# scope

Contemporary Research Topics

**learning & teaching 9**

November 2020

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## learning & teaching 9:

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***Scope: Contemporary Research Topics (Learning and Teaching)*** – hereafter *Scope (Learning and Teaching)* – is an open access, peer reviewed journal published annually by Otago Polytechnic | Te Kura Matatini ki Otago, Dunedin, New Zealand.

*Scope (Learning and Teaching)* is concerned with views, critical debate and reflections on learning and teaching theory and practice. It seeks to address current topical matters in the field of tertiary education. Its focus is on building a sense of community amongst researchers from an array of New Zealand institutions with the goal of linking with a wider international community.

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Submissions for *Scope (Learning and Teaching)* are invited from those involved in any aspect of teaching and learning. Submissions should be sent in electronic format for review and potential inclusion to the Chief Editor: Oonagh McGirr c/o Su Bolland, Editorial Assistant (su.bolland@op.ac.nz).

Submissions for *Scope (Learning and Teaching)* issue 10 should contribute to critical debate and reflect new understandings within the context of learning and teaching. High standards of writing, proofreading and adherence to consistency through the APA (7th Edition) referencing style are expected. Submissions should include: a short biography of no more than 50 words for each author, briefly outlining their professional background and experience; contact information (postal, email and telephone number) should be provided on a cover sheet, with all such information withheld from the body of the submission; low resolution images with full captions should be inserted into the text to indicate where they would be preferred and high resolution images should be sent separately. Peer review forms will be sent to all submitters in due course, with details concerning the possible reworking of documents where relevant. All submitters will be allowed up to two subsequent resubmissions of documents for peer approval. All final decisions concerning publication of submissions will reside with the Editors. All material will be published both in hardcopy and online.

Formats include: editorials; articles; essays; logs and travel reports; book and educational software reviews; residencies; publications; interviews and roundtables; and reflective pieces. Other suggested formats will also be considered; and special topics comprising submissions by various contributors may be tendered to the editors.

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# INNOVATION, REFLECTION AND SUPERCOMPLEXITY

## David McMaster and Trish Chaplin-Cheyne

Previous editions of *Scope Learning and Teaching* have focussed on a theme: this edition of 2020 has not but that does not detract from it. Like its predecessors, Issue 9 provides a forum for ideas and analyses of teaching practice in the applied context of the polytechnics and institutes of technology (ITP) of New Zealand. It has been an extraordinary year in which the world grappled with the COVID-19 pandemic; the fact there have been such a good number of consistently high quality submissions demonstrates the commitment of our teachers to reflection, enquiry and enhanced practice.

Zhukov and Cherrington cast the coronavirus pandemic as an example of the global challenges with which we must contend. They argue that if the Auckland International Campus is to produce New Zealand's most employable graduates, we need to integrate sustainable practices and related skills into learning. They believe that in the current world environment, sustainability is a valid career pathway and a critical skill for future employment.

Embedding of soft skills to ensure graduates are work-ready is broadly accepted in vocational education. Carlyon and Opperman's report on what their research revealed and how teachers in ITPs approached this. Common soft skills taught across disciplines included relational, professional, reflective, and effective communication. The five teachers interviewed said they made both explicit and implicit links to the soft skills being developed, and deployed a variety of strategies including storytelling, humour, role-modelling, targeted activities, and making use of teachable moments.

A study undertaken by Hannigan and Saini illuminates the experiences of international students in the time of the COVID-19 crisis. Varying levels of stress and anxiety were experienced by the participants as they coped with psychological, social, and financial hardship, which impacted negatively on their ability to learn. As well as facilitating academic achievement, teaching involves understanding the pressures experienced by learners. At a time when New Zealand's borders are still closed but the ambition to bring international learners into the country remains, we are asked to consider how well prepared we will be to support the international learners in our care.

Ellwood reflects on the development of personal motivation among learners: extrinsic motivators can shed light on a favoured pathway to intrinsic ones. By fostering curiosity and a desire to find answers to questions, teachers can assist learners to shape individualised, internalised motivation drivers. A shift in focus from external, outcome focussed goals to a desire for success and personal discovery may result in higher inherent satisfaction and the development of intrinsic motivation.

The transformation from lecturer to learning facilitator is discussed by Ganeshan and Mehdipour in the context of a Level 7 programme at the Auckland International Campus.

