



Routledge Research in Vocational Education

INFORMAL LEARNING, PRACTITIONER INQUIRY AND OCCUPATIONAL EDUCATION

AN EPISTEMOLOGICAL PERSPECTIVE

Sai Loo and Brian Sutton



Informal Learning, Practitioner Inquiry and Occupational Education

Informal Learning, Practitioner Inquiry and Occupational Education explores how practitioners in a variety of occupations perform their jobs and argues that working and learning are intricately connected. Drawing on theories around working and learning in informal, formal and lifelong settings, the book gives insights into how workers negotiate their occupational practices.

The book investigates four related concepts – informal learning, practitioner inquiry, occupational education and epistemological perspectives. The combinations of theories and empirical case studies are used to provide a conceptual framework of inquiry where knowledge, abilities, experiences and skill sets play a significant aspect. It presents 11 case studies of professions ranging from conventional occupations of acting, detective work, international road transportation to emerging professions of boardroom consultancy, nutritional therapy and opinion leadership.

This book will be of great interest for academics, scholars and postgraduate students who are engaged in the study of informal education, vocational education and occupation-related programmes. It will also offer significant insights for related education practitioners wanting to have greater understanding of their own journeys and practices.

Sai Loo is an academic at UCL Institute of Education, University College London, UK.

Brian Sutton is Professor of Learning Performance at Middlesex University, UK.

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An Epistemological Perspective

Sai Loo and Brian Sutton

First published 2021
by Routledge
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

and by Routledge
52 Vanderbilt Avenue, New York, NY 10017

Routledge is an imprint of the Taylor & Francis Group, an informa business

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British Library Cataloguing-in-Publication Data

A catalogue record for this book is available from the British Library

Library of Congress Cataloging-in-Publication Data

A catalog record has been requested for this book

ISBN: 978-0-367-89484-9 (hbk)

ISBN: 978-1-003-01947-3 (ebk)

Typeset in Bembo
by Cenveo® Publisher Services

As ever to my father, who set me on this path
with his generous commitment to education.

To Caroline and Anna for their continuing
patience and encouragement. And not forgetting
the venerable, Tosca.

SL

To all the students from around the world who
have inspired me, challenged my thinking and
helped me see differently.

And mostly to Anjie for years of support
and belief.

BS



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Theatre work includes *The Tyler Sisters* (Hampstead Theatre), *Bartholomew Fair and the Merry Wives of Windsor* (both Shakespeare's Globe), *Foxfinder* (West End), *Blurred Lines* (National Theatre), *The Children's Hour* (West End – Olivier Award Nomination Best Supporting Actress), *Earthquakes in London* (National Theatre), *Breathing Irregular* (Gate), *Every Good Boy Deserves Favour* (National Theatre), *The Winter's Tale* (Headlong), *War Horse* (National Theatre), *Pillowman* (National Theatre Tour) and *The Crucible* (Sheffield Crucible).

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Prior to developing her coaching business, Christine was a strategic and operational HR Director in the international industrial sector. This opened more doors to her on different cultures and ways of working. She gained an LLB and LLM from the University of Western Australia, having paid her way through law school by continuing to practice as an Intensive Care and Accident and Emergency nurse. She subsequently spent a number of years practicing as a commercial barrister and solicitor in Western Australia before returning to the United Kingdom, where she was employed as an in-house counsel for a FTSE 100 company.

Brian Sutton Brian Sutton is Professor of Learning Performance at Middlesex University. In this capacity, he acts as director of studies for

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Miguel Toribio-Mateas Miguel is a neuroscientist, researcher, nutritionist and communicator. He is a multifaceted professional, bridging the gap between research and practice. His expertise spans the fields of nutrition, biotechnology, microbiology and neuroscience, where he has been able to bring these together working in academic and industry roles, 1:1 clinical practice to gut-brain health clinical trials and most recently directing a research and education department for a global microbiome company.

In 2020, Miguel designed the first two outcome-based studies for the British Association for Nutrition and Lifestyle Medicine (BANT), aiming to improve the understanding of the relationship between food, gut bacteria and mental well-being. He immersed himself in the interface between collaborative research, scientific knowledge and technology development for four years as part of his transdisciplinary professional doctorate journey at Middlesex University. Additionally, Miguel sits on the scientific advisory boards of various organisations and is a sought-after international speaker with a unique ability to reach a wide audience.

Russell Wate Russell Wate is a retired policeman who was the Detective Chief Superintendent for the Cambridgeshire Constabulary. He was responsible for the investigation into the recovery of the bodies of Holly Wells and Jessica Chapman. He has received 14 commendations from judges and senior officers for investigations he has led.

