved crossing Carlingford Road, which was one of the busiest roads in Epping and Sydney. It was peak hour traffic when we crossed the road, without a pedestrian crossing at the corner of Carlingford and Ray Roads. It was dusk and as I got to the other side on the kerb I heard a terrible noise and as I turned saw Peter being scuttled by a car; pushed to the side and laying on the ground. I stood there stunned, as this was one of the first terrible accidents I had witnessed. Little did I realise not long after I would witness two road fatalities in Epping in a matter of a few months. After some delay with police, ambulance, shock and confusion, I wandered on to Boys' Brigade. There was no counselling for trauma back then; just say your prayers and go to sleep.

Now I lay me down to sleep,
I pray the Lord my soul to keep,
If I should die before I wake,
Receive my soul for Jesus sake.

This was the prayer ritual I was taught to say (like a mantra) each night and it was a comfort in the face of death.

It seemed those few months were a flood of learning. In the past Peter and I had always walked to Boys' Brigade through Boronia Park, a short cut to the church. Until one night, when I was unwell, a friend named Tom was walking alone through the park and was sexually assaulted at the public toilets. After that we never walked through the park and were always fearful of the park at night. A few years earlier, in 1960, the whole of Sydney had been awakened to fear at the kidnapping of Graeme Thorne. Until then we did not lock our doors and always thought walking to school or walking at night alone was OK.

The accident with Peter soon brought me into a courtroom, my first experience of such and reminded me very much of the process of church. The sacred person out front and pews of followers facing a proceeding. I was familiar with the pews, congregation and the special person out front but was learning more about power and language through this experience.

I doubt these days a twelve year old would be placed in the dock to give evidence but this was the case back then. There are many things I learnt at this time, not because I wanted to but more because of what I experienced and on reflection most of my learning was unconscious.

My memories include witnessing two fatalities that year. One, a motorbike accident where I saw a body zipped into a black body-bag and another, a head-on crash involving a Mini-Minor outside my house where the head of the driver was taken off on the rear-view mirror. Cars were not fitted with seat belts back then.



Figure 2. The Boys' Brigade Crest

I will return to the learnings of The Boys' Brigade later in the book (see Figures 3 & 4) and **hidden learning**, often called **Hidden Curriculum**, but this experience of witnessing serious accidents and appearing in court taught me a great deal about power, authority, obedience, respect, testimony, **Semiotics** (the discourse of signs, language and significance) and the nature of learning. We will return to these themes in the middle chapters of this book.

I remember being questioned in court about the framing of words whilst in the dock (at the age of twelve!!!) and being asked to reconsider words I used in my testimony. I had no idea why I was being asked to change my story, change my words or clarify my perceptions but was to learn later just how important words and symbols are to unconscious learning.

It was the same year I was baptised (immersed) into my church and it was through this event I learnt that one form of baptism was preferred by one group over the other. I was **indoctrinated** and **trained** to believe that one symbol was wrong and another was right. This was what must be believed if I was to **belong**. I enjoyed The Boys' Brigade experience with the many young people and friends at church and belonging was critical for a twelve year old. At the same time puberty was just beginning and so much was happening that places of **security** and **belonging** took on greater significance. During this time I used to travel with my father on his public speaking engagements and bonded with him much more than in the past. I found great assurance in his **confidence, conviction and passion of belief**. So much of my learning in these years was not by 'telling' but by '**discovery**'. Discovery is the most powerful of all learning because it operates through the dynamic of ownership.

One of my favourite sayings is 'there is no learning without risk' and this emphasises the paradox of both learning and risk. Wouldn't it be convenient and comfortable if learning and risk were binary (either/or) and not complex? As we will discuss later, the challenge of risk and learning is a 'wicked problem'. That is, like many things in life, some things are unsolvable, intractable and unfixable. For many things in human life there is no solution indeed, solutions thinking doesn't fit the complexity of being human, fallible and mortal. This is why the title of this book is 'Tackling Risk' rather than 'fixing' or 'taming' risk. One cannot 'tame' the 'wickedity' (turbulence, randomness and unpredictability) of life. Life for fallible and mortal people is one with pain, mistakes, suffering and learning, these are all interconnected. One can 'tackle' life and navigate the journey but its vast chasms of the unknown, randomness and uncertainty aren't something one can control. Sometimes things can go well but in real life wheels fall off, people get sick, the seasons of life move and the many unseen by-products of life decisions unravel. What makes one truly human is the resilience and capability to tackle, navigate and explore life for all it offers but it can be never 'tamed'.

In all that we learn through life's experiences and its many interconnected relationships, we realise that human life is punctuated by the **Butterfly Effect**, one act often enacts many by-products which we often don't see and only in hindsight do we understand. Life is so **emergent, random**, interdependent and multi-layered. That is what makes living so fulfilling and exciting. This is essential to learning.

Now looking back to the militaristic **indoctrination** of The Boys' Brigade, I realise the many **unconscious** and **hidden learnings** were at play whilst enjoying the camaraderie and activity of a boys' club. I now appreciate the many hidden learnings as **semiotic** signs, symbols and language I received in the church and The Boys' Brigade that served to create belonging, competition, Christian fundamentalism, symbolic attachment, Christian militarism (Onward Christian Soldiers), discipline and the language of salvation (see Figures 3 & 4).



Figure 3. An Inspection of the Boy's brigade 1917



Figure 4. Rob on Parade (second from left, front)

The FJ and The Boys' Brigade speak to us about **experiential learning** and how much of learning is either 'under the bonnet' or hidden in symbols and signs of significance. So much of what is underneath the surface (see Figure 5. *The Unseen and Unconscious in Learning*) is what is 'realised' through **bringing things to the surface**. Often we don't realise what we have learnt or how we have learnt something until **reflection, awareness and 'surfacing'**.

The remainder of this chapter and book will look at the nature of learning and respond to some of the following questions: What is learning? What is motivation? How do people learn? What is the goal of learning? Why do people learn? What is non-learning? What is education? Are humans 'blank slates' to be 'filled'? What is the difference between training and learning? What part does culture play in learning? How is learning designed and facilitated? What makes a learned and educated person? How is learning assessed? Can one learn without risk? Why is risk the flip side of learning?

These questions and more guide the discussion of this field guide.

Learning and the Unconscious

Before we jump into the nature of learning it would be good to have a look at the unconscious. Must we be conscious of learning in order to learn? Can our unconscious learn and yet we not be conscious of it? What about deficit subconscious learning? What happens when we learn in an unconscious mode? How do we explain thinking and decision making that seems to have no learned cause? Can we know more than we can tell (Polanyi)?