With content available everywhere, lectures are passe. By cultivating a fluid and dynamic learning environment incorporating real life and personalised learning, they are adopting a facilitated experiential approach to teaching. Learning facilitators are fostering independent critical thinkers who, they believe, will be well equipped to contribute to solving the problems of the world.

Experiential learning involving industry-related pragmatic strategies and reflective practice featured in a learning project facilitated by Chawla and Cherrington. They engaged learners in the *Movember* initiative, which raises funds for men's health, to explore leadership in action. Through engagement with agile methodologies and real-life authentic learning, participants came to a better understanding of collaborative leadership in action. Enamoured with the results, the writers resolve to emulate the experience.

Nistor describes developing an experiential model, involving facilitation by the teacher and learner autonomy, in an English for academic purposes context. Although the learning process was modelled in English acquisition, it became clear to the learners they could deploy it in other contexts and develop autonomy in their future study. Increased learner autonomy allowed them to develop their own preferred learning model.

Pace and Cherrington write about providing master's learners with the skills needed to critically evaluate data for decision-making within applied management. They believe that subsequent recommendations will have higher credibility by providing an analytic engineering perspective.

Thinking back, in a drought-stricken Auckland, on her participation as learning facilitator in the Untouched World Waterwise field programme, Cherrington believes we all have a role to play in influencing positive change. The programme investigates the use, quality, and economics of water as a resource in the Otago region, and builds participants' leadership skills. She concludes we can all make an impact as individuals – collectively we have a wealth of knowledge and experience, and the solutions are there for deployment: action is now called for.

New possibilities are discovered by Burns through re-evaluating teaching exercises in different education contexts. He recommends a reflective practice that scrutinizes the effectiveness and relevance of exercises so that they might be adapted and extended into other realms. Such ongoing revision also contributes to quality education practice.

Citizen uses his own experience to reflect on the difficulty of suspending one's cultural world view to recognize and accommodate another. He reminds us that the Pākehā world view is not universal and cannot be taken for granted. With reference to a collaborative project informed by Te Ngāwhā Whakatupu (the Wintec Māori capability framework), he writes about learning to change his assumptions about power and the 'who' and 'what' of decision-making. He observes that the "multiplicity of differences between Māori and Pākehā ways of doing and being that are often ignored or brushed over within institutional discourses." Citizen advocates educators becoming co-learners in a true sense of ako, acknowledging the existing expertise of their learners and better allowing them to become self-motivating.

A discussion about teacher training in vocational education and reflection of Otago Polytechnic's Graduate Diploma in Tertiary Education leads Walne to advocate cultivation of an environment of high trust in which socio-cultural assumptions and beliefs about teaching can be safely discussed. She recommends novice teachers cultivate learning relationships with more experienced teachers or learning leaders in their subject context. Additionally, formal learning could be more closely situated within the workplace context.

Curriculum review in the Otago Polytechnic Bachelor of Nursing is described by Hogarth and Burkett. This is to ensure that graduates can address both current and future health needs of their communities. Research and maintaining currency in the health environment are essential components of the process, and it is enabled through transparency, teamwork, and a commitment to learn from the process.

Wood offers a review of a digital tool enabling users to highlight and annotate any text-based content on the internet: *Hypothes.is*. She advocates its use as academic practice to enhance understanding of a text and to improve literacy. She believes it has a number of potential uses in the vocational context, and requests feedback from teachers how it might be deployed.

The development of an online training scheme, the Certificate in Digital Health, is the subject of Benians' and Collins' submission. It is hoped the employment of graduates will result in easier access to healthcare and improved health outcomes for rural New Zealanders. The scheme is delivered online and involves learner-centric design, recognising and addressing learner diversity.

Otago Polytechnic's Doctor of Professional Practice was designed from the ground up rather than being an adaption of established qualifications. Mann and Bull explain how this has resulted in in a great deal of flexibility in how the form and nature of the final assessment is negotiated with the candidate. The candidate must develop not just the content of their argument but also the form that argument takes: a challenge is extended to the learner to create an artefact to articulate the justification for being awarded a doctorate.

Issue 9 of S*cope* has afforded teaching practitioners a medium in which to engage with contemporaries and to reflect on their practice. This will hopefully inspire others, awaken interest, discussion and debate, and forge allegiances as we strive, through education, to make a positive difference at a time when it is need more than ever.