Russell worked at a national level in relation to policy and standards issues concerning the safeguarding of children, in particular as the national police lead for the investigation of child deaths. He was also a key member of Professor Munro's review of child protection. He carries out reviews and has conducted a number of domestic homicide reviews, serious case reviews and many other reviews, abroad as well as in this country. In the 2008 Birthday Honours, he was awarded the Queen's Police Medal for his work, both as a detective and in safeguarding.

Paula Werrett Following a long career in marketing, Paula retrained as a nutritional therapist in her early thirties. Initially, she worked in private practice and then took up employment with a leading nutritional therapy training provider, working first as a tutor/clinical supervisor and then from 2012 as Head of Courses. This she now combines with clinical work, specialising in digestive health in her clinic in St. Albans.

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Acknowledgements

This research monograph is a result of collaborative working between the two authors, and the venture arose from a conversation at a conference and serendipity took its course. This collaboration has been exciting and engaging, and each author brings with him both distinct and complementary abilities and skill sets.

We would also like to thank the editors, Emilie Coin and Will Bateman, at Routledge in supporting our idea for this book. We are grateful for their enthusiasm and flexibility in bringing this book to completion.

Special thanks must be given to the book proposal reviewers and especially the 11 contributors for sharing their insights. The participants' willingness to give up their time to assist in this study was humbling for us as investigators. We will cherish their generousities of kindness and openness, which went beyond their call of duty and professional insights.



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In conclusion, my own learning style is a complementary blend of formal Higher Education and informal ‘on the job’ learning based on experiences, organisational and client contexts and culture, ‘listening to the situation’ and a growing self-awareness and confidence built on the development and application of acquired skills and formal learning and intuition. What informal learning means to me is about being open and honest and transparent and includes learning from past experiences and from those with more or different experiences, contexts and perspectives that can be brought to bear on my own practice. Formal Higher Education has always been the start of my learning in whatever profession I was practicing.

Learning is an exciting on-going journey of reflections and actions that never ends. It is lifelong learning. It can take one on different paths leading to new experiences. As I reflect on my own learning experiences which have included changing professions, I know that some of those paths have been undulating, rocky and at times have appeared unpassable, but the alternative would have been stasis or missing out on new knowledge. The overriding attributes that have helped me have been an overwhelming greed for new experiences and knowledge, resilience, curiosity, willingness to try something new and fear of missing out! The kindness and patience of others in giving me opportunities, sharing their experiences, skills and knowledge have enabled my own learning and transfer from one profession to another and I thank them for that. We are in this together and it is fun.

In the words of Alice and the Cat,

“ – so long as I get somewhere”, “Oh, you’re sure to do that, if only you walk long enough”.

(Carroll, 1982, p. 64)

Miguel Toribio-Mateas

Becoming a professional opinion leader

Context

As a practitioner working in an emerging field of healthcare, I am presented with daily challenges and opportunities. I am exposed to complex problems that exist in the real world, i.e. not contained within the realms of a dataset or a laboratory. These problems don’t often have clear defining boundaries. This means they are not easily labelled as pertaining to a discrete discipline. On the contrary, they require my being able to draw from a range of sources of evidence in order to unpick the messiness that characterises them. Knowing

which sources of evidence to choose from and to trust is a challenge in itself, as is turning that evidence into practice in a congruent way and often ‘on the fly’, adapting it to suit different situations where I may need to communicate with stakeholders using different language registers, from scientific to plain English. I find myself navigating a professional landscape that is highly responsive to developments in a diversity of disciplines. The open-endedness and newness of this ecosystem provides for plenty of opportunities for learning. On the flipside, there is more of a sense of being a work in progress, i.e. ‘becoming’ than of ‘being’ when it comes to professional identity. I have become comfortably acquainted with all of this uncertainty and have embraced it as an ally. Amongst the chaos, I’ve continued to rethink my ideas and to keep adding layers to my professional practice in order to effect positive disruption and to create my own voice that mixes and matches diverse elements of my personal background in a creative and innovative way. Without having set out intently to become a professional opinion leader, I believe my ability to adopt and adapt have contributed to my becoming the sought-after practitioner I am today. I hope my storytelling will inspire others to grow and evolve into future leaders in their fields.