There are many things humans do 'without thinking', Bargh (2007) calls this 'automaticity'. Defining the unconscious is not a task for the faint-hearted. Its existence was and is sometimes still in doubt. One intrepid blogger, despite propagating that the unconscious does not exist, paradoxically provides us with this enlightening definition 'it is simply you hiding stuff from you'. Fortunately, we have dedicated and well qualified professionals who have made it their vocation to provide a clearer understanding of what the unconscious mind is about. Many like Bargh (*The New Unconscious*), Claxton (*The Wayward Mind*), Robinson

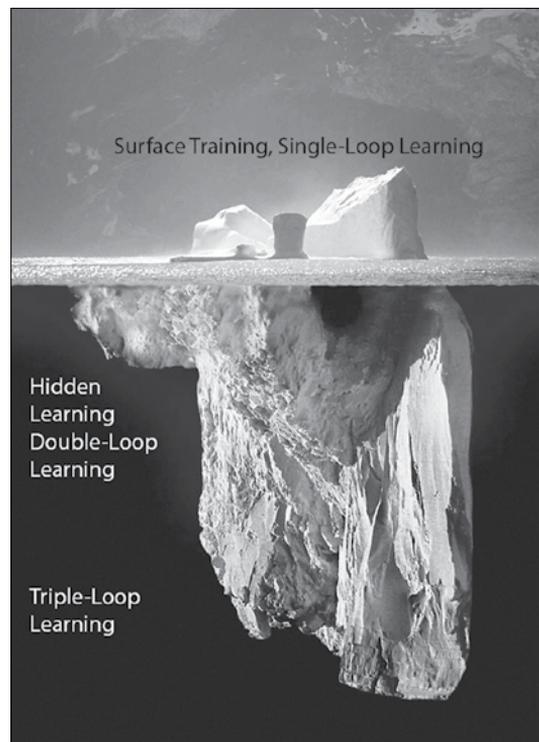


Figure 5. The Unseen and Unconscious in Learning

(*Out of Our Minds*) and Mlodinow (*Subliminal, How Your Unconscious Mind Rules Your Behaviour*) clearly help to understand the nature of the unconscious mind.

Bargh states: 'the unconscious processes are defined in terms of their unintentional nature and the inherent lack of awareness of the influence and effect of the triggering stimuli and not of the triggering stimuli'. This understanding results in regarding the unconscious not as dumb but rather as highly intelligent. When we apply Bargh's understanding, the implication is that when a chain smoker sees briefly a glossy 'Camel cigarette' advertisement in an inflight magazine (the triggering stimuli) the influence and the effect of seeing the advert takes place within the smoker's unconscious mind resulting in an effect (agitation). Why a person is agitated may be a mystery to their conscious mind, as it had nothing to do with the influence and the effect brought about by the advert. The same will apply if the smoker happens to smell tobacco (triggering stimuli).

Mlodinow supports Bargh's definition and description of how unconsciousness works. He refers to the 'New Unconscious' to distinguish the modern understanding from the one defined by Freud's perjorative view (subconscious) that the unconscious was 'hot and wet, it seethed with lust and anger; it was hallucinatory, primitive and irrational'.

We need our unconscious to be intelligent as the slow conscious mind is only capable of handling small and limited bits of information (see Norretranders or Simon on **Bounded Rationality**). The conscious mind cannot effectively deal with the (approximately) eleven million bits per second of information, including visual information, which our human sensory systems are 'flooded' with each second.

So much comes into our mind that it is impossible to process rationally but this doesn't mean that this information is either 'discarded' or has no effect. Many experiments by Bargh and others demonstrate that we learn many things unconsciously. This is the source of the principle of the **Hidden Curriculum**.

Cars Are Cars

The FJ was more than a car, it was more than identity, it was more than just mobilisation and it quickly became the 'vehicle' for every thing and every activity. Whilst learning about the FJ was initially instrumental, that soon changed. My brother taught me the basics but dependence on Bruce for every solution was not sustainable. I was so dependent on the FJ for everything I began to generate my own learning and soon, I was developing innovative solutions to problems.

I quickly realised that the FJ had a shelf life. Every time I had an electrical problem, the six-volt system was costing more and parts were more difficult to source. I was not about to take up an interest in engineering machine parts or auto electrics and hence a new found motivation to save up for a better car. It was imminent that the attachment to the 'first car' and its many memories would pass and pragmatically I needed something much more reliable to travel the extensive isolated distances of country South Australia. The prospect of being stranded somewhere on a lonely road between Lucindale and Renmark was an increasing possibility. A 'paradigm shift' came after one final breakdown too many. I took out a loan and purchased an XW Falcon. I had traversed all triple loops in learning.

Informal Learning

Much about the FJ, cars and The Boys' Brigade was learnt 'informally', I did not go to any mechanics classes and learnt by observation, participation, community and modelling / mentoring. Informal learning is learning that is predominantly experiential, self-directed, non-institutional, non-routine and is often undertaken as a 'spin off' or 'by-product' from structured or unstructured and planned or unplanned activities. Informal learning often happens unconsciously and in everyday situations and occurs through a dialectical pedagogy (movement between motivations and binary choices). Further to this discussion the following describes three highly effective methods of informal learning.

Implicit, Incidental Learning

Implicit learning results in what Polanyi (1967) calls tacit knowledge; that which we know but cannot tell at the moment but can be made explicit later. Polanyi says: 'I know more than I can say'. It may be that no knowledge is totally implicit or explicit. Implicit learning engages interactively with the participant in a 'non-formal' mode of learning in which tacit knowledge may be gained or used, simultaneously or otherwise. Six forms of knowledge are encouraged by implicit learning:

- knowledge acquired by implicit learning of which the knower is unaware of what is acquired;
- knowledge constructed from the aggregation of experiences in long-term memory through interaction with visualised data;
- knowledge inferred by observers to be capable of representation as implicit theories of action, personal constructs, schemas and through focus group discussion;
- knowledge that enables rapid, intuitive understanding or response;
- knowledge entailed in transferring knowledge from one situation to another;
- knowledge embedded in taken-for-granted activities, perceptions and norms in group interaction.

Tacit knowledge provides much of the basis for the way we interact with people and situations. Implicit methodology and its interactive nature facilitates learning 'unthinkingly' or in a reactive engagement of assumptions, values and knowledge through the rapid interface of statements, experiences and visual representation. Much research has been undertaken at Harvard University on implicit knowledge and learning, which has been captured in the popular translation of this concept in Malcolm Gladwell's book *Blink*.