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# MODELLING SUSTAINABILITY FOR A GREEN CIRCULAR ECONOMY

Yury Zhukov and Marianne Cherrington

## INTRODUCTION

While we are trying to survive the multitude of social, health, and economic issues brought about by the Coronavirus pandemic, it is easy to forget that before governments started issuing lockdown orders, closing borders, and engaging in massive political battles, the world had been beset by other risks. The global risk reports written by the World Economic Forum have always been a valid, albeit slightly delayed identification of the most impactful and relevant risks that affect the world. The latest report, published in January 2020, demonstrated a dramatic increase in environmental risks ranked in the top ten (World Economic Forum, 2020a, p. 102). These included increased likelihood of climate action failure, biodiversity loss, extreme weather, natural disasters, and human made environmental disasters. The water crisis was classified as a social risk, but could equally be added to the environmental list (Figure 1).

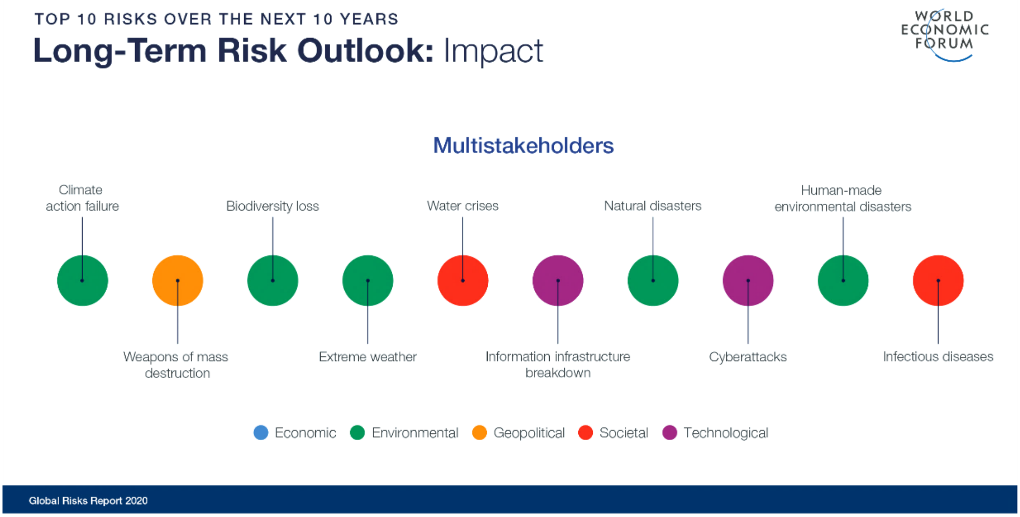


Figure 1. Long-term Risks Outlook Impact, (World Economic Forum, 2020b).

With this shift in global risk perception and appreciation of the economic consequences of climate action, sustainability professionals are valued in the labour market; it is a viable career option. Otago Polytechnic Auckland International Campus (OPAIC) is an institution that aspires to produce New Zealand's most employable graduates; we must further integrate sustainable practices and sustainability related skill sets and projects into programme delivery structures.

## NEW MINDSETS FOR A GREEN CIRCULAR ECONOMY

At the heart of the circular economy lies the principle of system design that phases out the need to introduce new materials into production cycles, thus reducing the impact of economic activity on the environment (Ellen MacArthur Foundation, 2017). The design loops can be relatively simple, like the reusable cups at Auckland Zoo which eliminate the need for single-use takeaway cups (Healy, 2019), or complex product stewardship programmes, like the one being implemented by Fuji Xerox New Zealand (Shareef & Harding, 2019), and even making the whole waste management process in cities circular to eliminate waste and accumulating landfills (Blick & Comendant, 2018). This is likely to significantly reduce many costs associated with waste management and introduction of new resources and components into the equation. It has the potential of being implemented in a variety of business settings from the technology sector to dairy farming.

The process of switching businesses to a circular model is a long one and requires a redesign of supply chains and re-evaluation of production models. It requires a combination of business acumen and technical knowledge. Probably the most difficult element is creating a far-sighted mindset that does not just try to fix the old system, but disrupts and therefore revamps the model, redesigning the way we consume and service products. That shift requires a combined effort in businesses, government institutions, and also an effort on the part of consumers. That is exactly why introducing the circular economy as a key element in determining business' future development strategies, via case studies in a variety of subjects, is important. Sustainable system design is likely to be an important employment path in the future, in whatever industry it is applied.