Evolution and creativity

According to Maguire (2018, p. 106), “evolutionary complexity accepts the fact that ‘systems’ can change their nature qualitatively over time”. A range of new problems and new opportunities keep systems adapting and co-evolving fluidly with each other so that the overall system continues to create itself over time. My own profession – Nutritional Medicine – exists within a complex adaptive system called healthcare which is in constant flux. In a landmark paper on complexity science in healthcare published in the *British Medical Journal* in 2001, complex adaptive systems were defined as ‘collections of individual agents with freedom to act in ways that are not always totally predictable, and whose actions are interconnected so that one agent’s actions changes the context for other agents’ (Plsek and Greenhalgh, 2001a, p. 625). I have been both an agent and a witness of the profound transformational process that my profession has been immersed in since my days as a nutrition student back in the early 2000s. Along with the ebbs and flows of the system evolutionary trajectory, I have also grown and changed, becoming what Clarke (2003, p. 102) refers to as an ‘individual human actor’ rather than just a mere observer. An important part of that growth and change has been to consider my creativity as a desirable trait and to embrace it as a key enhancer of my situatedness, as opposed to the handicap that it can be seen to be in certain environments such as my the clinical neuroscience lab where I spent 2 years of my life working with neural stem cells. In a book chapter entitled ‘Autoethnography: A Journey of Blocked and Unblocked Creativity’, Hernández-Romero – a transdisciplinary researcher breaking boundaries

between creativity, psychology, sociology and education – writes about ‘the patriarchal world of competition, results, rationality and objectivity’ (2017, p. 185). This is a pretty accurate depiction of the atmosphere that could be sensed in the faculty of life sciences. So thick that it could be cut with a knife. Creativity cannot be fathomed or explained simply and this can create tension with rationale, like ‘two sides of the coin; contrary, complementary, but perhaps also interdependent’ (Carroll, 2013, p. 1). On that basis, I wouldn’t have dreamed of bragging about how creative I have been all my life as I would have lost the trust of my colleagues who’d immediately thought I wasn’t rigorous enough.

My doctoral degree journey at Middlesex university was completely at the opposite end of the spectrum in that faculty members encouraged me to reacquaint myself with the creative Miguel that had been hiding for fear of imposter syndrome, a well-known contributor to mental health issues in doctoral students (Lau, 2019; Wilson and Cutri, 2019). When I realised that trying to hide my most defining personality trait in order to fit in had done very little for my confidence as a practitioner, I actually went completely the opposite way and embraced the concept, starting to describe myself as a ‘creative scientist’. Paradoxically, the organisations I have carried out consulting work for since then tell me that they found the idea of a creative scientist/researcher extremely exciting. Their feedback has been corroborated by the increase in requests for my presence at public speaking events as well as for the media.

Is being creative part of my purpose in life? Possibly. Professor James Kaufman of the University of Connecticut, an internationally recognised leader in the field of creativity, has written extensively on how creative activity can enable individuals to find meaning in life, helping fulfil “the needs for coherence, significance, and purpose”, reminding “one of life’s joy and the many possible connections with humanity” and leaving “the type of legacy that may resonate with younger generations” (Kaufman, 2018, p. 1). I have certainly found creativity to enhance my life’s meaning, as well as the uniqueness of my professional voice, which has encouraged me to want to research connections between some seemingly disparate disciplines such as microbiology, neuroscience and the arts, particularly music and its effects on the gut microbiome, known to communicate with the brain via the network of nerve fibres scientists call ‘the gut-brain axis’ (Toribio-Mateas, 2018, p. 18).

Developing as a translator

Many of the compliments I get in my professional life revolve around the theme of my ability to translate complex scientific concepts into practical applications. I believe there is a translational bridge to cross between research and practice and between science and its application. A vast array of

opportunities for learning appears throughout a person's life. With regards to my own experience, one could argue that I have been fortunate enough to be exposed to many such opportunities in work environments where plentiful knowledge was there to be soaked up. However, opportunities don't materialise unless one is able to recognise them. I believe I have transformed my own perspective about what learning is and that I've developed a skill for identifying cues that switch on my brain's 'learning mode'. When I find myself in contexts where knowledge is abundant and in need of translation that 'learning mode' seems to be 'on' by default.

Personally, I see transdisciplinary learning as a transformative journey that permeates individual agency, both within and across contexts. The ongoing exploration of one's situatedness provides cues that point towards the next learning opportunity, which often only materialises by making connections across different fields and drawing from different learning modalities. I believe reflective practice is as an indispensable companion in this journey, which Mezirow (2009, p. 90) refers to as lifelong or 'transformative learning' and that many have difficulty assessing and demonstrating. In fact, from conversations with my peers I have realised that many have difficulty assessing and demonstrating informal learning as part of lifelong learning. The majority of them naturally think of learning as formal and explicit, e.g. a university degree, so they miss out on learning opportunities that, as Hager (2012, p. 776) so elegantly puts it, "arise contingently and opportunistically as events unfold in the workplace".