Two critical elements in implicit learning are **Motivation** and the **Psychology of Goals** and on most occasions, it is often in hindsight that one realises what 'force' drew oneself to something and what 'caused' learning to happen.

Most often what motivates us is hidden, even to ourselves. The energy for movement towards something and away from something else involves much more than just positive and negative reinforcement. In many ways Motivation is mysterious and much more tied up with who we are individually and socially and how we construct meaning and purpose. This is why the simplistic and raw notion of positive rewards and punishment don't work very often.

The Mystery of Motivation

The theory of motivation by positive and negative reinforcement is a product of Behaviourist Theory. The idea that humans are motivated by inputs and outputs, to produce outputs is a mechanistic construct imposed on what it means to be human. What was conveniently forgotten in the Behaviourist paradigm is that humans are profoundly social beings and not machines. The binary Behaviourist model of 'carrots and sticks' is profoundly inadequate in explaining why people do as they do. Higgins calls this the *Hedonic Principle*. This is critical when thinking about learning, education and risk. Part of the reason why so much training within industry and in the wider community is so boring is because these sectors are wedded to mechanistic worldviews and know precious little about a trans-disciplinary approach to Motivation.

A good place to start with the challenge of motivation is with Deci's book, *Why We Do What We Do*. Although not a comprehensive text, it is easy to read and challenges many of the Behaviourist assumptions of common approaches to risk discourse. At another level is the excellent work by E. Tory Higgins *Beyond Pleasure Pain, How Motivation Works*. Then, not for the faint-hearted, the work by Vohs and Baumeister (eds.) *Handbook on Self Regulation, Research, Theory and Applications*.

We chose to start this book with the stories of the FJ, The Boys' Brigade and road crashes; because at the heart of many of the problems of philosophy we encounter is the fundamental problem of risk and an inability to



deal with fallibility and suffering. Nothing tests a theory of learning, education and motivation better than the reality of suffering. If humans were the sum of inputs and outputs, how does one explain the motivation to seek suffering for the good of others or the community? How does one explain the pain associated with self-sacrifice and altruism without imposing some model of motivation to suit a Behaviourist assumption? Even if one believes in the highest order of physical or metaphysical promise, what enables us to suppress immediate pain and suffering for another gain? At a deeper level, what sustains people on a daily basis in suffering and pain, mostly without reason and with no immediate or long-term promise of reward? Many of us simply do not know in the middle of a process whether it will be pleasant or un-pleasant, nor what makes us persevere. In many situations we simply lack the insight to see or understand what lies ahead but we do it anyway. Risk in such circumstances is much more about a 'leap of faith' or a 'leap of feeling' rather than some rational choice.

Higgins suggests that motivation has very little to do with positive and negative inputs or outputs but rather these only make sense in light of three key factors:

- Meaning-Purpose Effectiveness.
- Value-Truth Effectiveness.
- Control-Coherence Effectiveness.

In many ways this model of motivation is a triarchic model that is intra-dependent and through this intra-dependence sits the dynamics of positive, neutral or negative dynamics. This is illustrated in Figure 6. *The Triarchic Nature of Motivation*.

When we understand motivation more holistically, then we do not fall prey to simplistic strategies in tackling risk that depend on the 'carrot and stick' principle and wonder why they do not work. People often wonder why key performance indicator (KPI) incentives do not work and why corruption is so prevalent in high places, when already earning multi-millions. This is because humans crave much more than financial remuneration and the money-carrot incentive only lasts a few months.

People crave meaning and purpose, value and truth and control and coherence in their lives much more than a shot of materialism. This is why we label motivation a 'mystery' as much of what motivates us is hidden in the unconscious and sometimes not even known at the time to ourselves. We would be wise to move away from populist, behaviourist and mechanistic notions of motivation if we want to truly understand *Why People Do What They Do* (Deci).

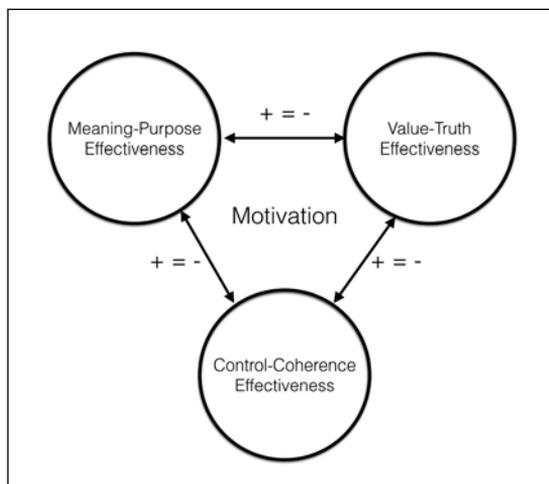


Figure 6. The Triarchic Nature of Motivation

Discipline, Pain and Loss

There were many times in the learning curve with the FJ that could only be characterised as endless suffering and pain. Why did I persevere? Sunk cost?

I remember breaking down on a lonely road in outback South Australia late at night, I thought I would be sleeping in the car that night and walking a long way for help. There were no mobile phones. At the time and for many months the burden of the car was unbearable, sometimes we hang on to things in some strange sense of hope with no evidence or logic. There is certainly no reward in sight.

I remember only one car coming by on that narrow road and it was a farmer in a ute complete with tow gear and a wonderful helping attitude. Back then we all trusted people, sometimes to our detriment but in this case I had a saviour who towed me to a service station where his mate was still working under another 'bomb' who was able to get me going again. I was indebted and broke, unable to give them anything except my heartfelt 'thanks' and a connection with that sense of 'common good' we receive from helping and being helped. It still means something to us, regardless of the ruthlessness of our contemporary society.

In so many events like this we learn something physical but we also learn much more unconsciously and it is in those higher-order goals and activities we find our greatest meaning and purpose; this is where we are most motivated. So, just as the notion of motivation is complex, so too is the psychology of goals, deeply intertwined in how we make judgements and decisions about risk and learning. As a guide, the following are ten suggested essentials to create a climate for motivation:

A first essential in motivating others is **climate / culture / environment**. Without a climate of acceptance, learning, belonging, respect and integrity there is little chance that anyone will be motivated. This is developed through an understanding of self and listening to others.

A second essential is an emphasis on **learning**. Organisations that do not emphasise learning are usually not learning organisations. Have a look through any organisation's documentation and do a search for the use of the word "learn".

A third essential in the motivation of others is **being long-sighted rather than short-sighted**. Actions that gain compliance in the short term but resentment over the long term; result from self-focused gain not sustainable well-being. Long-sightedness is the result of vision and those who can imagine where we are going and communicate it well will inspire others.

A fourth essential is knowing that motivation can be both **extrinsic and intrinsic**. Intrinsic (internal) motivation or self-motivation is most powerful. Extrinsic motivation (external) depends on others and is tied to an external pay-off. If the pay-off stops the motivation decreases.

A fifth essential in motivation is '**readiness**' (**state of desire**). Helping people to mature when they are at a state of readiness is the key to development, change and learning.

A sixth essential is **organisation, meaning and purpose**. Higgins tells us that this means helping others realise 'control effectiveness', 'truth effectiveness' and 'value effectiveness'. People are rarely motivated by chaos and meaningless, yet people who feel secure and positive are easily motivated. The key is setting desirable and achievable goals.

A seventh essential to motivate others is **diminished anxiety**. People under distress (not stress) tend to operate out of their 'shadow', their least preferred capacity and skill. Looking over one's shoulder for the Police may motivate compliance but the anxiety associated with the strategy drives mistakes through anxiety rather than effective concentration.

An eighth essential in motivation is to **meet the needs and wants of the other**. Maslow discovered that fulfilling the fundamental hierarchy of need is required before people can be motivated.

A ninth essential for motivation is **positive reinforcement**. There is nothing more motivating than recognition, acknowledgement, respect and trust.

A tenth essential to motivate others is an **understanding of human thinking, judgement, decision-making** and people skills to act on that understanding. When one accepts that motivation is more mysterious than mechanical, then one is more realistic about goal setting, transformation, education, learning and change.

When one accepts that motivation is more mysterious than mechanical, then one is more realistic about goal setting, transformation, education, learning and change.



The Psychology of Goals

It is naive to believe that goal setting is simple and objective. How many times have you set a goal only to give up and fall back into old habits? The failure of New Year resolutions is testament to the psychological difficulty in setting and keeping to goals. Just as suffering, conscience and pain tests one's theory of motivation, so too does the notion of temptation test one's theory of goal setting.

Goals do not sit in isolation, all goals compete and all goals involve by-products and trade-offs. All goals involve a hidden dimension related to human fallibility, randomness and predictability. This is why all strategic thinking is paradoxical; see Raynor, (*The Strategy Paradox*). Most individuals and organisations set goals but rarely achieve them. Goal setting is planning; it is a learning activity. For guided reading see Michael, (*Learning to Plan and Planning to Learn*). Goal setting is a process of boundary setting, Michael (1997, p. 4) comments:

By boundaries, I mean those perceptual arrangements we use to separate and unite, differentiate and connect ourselves to the world. Our personally and culturally learned modes of conduct and expectations are reified, operationalized, expressed, and maintained by boundaries of many kinds - physical, temporal, ideological, territorial, factual, conceptual, procedural, relational, as well as organisational. They establish and maintain rules and expectations - hence behaviour, rewards, sanctions, policies, and culturally-driven behaviour.

Goals serve as boundaries in planning and in expectations of what 'might' happen but nothing is more predictable than the unpredictability of human activity and worldly randomness. Boundaries and goals help us discriminate between what we do and what does and does not fit. Goals help us create boundaries for confident living but we rarely achieve all our goals. Organisations rarely achieve full completion of their strategic plan. This is where learning comes in. Michael comments (p. 20):

No amount of information alone, no matter how elaborately available in depth, is sufficient for deciding. If it were, we could leave it to the computers. Indices and other such data-combining procedures, designed to shorten the time needed to understand and act, do not obviate the need to slow down the system. Such procedures by their very nature, *lose* information. Time is needed to understand and respond to the changing boundary complexity we live in: time to learn how to judge the value of more and different information that characterizes, or should characterize, the feedback across those boundaries.

Michael reminds us that all our decision-making and judgement is actually a process of '**Satisficing**' (see the work of Gigerenzer). The nature of the world is random, the nature of humans is fallible and infinite data does not enable education, learning or better judgement. Indeed, the more information we receive the harder it is to make a decision. Human decision-making about risk is profoundly uncertain and incomplete. There cannot be any maximising that would require infallibility, there can only be satisficing.

This is why strategy, planning and goals are a paradoxical learning activity. Strategy and goals at best declare aspirations not actuality. This does not mean we should give up on goal setting or strategic thinking, both are essential to learning. The paradox is that we build decisions on incomplete knowledge and manage to survive and live quite well. Planning is a pedagogy for learning. There can be no learning without fallibility. This is why the ideology of zero is such non-sense.

So how should we set goals and strategy? How can we plan? There needs to be some balance. If we set goals to eliminate risk, then we also compete with goals that seek to produce learning. Risk elimination is learning elimination.

We set goals all the time consciously and unconsciously. A goal is a desired end state that is constrained by: time, feasibility, other competing goals, motivation, desirability, 'life space', framing and disposition.

Goal setting is complex and multi-dimensional. There are three main goal-states, these are:

1. High-order goals e.g. 'I wish to be a better person'.
2. Mid-order goals e.g. 'I want to give up sugar'.
3. Low-order goals e.g. 'I want to achieve 85% in my mathematics test'.

These three levels of goal-states all command different quantitative and qualitative measurement. Goals also compete against each other. Low-order goals tend to be easily measurable and high-order goals less measurable. Mid-order goals tend to be semi-measurable. Each of these goal-states operate at conscious and unconscious levels. Each goal-state also tends to have either a promotion or prevention focus. These goal-states, levels and foci are represented in Figure 7. *Human Goal States*.

It is important when setting goals to remember that for every conscious goal one sets, there are also unconscious by-products and trade-offs that result. Often these trade-offs involve the challenges of cost, time and resources (human and social). It is impossible in this human world to optimise, as many of our decisions are simply satisfactory (satisficing) given the constraints (e.g. human fallibility and slow rationality) and the realities of the real world (time and resource limited).