My transition from being highly unaware of the wide range of knowledge that was at my disposal when solving issues 'on the job' to being able to recognise learning opportunities – becoming imbued in the learning that they afforded me without questioning their nature or trying to define it – is possibly the single most important transformation I've experienced as part of my professional development. I guess this could be seen as my acquaintance with the state of knowing that Schön defines as 'tacit knowing-in-action' (Schön, 1984, p. 49). And the informal learning technique that I believe I have come to master over the years is the ability to come to terms with making mistakes very quickly and to learn from them without the unnecessary frustration, anger and despair that they can bring about, particularly in the workplace (Heimbeck et al., 2003). Researchers at the Harvard Business School have looked into learning from failure in healthcare settings and have found that discussing and analysing mistakes openly amongst team members can foster learning, both at individual and team level (Edmondson, 2004). In fact, I love Keith and Frese's (2005) refreshing view on mistakes as opportunities that provide us with informative feedback about our actions and that can thus become important sources for knowledge.

Whether knowledge is seen as competence/ability (Lehrer, 2018), as acquaintance (direct knowledge of certain things or people thanks to his previous experiences with them) (Martens, 1992; Viale, 2013), or as propositional

(recognition of information to be correct) (Shope, 1992), I believe it needs to be translated in order to find its true meaning in context. Without the context, it is easy to see knowledge from a positivist angle as static and unchanging (Kuhn, 2012), whereas in the context of a ‘messy’ real world where non-linear dynamics abound, knowledge is influenced by both personal and social history (Hamilton and Pinnegar, 1998), both of which contribute to professional situatedness. In the words of Elizabeth Ellsworth “reality ... is always someone’s reality, constructed in and through particular intentions and interests, and from particular locations on multiple networks of power relations” (Ellsworth, 1997, p. 179).

Knowledge translation is a complex, multistep, cyclical process that involves synthesising evidence and creating knowledge products; interacting with target users to assess needs and identify barriers; using that information to tailor evidence syntheses or knowledge products and select implementation strategies; applying implementation strategies; and monitoring to evaluate impact and ensure that research use is sustained (Graham et al., 2006, pp. 13–17).

Translating knowledge is paramount in the context where I operate as a clinical practitioner, where I find myself needing to implement newly generated evidence into my practice ‘on the fly’. By working with research tools known as patient-reported outcome measures (PROMs) (Weldring and Smith, 2013) that enable me to measure the effect of my recommendations, I aim to feed back into the system by supporting my clinical decisions with the best research evidence available. However, I also draw from my clinical expertise and critical thinking – key components in the acquisition of informal knowledge – as part of my decision-making process, which also takes into account my patients’ values and preferences. All of those additional criteria help filter the initial evidence so that it can be adapted into relevant recommendations, which are then measured by means of validated self-reporting tools. As an example of these tools, I have been using the Brief Resilience Scale by Smith et al. (2008, p. 196) as a reliable means of assessing resilience, defined as ‘the ability to bounce back or recover from stress’. Using this scale alongside another PROM such as the Bristol Stool Scale by Lewis and Heaton (Lewis and Heaton, 1997) – a scale that provides a useful guide to gastrointestinal health – enables me to gather important information about how people I work with in clinic are coping with health-related stressors and how those might be affecting their gut. I am collecting and interpreting these data with the ultimate aim of publishing it, so that I can ‘close the loop’ of the evidence-based practice model that tends to fail me on a regular basis when insufficient research evidence is available for me to direct change. My frustration with models of practice that prioritise research evidence at the expense of the other types of knowledge discussed in this case study is shared by leading voices in the field of evidence-based medicine. For example, in a critical literature review entitled ‘Is it time to drop the “knowledge translation” metaphor?’ Dr Trisha Greenhalgh (2011), Professor of Primary Health Sciences

and leader of the ‘Evidence-Based Medicine (EBM) Renaissance Group’ at Oxford University acknowledged that evidence-based practice would benefit from including the following points:

- a the situation-specific practical wisdom (phronesis) that underpins clinical judgement,
- b the tacit knowledge that is built and shared among practitioners (‘mindlines’),
- c the complex links between power and knowledge, and
- d approaches to facilitating macro-level knowledge partnerships between researchers, practitioners, policymakers and commercial interests.

(Greenhalgh and Wieringa, 2011, pp. 507–508)

Failing to gather insights from interventions, even when relying on best research evidence in order to support clinical decision-making, perpetuates the lack of translation of tacit knowledge into formal knowledge by means of peer-review and implementation into practice. Figure 4.1 below illustrates the process described in this section.