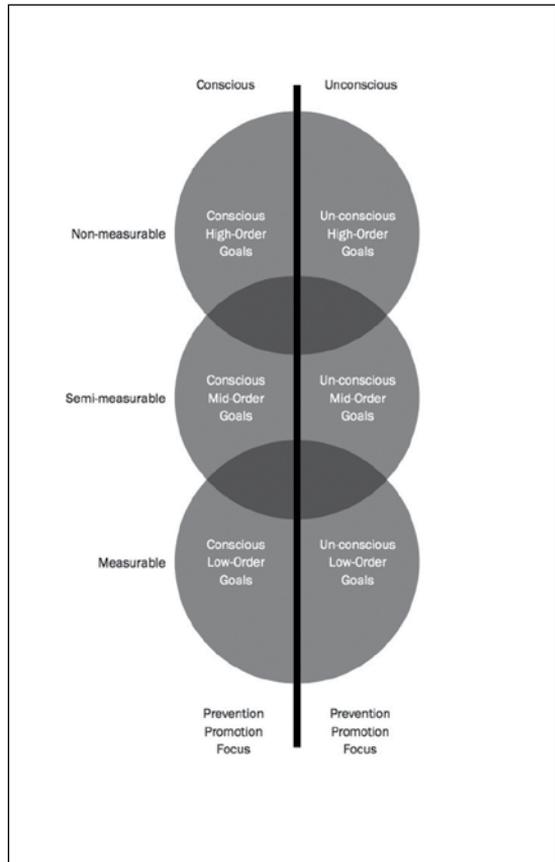


Figure 7. Human Goal States

Some of the by-products in real world engagement can result in poor learning (hidden curriculum) and others can result in enlightenment (community ethics). This is what is meant by the old saying: 'values are caught not taught'. Another (nonsense) saying: 'If you can't measure it, you can't manage it' only lead to 'measurement myopia' that plagues the wider community as well as most sectors of industry with a fixation on zero, binary thinking, fundamentalism and lower order goals. Michael comments (p. 26):

The extreme and most dangerous form of boundary preservation obstructing civil learning is fundamentalism. This anti-learning mode can reinforce any source or group identity, whether it be spiritual, ideological, conservative, or New Age. In this form group identity/belief boundaries are impermeable to disconfirming feedback, that they provide their members with complete and certain meaning. Sometimes the advantages provided to its members by such a boundary are so absolute, that what is fed through their boundary is insistence that those defining themselves according to other boundary criteria are deluded, damned and even merit destruction.

This has certainly been the case with the challenging of the fundamentalist ideology of zero in both the wider community and industry. In the end I had to go off all social media because of death threats and abuse. Two people even constructed their own websites and blogs with no other intention than hate for me personally. This is what binary; absolute zero does to people. It creates a fundamentalist boundary that is anti-learning and anti-human, all encased in the demand for measurement, metrics and statistics as a meaningful construct but attribution to aspects of risk in organisations. I call this 'measurement myopia'.

The problem with 'measurement myopia' is that it fixates people on low-level goals and a calculative mindset. The problem with 'measurement myopia' is that it results in extensive blindness (scotoma) that equates numerics with objective evidence. The real problem here is that low level goals and motivation do not help create an educated person and have nothing to do with learning. Low order motivations and goals are more associated with single-loop training than double or triple-loop-learning.

Goal Setting

Many think that setting goals is a simple matter, but do not consider the psychology of goal setting itself. The text book approach to goal setting recommends that all goals should be SMART - Specific, Measureable, Achievable, Relevant and Time considered. Yet, when it comes to risk many companies throw the goal setting rulebook out the window. They set goals for others that they would never set for themselves; setting goals justified by 'aspirations' that are unachievable, absolute and perfectionist. Such goal setting requires humans to be omnipotent (all powerful) and omniscient (all knowing). The reason why perfectionism is listed as a mental health disorder (DSM-V) is because using god-like language applied to humans is a recipe for depression, anxiety and frustration.

The most important thing to consider in goal setting is that the language and discourse of all goal setting have psychological trade-offs and by-products. When people set goals in language that 'primes' failure, hiding and 'masking behaviour' they ignore the psychology of goals that considers the longitudinal by-products of goal setting. This was discussed in detail in the second book in this series on risk: *For the Love of Zero, Human Fallibility and Risk*.

Goals can be: immediate goals (low-order goals) e.g. I want to make lunch and eat it. Delayed goals (mid-order goals) e.g. I want to make one thousand sandwiches and feed an army and 'wicked goals' (high-order goals) that are miraculous e.g. I want to feed ten thousand people with five loaves and two fish. Many of the things we value most in life are high-order goals and are immeasurable e.g. Creativity, Imagination, Love, Care, Tolerance, Learning, Resilience and Motivation. Indeed, if we seek to measure and control high-order goals, we drag those goals down to a distortion of what they really are. This is what happens when people drag the high-order goal of 'Care' down to a low-order goal and confuse injury data with a measure of Care. Absolute and perfectionist goals such as zero: demotivate humans, create a blaming culture and are anti-learning.

Who is an Educated Person?

This is perhaps the most challenging of all questions about learning and goals in learning. The misuse of the word 'learning' and mis-attribution of the word 'learning' to training demonstrates so clearly that our society mostly associates the word 'learning' with 'banking' (Friere - meaning 'data in and data out'). The same can be said for the notion of 'education', so often confused with the concept of schooling / training. The best way to test one's definition of learning and education is not by discussing curriculum or content (data) but by discussing the nature of personhood.

So often we see technical experts and people with a mechanistic 'worldview' applying the word 'learning' to the replication and regurgitation of data and algorithms. This will be discussed in the next section of this book on the non-sense language of 'machine learning'.

Seeking to define who is an 'educated person' is underpinned by one's educational anthropology (by the way: machines are not humans). When one gives a machine a human quality, this is called 'anthropomorphising', that is, using a human construct to apply to something nonhuman. We often see this in poetry and the use of metaphor, but we know the sun does not get angry and the moon does not love.

Every educational theory and methodology has at its core this question: Who is an educated person? This begs the complementary question: What is it to be truly human? Both questions are a philosophical challenge for any

educator and the question itself assumes an anthropology that seeks a response found in one's **ethics, values, morality, aesthetics, epistemology** and **metaphysics**.

What does it mean to be an educated person? This question is most associated with the powerful educational thinker of the 1970s R. S. Peters. Peters explored this question in a number of his texts, the most notable *The Concept of Education* (1967) and *Education and the Development of Reason* (1972). During their Teachers' College training, both authors were introduced to and used the texts of R. S. Peters, with one of Rob Long's mentors, Bill Andersen, supervised by R. S. Peters for his PhD.

Peters links education to 'reform' and improvement and critically 'betterment' in a moral way. This is more than just 'doing good' but is about the 'betterment of persons'. Personhood is a profoundly social state of being; one cannot be a person in isolation. There is no individualism in personhood. One is only a person in relation to others: Buber's I-Thou. The relationship is not just any kind of relationship either; it must be qualified by the nature of and 'kind' (quality) of relationship. If one has a relationship with another that is **dehumanising** then this cannot be deemed 'education'.