Translating knowledge into practice-based evidence in the real world is a challenging but rewarding process. Measuring the effect of that translated knowledge and feeding back into the pool of knowledge known as ‘evidence

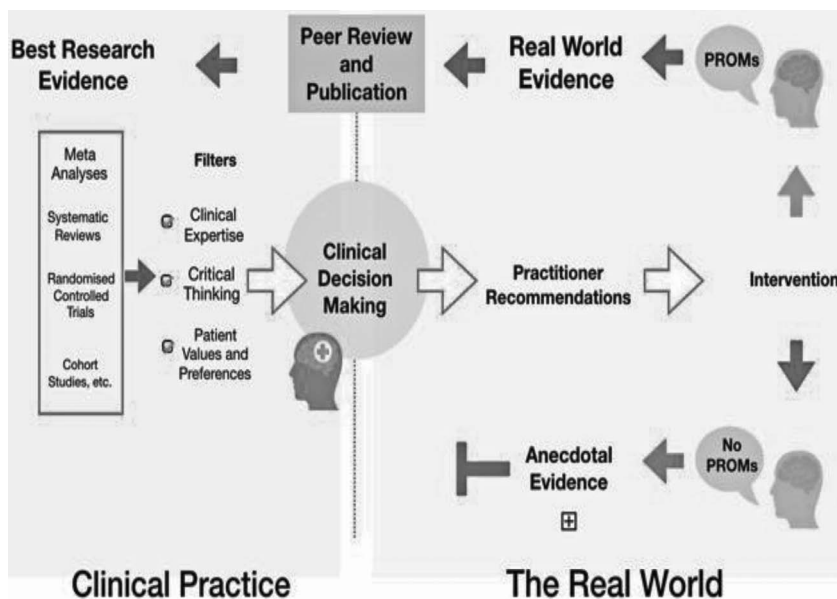


Figure 4.1 Translating knowledge into practice-based evidence.

base' enables for the refinement of science, retesting hypotheses and individualisation of recommendations. When the effect of translated knowledge goes unmeasured, evidence isn't peer reviewed and remains anecdotal.

With regards to how my ability to translate knowledge has contributed to my becoming an opinion leader in non-clinical areas of my professional life, I felt it pertinent to highlight a paragraph in the conference proceedings of a review of modern trends toward shaping the image of educational leaders, presented by Poliakova, Skitina and Vetrinskaya, (2018) at the 2017 Prague Institute for Qualification Enhancement (PRIZK) and International Research Centre (IRC) 'Scientific Cooperation' International Conference:

The authors looked into the factors which contribute to the establishment and development of a new type of educational leaders that are able to make creative, theoretical and practical contributions in the innovative processes in education. The study reveals that graduates have a fairly clear idea of the essence of leadership. They understand leadership not only as a process of formal management of social communities but also as a high level of professionalism. The image of a teacher-leader the students shaped has the potential of a researcher and a knowledge translator.

(Poliakova et al., 2018, p. 484)

One of the techniques I've used to translate knowledge over the years is the use of analogies, often humorous and drawing from popular culture so as to make the learning experience more accessible to all. The drawing of analogies is a daily action of human reasoning (Gilbert and Justi, 2016), so it is no surprise that their role in science education is extensively documented in literature (Iding, 1997; Nersessian and Chandrasekharan, 2009; Newby, Ertmer and Stepich, 1995). Figurative language and evocative use of images and diagrams in presentations for talks and lectures are my favourite tools when it comes using analogies in my professional life.

Navigating uncertainty

Learning from mistakes can facilitate innovation (Oeij et al., 2017; Van Woerkom, 2012), a process defined by Schumpeter as 'creative destruction' (Croitoru, 2012; Matsunaga, 2019). Reflecting on the many years, I spent working in technology development to service the healthcare and scientific communities, I can clearly see the influence of the knowledge I acquired then on the current version of my professional self and how it actually inspired me to be the person I am today. I was in charge of training and education programmes for hospitals, research centres at universities and pharmaceutical companies. My customers were all scientists, clinical researchers or healthcare professionals. I was training these professionals in

how to improve their scientific literature searching skills that was my job. But I felt I'd rather be one a scientist myself, which catalysed me to go back to college and study Nutritional Medicine and then Clinical Neuroscience. Having studied Environmental Decision Making at postgraduate level, I was excited by the non-linearity principles of complex health systems (Sturmberg, Martin and Katerndahl, 2014, 2017). However, I soon found out that nutrition practice was an extremely competitive field where graduates from courses that were not 'mainstream enough' to be respected by the establishment were easily dismissed as 'not evidence-based'. My university degree happened to be recognised by the regulatory body that provided a regulatory framework for complementary therapies, some with better scientific evidence base record than others. Inadvertently, I had ventured into uncharted territory, and my only tools for survival were my ability to learn something new and to adapt to the terrain. Of course, I enjoyed the advantage afforded by the tacit knowledge of 'scientific librarianship' and information management I had acquired over the course of many years of experience working in such areas. But my formal education was seen as 'emerging' by some, which presented a threat to my professional development, instead of as an advantage.

It was clear to me that in order to survive I had to learn to unlearn some of my core behaviours, chiefly 'being creative by default', which may have been seen as 'not-rigorous' enough in my new context. I knew deep down that there would be a time when I would be able to become reacquainted with my creative modus operandi, but that I had to be adaptable to my circumstances in order to evolve. This temporary unlearning enabled me to get the head-space necessary complete a master's degree in clinical neuroscience, which meant having access to professional recognition such as being able to become a chartered scientist, and I set solid grounds upon which to continue to build layers of informal learning from a range of sources, including talks, social media and ongoing communication with peers in both mainstream and alternative circles. I was actually surprised to find myself doubting, questioning and rebelling against some of the established paradigms followed by those working closer to the alternative side than the complimentary or indeed the mainstream, particularly the degree of complacency around the lack of evidence for some interventions, which leaves whole communities exposed to criticism by those who want to move away from anecdotes and wish to build practice-based evidence. This was probably the main reason why I decided to raise awareness of the need to use validated PROMs, not just a way to foster integration but also as a means to improve communication amongst health-care practitioners and researchers.

At this point, I realised that the creativity I had tried to shut down was actually needed in order to make sense of reality in settings where evidence was so inconsistent at best, or totally lacking at worst. How could I translate knowledge – both formal and informal – so that it could help me deal

with problems presenting different degrees of linearity, from fairly linear to completely messy? Without the open mind and the creativity that I've always trusted, I wouldn't be able to navigate the uncertainty that I am presented with every day, in different areas of my professional practice. So, perversely, I had to 'unlearn to unlearn' or, in other words, become mindful of the fact that some traits and behaviours can be useful at times that one wouldn't expect them to be. And to be flexible enough to recognise this without feeling that one's situatedness is to blame for making me change some of the qualities that I feel are at the very core of who I am. Subjectively experienced authenticity is considered to be a good indicator of the degree to which a person is 'fully functioning' (Rogers, 1965, p. 21) Therefore, I believe it was important for me to feel that core pieces of the human being I am play a role in my ability to fulfil my full potential as a professional.

As an example of navigating uncertainty, I worked with Professor Tim Spector of King's College London for 2 years developing a microbiome sequencing biotechnology company called 'MapMyGut' which aimed to be the first direct-to-consumer microbiome assessment company in the United Kingdom. Human microbiome science a booming field, with hundreds of papers being published every day. However, a lot of the science is still emerging in nature. Even working in one of the most respected science institutions in the world (King's College London) with a professor who is amongst the 1% most cited researchers in the world, I felt that sometimes we were working too close to the chaotic end of the spectrum, and that wasn't a good thing. We needed some uniformity, some 'normality'. It would have been too easy to be spellbound by the complexity of the gastrointestinal tract as a system and by the almost unfathomable quiriness of the microorganisms that inhabit it, resulting in MapMyGut's provision of really complicated results interpretation and dietary recommendations that meant nothing to the end user. Based on the inherent complexity of that field, it will probably take years to have definitive answers to questions such as "what are the best foods to promote the growth of beneficial bacteria?" However, Tim and I managed to work together on the 'edge of chaos' (Figure 4.2), a lovely metaphor for managing complexity borrowed from the work of Martin and Felix-Bortolotti on systems complexity in healthcare (2010). We embraced multiple theories to develop a system that gave individuals some valuable answers based on their bacterial makeup, enabling them to make sense of the non-linear system that is their gut as part of the complex adaptive system that is the body. We broke grounds and innovated together, and it was immensely gratifying to have the opportunity to learn from a leader in this exciting research field, who agreed with me that the future of nutrition "could look very different if we tore up the old text books and cautiously embraced new technologies and the Internet". But above all if we treated every patient as a research subject, every meal as an opportunity and every food as a potential drug