Note: It is at this stage that the authors wish to highlight that they are aware of the philosophical complexities in defining the nature of personhood. However, for the purposes of this book:

Education is about the upbuilding of persons for well-being.

If one 'learns' something that is dehumanising then this is anti-social (de-personal) and as **simulacra** (wrongful imitations) of true learning. Most people who enact anti-societal and dehumanising practices, according to our definition, are being mis-educative. If people are to tackle risk they must be an 'educated person' with an orientation to upbuild others.

We need to understand the **semantics, semiotics, semiology** and **grammar** used to define personhood. I may 'lust' after a car or a house but the car cannot 'lust' after me! In order for us to discuss learning in a human way we cannot separate out what is unique to humans e.g. values, aesthetics, ethics, morality, spirituality, conscience, hope, faith and love. I may love my computer but it can never 'love' me.

The educated person has to go beyond just understanding of data to understanding and action in the world (socially). For Peters, being educated is more than just having data or some skill, being educated has to be transformative in a **triple-loop learning** sense, which will be discussed in Chapter 3. Whilst education requires **cognition**, simple cognition is not education. Data transference by algorithm is not 'learning'.

One cannot separate the nature of learning with the purpose and meaning of learning. Learning can only be learning if it is defined biologically, socially, morally and metaphysically. Peters suggests learning has to be knowledge and understanding that has a human, moral, intellectual, social and metaphysical dimension. For Peters, conceptual understanding just leaves everything as it is; knowledge must be about much more than 'knowing what' or 'knowing how' but rather 'knowing who' and 'knowing why'.

Being educated is about orientation to social good, good conscience and moral well being in community / society otherwise, one is not truly 'educated'.

Galilee and The Educated Person

When Rob Long founded the work of Galilee, many of the young people who entered that service were dehumanised and, had learned to dehumanise others (refer to Book One in the series *Risk Makes Sense*). Many of the young people were sociopathic, violent, disconnected, drug affected, abused and abusive, self interested, anti-social and yet highly intelligent. Many knew how to 'use' society but did not know how to live in it. Had they continued on this trajectory many would be either dead or incarcerated in prison. Quite a number of the young people who were in Galilee have already died, many from substance abuse, suicide and violence.



There were many orthodox teachers and officials who came to the school who emphasised the importance of literacy and numeracy as a pathway for the young people to escaping their plight. The Behaviourists would always prattle on about literacy and numeracy every time they came to visit the service. Whilst I was keen to take their funding (Education and Community Welfare Departments) I was not keen on taking their worldview. I used to say: 'whilst literacy and numeracy are important, without a social connection literacy and numeracy would simply help them better count their victims and exploits'. We had two boys in Galilee who had sexually assaulted a dog and killed it. Both were street smart and cunning but neither had a social conscience. One was highly skilled in seducing young children, the other had next to no moral compass to speak of and most of the young people were smart but not 'educated' in the true sense of personhood.

Education occurs when there is an intentional ethical undertaking to bring about changes for good in persons. This 'upbuilding' is what we sought to do in Galilee as education. One of the first things I sought to do as the founder of Galilee was to create a community of reciprocity, mutuality, purpose, meaning and engagement with a high emphasis on self-regulated discipline. To do so required staff who understood what it meant to be truly educated, rather than being caught up in the superficiality of 'training', 'data skills' and 'literacy'. Once the young people became truly educated, training was easy.

A commitment to educate and learn is a commitment to change and upbuilding. Education and learning need to happen in triple loop learning (see Figure 26 on page 60 in Chapter 3) or there is little 'reform' or change. More will be discussed about the triarchic nature of learning later in the book.

The purpose of education is not to make people smarter in cognition but to know how to live in the real world, the world of risk. Neither can **risk aversion** educate, just as **indoctrination** cannot stimulate **maturity** or **wisdom**. In the next chapter we will look at the need to **learn how to learn** and a range of issues in learning that are critical if people are to mature in the way they tackle risk.

Un-learning and Conversion, a Pathway to Wisdom, Discernment and Learning

One of the first steps to conversion is unlearning. This is usually triggered by some painful challenge in **Cognitive Dissonance** (discussed in detail in the final chapter of this book). It is at this point that people have a choice to deny their previous learning and associated evidence and 'reframe' the way they see the world. This was the challenge at Galilee. Most of the young people who came to the service had learnt how to be dysfunctional; most had no parental guidance, many lived on the streets or were abused in foster care. I remember each one who came into our 'school' and remain in contact with quite a few who are not dysfunctional any more.

Suzie (not her real name) was one who was street smart, rebellious, in out-of-home care, had been locked up many times, was highly manipulative (boys in particular), out of school, substance abusing and had a great deal of 'sunk cost' in all she could get by being dysfunctional. She came into the service at fifteen years of age with many having given up any hope for her. Somewhere along the line these kids either learn to hope or die. Suzie was one who did a heap of un-learning, converted into personhood and is now a very successful professional athlete.

We do not really know much about unlearning and conversion and we do not really know what causes that 'blink' moment (Gladwell) and a transformation. We do not really know much about why someone turns face about and goes the other way. It is a mystery of motivation and learning. If we could bottle it then all kinds of people could be transformed out of darkness into light, from addiction into living and from toxic living to well-being.

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then all kinds of people could be transformed out of darkness into light, from addiction into living and from toxic living to well-being.

We can learn a great deal from organisations like Hillsong and others in the wider community, especially about conversion and un-learning. We can also learn from people with addictions, after all, these are the experts in conversion. There is very little that is different about religious conversion and any conversion from one worldview or ideology to another. If you are a person who works with risk or in a position as an advisor or a risk manager you must wonder why it is so hard to convert people to becoming 'believers' in the rules and procedures about risk. The psychology of conversion is discussed fully in the final chapter.

A friend who is a manager describes how they deal with risk on workplace inspection walks and audits as 'changing a dummy (pacifier) from one mouth to another'. Another friend describes such walks as 'a walk in the discovery of wrongness'. This is pretty negative stuff. It would be an interesting study to see the dropout rate from these professions who are the appointed people in positions as advisors and managers of workplace risk; and what they determine to be contributing factors. Their frustrations are most probably directly connected to a lack of conversion and their frustrations in engaging people who think risk is an embuggerance.