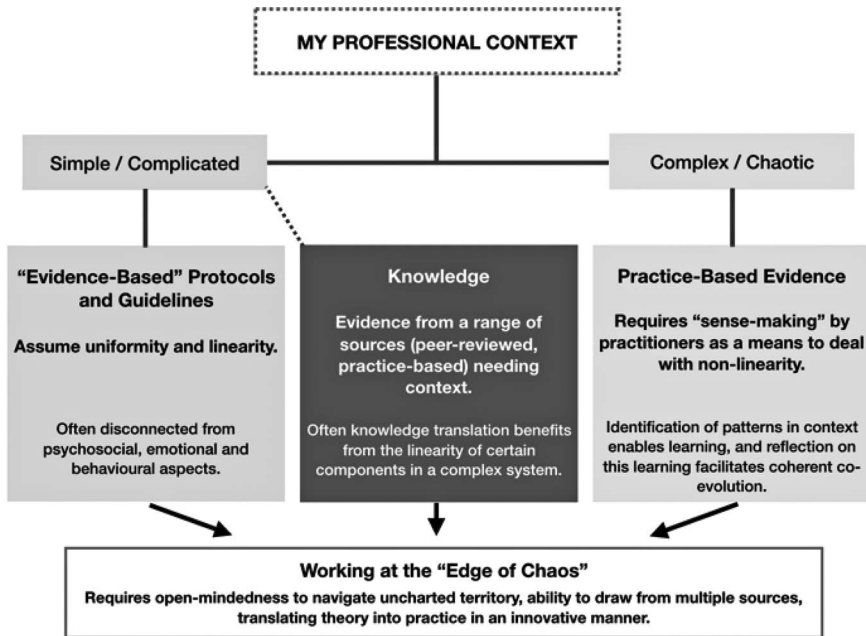


Figure 4.2 Working at the edge of chaos.

(Toribio-Mateas and Spector, 2017). This work-based learning experience at King's College propelled me into a 'go to' person in the field of applied microbiome science to the extent that – years later – I find myself heading the Health Research and Innovation team for a successful microbiome biotech company which happens to be very similar to the vision that Tim and I had for MapMyGut. A fortunate coincidence? Perhaps. Or perhaps the outcome of navigating chaotic waters with an open mind but with a sense of direction. In any event, it seems that opportunities for learning do appear in a variety of places: at university, at work and even through interactions with others, and it is imperative for anyone wanting to become a professional opinion leader in their field of practice to be able to make creative, theoretical and practical contributions to innovation in that field, developing reflexive approaches to life and learning. In a world that is complex and often incongruous, where 'there is no blueprint for dealing with unprecedented change' (Ryan, 2015, p. 3), I believe these navigation skills are an absolute necessity for professional success (Figure 4.3).

The context I operate as a practitioner is often messy. It presents me with real-world problems that require a creative approach in order to navigate the complexity that characterises them. They are the type of problems that can seldom be resolved using the sort of rules one would apply when trying to deal with a simple situation.

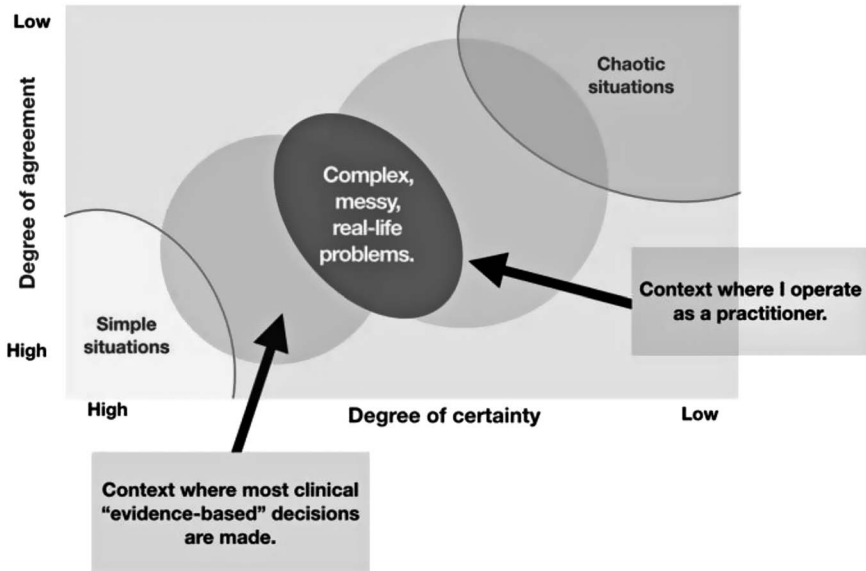


Figure 4.3 Navigating uncertainty. A certainty-agreement diagram adapted from Plsek and Greenhalgh (2001b).

Strategic growth or ‘a happy accident’?

I am a hard worker and have been since my first weekend job at 14 wrapping presents in a family-run store. When I decided to radically change career as an adult and to become doctoral student so I could be ‘a proper scientist’, I didn’t anticipate how incredibly enriching yet demanding these experiences would be.

So when people praise me for my work, I feel immediately humbled. I’ve never had anything served to me in a silver plate, and compliments feel good. But part of me also feels that they are thinking about how I must have planned my life so carefully in order to achieve professional success. The reality is that serendipity has played a really big role in making me the practitioner I am today and that my skill has been to recognise where informal learning opportunities have emerged, despite their apparent randomness, so I could make the most of them. I have certainly made a few mistakes along the way, but keeping an open mind about work as an important part of my life, and having a flexible attitude towards learning and professional development, has helped too.