How frustrating for people to be appointed to manage risk and to spend so much time playing the same broken record or finding out after playing the big stick, that people just don't report or just 'spin' the truth. This is where our evangelical religious friends can teach us something about attraction, motivation, transformation, un-learning and conversion. The cognitive dissonance that keeps people in cults is the same cognitive dissonance that helps them out.

Many people working in risk in industry and community organisations act as the Police and evangelists in what they do. Rather than get people into heaven or utopia, they want to keep people intact and connected by the end of the day. However, the methods often chosen for policing and conversion are sporadic and often unsuccessful. Whilst some conversion instruments have some success the blunt instrument of Behaviourism does not understand the sophistication of human complexity nor the social psychology of conversion. Whilst limited success is good, it would be nice to know a bit more about how humans change, how they are motivated and how to strive for conversion?

For the moment let us leave the discussion to cognitive dissonance and conversion to the final chapter, a useful way to end this book.

The important thing is to accept the challenge of cognitive dissonance by entering into an existentialist dialectical worldview. There will be discussion of this later but this understanding of dialectic is not Hegelian but based on the work of Jacques Ellul. An Ellulian (existentialist not existential) Dialectic does not understand that thesis and anti-thesis bring synthesis. Ellul proposes that dialectic is the movement between competing triarchic forces and that one never 'arrives'. This dialectic is much more about being satisfied and content to be 'piggy in the middle' than any notion of a 'grand narrative' or absolute 'technique'. More on Ellul, dialectic and technique later.

It seems that organisational leadership is preoccupied with reducing and removing turbulence. The populist idea of 'disruption' in 2016-2017 was most associated with the 'spin' of leadership not the realities of leadership. Most people resist change and leaders are rewarded for the way they create stability and certainty in their organisations.

We find many people in our study programmes resist the challenge to be themselves if it is likely that such will bring them into conflict or place others in cognitive dissonance. When turbulence comes, people just want to 'cope', they do not want more turbulence. As a result, many organisations resist turbulence in organising and become fragile and vulnerable to turbulent upheaval (see Taleb, *Anti-Fragility*), with a cultural emphasis on control, risk aversion and predictability. The idea of anti-fragility is that people and organisations benefit from disorder and turbulence.



The Non-Sense of ‘Machine Learning’

One of the greatest delusions in learning is the popular notion of ‘machine learning’. The term ‘machine learning’ refers to the automated detection of meaningful outcomes and regeneration of further meaningful outcomes by set algorithms. The following are cited for context:

In the past couple of decades it has become a common tool in almost any task that requires information extraction from large data sets. We are surrounded by a machine learning based technology: search engines learn how to bring us the best results (while placing profitable ads). Anti-spam software learns to filter our email messages and credit card transactions are secured by a software that learns how to detect frauds. Digital cameras learn to detect faces and intelligent personal assistance applications on smart-phones learn to recognize voice commands. Cars are equipped with accident prevention systems that are built using machine learning algorithms. Machine learning is also widely used in scientific applications such as bioinformatics, medicine, and astronomy. Shai, Shalev-Schwartz and Shai, Ben-David (cited April 2017 http://www.cs.huji.ac.il/~shais/UnderstandingMachineLearning/understanding_machinelearning-theory-algorithms.pdf)

As regards to machines, we might say very broadly, that a machine learns whenever it changes its structure, program or data (based on its inputs or in response to external information) in such a manner that its expected future performance improves. Some of these changes, such as the addition of a record to a database, fall comfortably within the province of other disciplines and are not necessarily better understood for being called learning. But, for example, when the performance of a speech-recognition machine improves after hearing several samples of a person’s speech, we feel quite justified in that case to say that the machine has learned. Nilsson, N., (cited April 2017 <http://ai.stanford.edu/~nilsson/MLBOOK.pdf>)

Pattern recognition has its origins in engineering, whereas machine learning grew out of computer science. However, these activities can be viewed as two facets of the same field, and together they have undergone substantial development over the past ten years. In particular, Bayesian methods have grown from a specialist niche to become mainstream, while graphical models have emerged as a general framework for describing and applying probabilistic models. Also, the practical applicability of Bayesian methods has been greatly enhanced through the development of a range of approximate inference algorithms such as variational Bayes and expectation propagation. Similarly, new models based on kernels have had significant impact on both algorithms and applications. Bishop (cited April 2017) <http://users.isr.ist.utl.pt/~wurmd/Livros/school/Bishop%20Pattern%20Recognition%20And%20Machine%20Learning%20-%20Springer%202006.pdf>)

It is easy to see how people in mechanistic disciplines (e.g. engineering and computer science) who know so little about learning, education and metaphysics; could come up with such a non-sense discourse. The discourse just assumes an anthropology for a machine. Such a discourse assumes that learning is about data transference and replication. What this non-sense teaches us is that just because certain language is used does not make it so.

Let us therefore look at some serious problems associated with this discourse.

1. The idea that learning is about data is so removed from the real meaning of learning that it makes such language meaningless. According to this definition, anything can ‘learn’.
2. There is no reference to subjects but only objects in this theory of machine learning
3. Machines do not have an unconscious, and cannot be self-conscious. How does a machine dream? How does it ‘get an idea’? How does a machine ‘daydream’? How does a machine pray? How can a machine meditate? How does a machine create? How does a machine innovate? When a machine ‘switches off’ what does its ‘mind’ do? How does a machine imagine? How does a machine formulate a metaphor?

4. Machines cannot have a conscience or sense moral necessity in and of themselves. How does a machine experience confusion and paradox? How can an object 'believe'? In what sense can a machine be a person? How can a machine express faith?
5. Machines have no sense of social identity; nor any sense of meaningfulness to the notion of family or group. On what basis does a machine choose between competing moral values? Some of the latest research shows clearly that artificial intelligence (AI) cannot 'cooperate, collaborate or even 'think' in such a way. Indeed, when given a comparative task AI becomes more aggressive. A classic quote from the research is: 'We are fascinated by 'machine learning'; but in the end, the machines only learn what we tell them to learn.'
6. See (https://www.weforum.org/agenda/2017/02/ai-learned-to-betray-others-heres-why-thatsokayutm_content=buffer2d2c2&utm_medium=social&utm_source=facebook.com&utm_campaign=buffer).
7. The idea that some thing 'artificial' (e.g. artificial intelligence) can be made non-artificial (human) is also a non-sense. I wonder how a machine defines 'trust'? How does a machine heal itself when it gets a virus? What is a machines immune system? How does a machine sexually reproduce? How does 'it' understand the 'miracle' of birth? How does it 'know' that the heart is not just a pump? How does a machine die or grieve for the loss of another machine?
8. Despite the attributions from this discourse that machines display personhood, such anthropomorphic attribution is simply non-sense. (see: At what point should an intelligent machine be considered a 'person'?)
9. World Economic Forum cited April 2017 https://www.weforum.org/agenda/2017/02/at-what-point-shouldan-intelligent-machine-be-considered-a-personutm_content=bufferf48cf&utm_medium=social&utm_source=facebook.com&utm_campaign=buffer). How can a machine 'feel'? How can a machine be irrational and aRational? How can a machine 'love'?
10. Since when did a capacity to process data become a 'mind'? How can data transfer and data replication properly be labelled 'thinking' or 'learning'? How can a machine create, innovate, sing, invent, write poetry, self generate art, belong, meditate, hope, cry, have faith, trust and possess countless metaphysical qualities?
11. There is no 'learning' that can be attributed to an object. Humans are much more than the sum of shifting data and change. Learning without an anthropology of personhood cannot be learning.

The ideology of Science, Technology, Engineering and Mathematics Knowledge (STEM) and perfectionism is hidden in this discourse on machine learning. One can only believe in machine learning as an act of faith, something a machine cannot have. So, we see, there is no machine 'learning' because machines do not have unique personhood. Without an anthropology of learning and capability of personhood there is no 'learning'. We saw in Australia during 2017 how the ideology and discourse of 'machine learning' can come undone.

The Centrelink Debacle

At the start of 2017 the Department of Human Services and Centrelink in Australia went into meltdown. The naive and erroneous faith in 'big data' met its match with reality. The disaster is now known as the 'robo-debt' debacle. (See Sydney Morning Herald cited April 2017 <http://www.smh.com.au/federal-politics/politicalopinion/how-the-centrelink-debt-debacle-failure-rate-is-much-worse-than-we-allthought-20170124-gtxh8q.html>).

The robo-debt debacle illustrates how machines cannot 'learn' and expose the delusions of 'big data ideology' and 'machine learning'.

What happened was that Centrelink tried to create a set of algorithms with 'big data' in order to 'catch out' people who had been overpaid by the Centrelink and Government systems. It was to do so by matching Centrelink data with other data sets from banking, social traffic and collections of Government data (e.g. taxation, disability allowances and pensions). Unfortunately on the receiving end of this



debacle were human beings. Human beings, who live in a random world, making fallible decisions in unpredictable ways and in unpredictable circumstances. Machines cannot think or learn like humans.

The consequence of this ideological disaster was up to 90% of Centrelink clients being forced to repay debt they did not own. People were distressed and suicidal over this debacle because data matching was machine determined and the debt that was owed was determined by pattern matching. Tens of thousands of Centrelink clients were sent letters demanding payment. Humans on the other hand, do much more than match computer generated patterns.

On the basis of this ideology the Department of 'In-Human' Services staff were instructed to not correct errors despite knowing the debt notices were wrong (Cited April 2017 <https://independentaustralia.net/politics/politics-display/the-centrelink- robo-debt-debacle-has-only-just-begun,9951>).

Unfortunately, Centrelink had 'learnt' how to dehumanise a long time ago. It has been common practice to sell debt or pass debts on to a debt collection agency so that Centrelink cannot be approached (now a third party) to consult about the problem. In addition, people know that a visit to Centrelink to talk about concerns is a waste of time; with waiting up to three hours or more for service and for telephone service it is even worse.

Naive politicians, with no idea about Centrelink culture or welfare climate simply exacerbated the problem by telling the public (on TV) to just call up Centrelink and sort out the problem.

This follows on from the Census Debacle of 2016 (Cited April 2017 <http://www.theaustralian.com.au/national-affairs/census-debacle-senateinquiry-into-what-went-wrong/news-story/6de67fdbc7c74fc7878586420671f d0a>).

In the world of risk in the wider community and all sectors of industry the same ideology shows up in the nonsense of 'Predictive Analytics', which is the belief that future events can be predicted on the basis of 'big data'. In organisations that deal with risk it is the latest ideology in the quest to control humans and seek perfection and zero in everything. You can read more about this new faith and ideology here: <http://www.predictivesolutions.com/lp/making-case-predictive-analyticsworkplace-safety/>.

Just look at the language and you will see that this analytics can forecast and prevent injuries. Omniscience (knowing all) is the only trajectory if the ideology is zero harm. When searching for zero, only god will do. The same ideology seeks to also be omnipresent through cameras positioned in all places on site.

All of this non-sensical and delusional mis-representation about learning and faith in machines is just technique and simply illustrates the vacuum in expertise about learning in the mechanistic disciplines. Unfortunately, all of this ideology in predictive analytics, big data, technique and *The Love of Zero*; stands in opposition to three fundamental realities:

- The world is random.
- Humans are fallible.
- The future is unknown.

Any denial of these basic realities of human living can only be described as 'religious faith'. The discourse of predictive analytics has more in common with soothsayers, crystal balls, alchemy and speaks the language of voodoo more than anything that makes sense as 'human' or of this world. We need to stop focussing on the cognition of content and start focussing on personhood-as-learning, if we want to know anything about learning-about-learning and tackling risk.

Workshop Questions

1. Can you search through your organisation and find examples of the misuse of the word 'learning'?
2. Are your inductions a mode of 'banking'? How might they be improved to be learning events?
3. What are some of the 'hidden' messages and learnings carried as trade-offs and by-products in the risk industry?
4. Do some research on the power of the unconscious in learning? How is tacit (implicit) knowledge (Polanyi) a critical part of education and learning?
5. What is your preferred climate for learning?

Transition

In this chapter we have introduced some foundational concepts in education as a precursor to understanding risk. If risk creates learning and learning needs risk, what might be some of the essential conditions, strategies and techniques that best enable learning? Can we create climates that encourage learning better than others? Are some environments better than others for accelerating the maturity and development of others? Are some environments (settings) miseducative? What underlying methodologies best serve the creation of the educated person?

The next chapter dives more deeply into methodologies and learning and explores critical issues in driving education. Some of the issues are relevant to the initiation of learning in institutions when size and resourcing constrains the optimisation of learning opportunities.

A range of orthodox learning strategies, educational theorists and challenges are tackled as a way of drawing this knowledge into the rather sparse educative knowledge of risk in the wider community and in all industry sectors. The discussion explores challenges of indoctrination, miseducation strategies and propaganda that pose a threat to the development of maturity in understanding and tackling risk.