Both the challenge and the satisfaction have contributed to my increased confidence as an opinion leader in the fields I operate in. In fact, I wouldn’t change one single day of my last few years, particularly from deciding to become a scientist, even if it meant having to go back to university as a mature student, which has its own set of problems. Complexity science

suggests that we may be better off by learning to abandon linear models, accepting unpredictability, respecting and utilising autonomy and creativity and responding flexibly to emerging patterns and opportunities (Plsek and Greenhalgh, 2001b). However, my experience of the mainstream was that this seemingly appealing complexity was regarded as ‘interesting but woolly’, so that most of it was lost in translation, resulting in the push to conform being much stronger than the push to innovate.

The perverse positive outcome of this exposure to expectations from ‘the establishment’ opened my mind even more and made me care less about all the things that I cared years ago, like what would someone think of me as a professional coming into healthcare and science later in life and having accessing the field from the fringe. This was simply me posing the question, i.e. hence why it was in italics and had no reference. I’ve edited the text to avoid confusion. I thought of Katerndahl’s paper ‘Lessons from Jurassic Park: patients as complex adaptive systems’ (2009). I love a great paper title! Katerndahl, a medical doctor and professor in Family and Community Medicine argued that many practitioners may follow non-linearity principles at work without even being aware of the jargon needed to label them. Schön (2017, p. 50) claims that reflection-in-action is ‘central to the “art”’ by which practitioners sometimes deal well with situations of uncertainty, so that they take into account instability, uniqueness and conflicting values. I agree wholeheartedly with Schön because the application of scientific disciplines to tackle complex situations is most definitely an art.

Thanks to this re-acquaintance with my more creative self I continued to explore more complex/chaotic areas of my professional context and discovered the field of Health Neuroscience, which sits at the interface of health psychology and neuroscience and it is concerned with the interplay between the brain and physical health over the lifespan (Erickson et al., 2014). Reflecting back on the last 10 years of my professional career, I realised that I belong in a varied field of practice that is non-judgemental and that enables me to make sense of evidence as a practitioner and to create evidence as a researcher and an academic. I have also realised that I love clinical work, but that having done 13 years of it, I now get much more lit up by working in research settings, particularly developing and validating tools that help other clinicians measure outcomes, so that they can create real-world evidence and experience practice-based learning within their own professional contexts.

Final thoughts

Hager (2013, p. 100) argues that “as a practice changes and evolves in often complex and unpredictable ways, so must the practitioner learn in order to remain a capable practitioner”. I would argue that unlearning and adapting are equally important traits for success. Having been drawn to a mainstream scientific discipline like neuroscience and to the apparent precision of science

that's mostly based on quantitative research, I found myself full of self-doubt and suddenly understood what Haddad and Aubin meant when they wrote about scholarship being 'a hindrance to creativity' (Haddad and Aubin, 2013, p. 339). Learning to unlearn, and then unlearning those things again, i.e. navigating uncertainty adapting to choppy waters, has potentially been the secret to my success has been my ability to adapt to the environment I operate in. Drawing from some of Maguire's words, it may well have been my open-mindedness to explore co-evolution opportunities with the systems I have been immersed in that has enabled me to co-discover, to co-create over time 'and to respond adaptively' (Maguire, 2015; Maguire, 2018, p. 106) to changing demands in my professional context. I hope to continue to experience many more co-evolutions and to share my experiences with those who are keen to read about them in years to come.

Russell Wate

How do you learn to become a detective?

This case study explores the journey that someone goes through to become a senior Detective. Who or what is a senior Detective? This is an individual who investigates major crime which includes offences of homicide. The case study explores my personal journey in particular how I became a senior detective and how this seemed to work for me, and how I continued learning even when I had achieved this goal.

I consider the question, can you become an effective senior detective, just by completing the necessary courses? I also consider tacit knowledge, or theory in use, that you only learn by carrying out the work of a detective and speculate on how success appears to come through a blend of informal and formal learning experiences the mix and timing of which will be different for each person.

Finally, I consider my second career, which involves the review of serious abuse and harm to children or adults, with a view for public protection agencies and individuals to learn lessons from these cases. I consider whether I had completed the learning required to carry out these reviews when I left the police service, or was that just where the learning started and is it a process of continuous learning?

Learning competence

In order to be seen as qualified or competent to be a detective, you have to have attained a Professionalising Investigative Process (PIP) level. PIP was developed by the police service to provide a structured and consistent