## LEARNING TO MANAGE A CIRCULAR ECONOMY PROJECT

The concept of the circular economy has been introduced in a variety of OPAIC courses in the undergraduate programme, although implementation is still in the early stages. Specifically, in *Project Management* Level 5 the students need to create a project plan for one of the potential projects recommended to them. The students are required to create a project plan for one Countdown store, setting up a collection point for glass Coca-Cola bottles and sending them back to the Coca-Cola Amatil plant to be reused. The first result of students working on this project was a well thought through plan that included budgeting for the initial setup costs and the costs of running the project for three months as a trial run.

Economic viability of the project had to be considered as part of the project planning exercise. While the economic viability of this project run in a single store left much to be desired (the initial setup and three-month operating costs amounted to $7106), the students did specify that economies of scale were critical and if extended to all the Countdown stores, the project would have been economically attractive.

While it is a relatively simple project to design and create a provisional budget, it sparks the understanding of synergies between different industries and how initiatives in one industry could impact the availability of resources in another. While this is yet to be implemented in *Project Management* courses at higher levels, there is a clear pathway for developing complex and meaningful assignments at lower levels that can potentially lead to interesting industry projects.

Another two Level 7 papers that could benefit significantly from being included in a continuity that encourages sustainable solutions are *Strategic Management* and *Contemporary Issues in Organisations*. They create a synergy that can lead to students developing their interests in the latter and producing a viable circular strategy for the company of their choice in the former. At the moment, the authors are working with a group of students who started their Graduate Diploma in Applied Management programme in OPAIC four terms ago. The lockdown created an interruption to their studies, but they were some of the first students to be introduced to the concept of the circular economy as part of the *Contemporary Issues* class; they made viable attempts at suggesting sustainable solutions to existing companies.

One example in particular stood out, it was a case study exploring the concept of cotton fabric collection and recycling that could be implemented by a major clothes brand. The student specifically created a flowchart that connected Salvation Army, Red Cross, Habitat for Humanity and City Mission (collecting unusable cotton clothes) to Icon Textiles (recycling old clothes into usable yarn) and, finally, to Kathmandu (making clothes out of recycled cotton yarn). The assignment went into significant detail on the process of actual fabric recycling but did not analyse the economic component. Nevertheless, that was one of the more innovative and interesting recommendations detailed in an undergraduate programme. The student was later encouraged to explore the possibility of setting up a fabric collection and recycling system as part of a lower level *Project Management* course. Unfortunately, the project was not explored further, but it exemplifies a student-driven project that can be successfully pursued across multiple courses, a concept encouraged on campus.

It would have been particularly beneficial to develop the project further in *Strategic Management*. The course creates a logical continuity if the concept of the circular economy was to be implemented as a go-to strategic methodology. In all fairness, the learning outcomes of the course do mention sustainability as an important element of business strategies, but almost as an afterthought. Students are required to develop strategic recommendations for a real company that they select for research. Students are required to select a company of interest, which should encourage them to try and develop a more intimate understanding of the selected industry. However, we are asking students to suggest improvements to organisational strategies that had been developed by professionals experienced in the application of strategic tools and, hopefully, very knowledgeable about the technical side of the business processes of the selected company. If we rely entirely on traditional strategic tools, we would be asking the students to reinvent a very well documented wheel. The circular economy provides a unique opportunity in this case.

At the moment, the same group of students are completing the *Strategic Management* course. Lockdown disruption has made it difficult to recommend individual approaches and encourage students to follow through with the idea of the circular economy as a key focus in most of their courses, but the same design encourages the students to explore sustainable solutions implementable in their selected industries; it may result in a continuity for students enrolled in the course.

Multiple companies in New Zealand are already implementing circular strategies; Fuji Xerox has been widely praised for its product stewardship programme, which helped recycle and reuse 99 per cent of returned equipment. However, priorities in the market continue to shift. The desire to be at the leading edge of sustainable strategies, and the circular economy in particular, is likely to be a driver that differentiates the content and method of education in OPAIC, supporting our international students to become some of the country's most employable graduates.

## MODELLING OPERATIONS SUSTAINABILITY IN A CLIMATE OF CHANGE

A case study approach is an important way for students to be current with industry practice, relating real issues to the learning outcomes that they must demonstrate. New metrics of success and performance in business are being created because few companies are invulnerable in the face of creative destruction (Cherrington, 2019). Company attrition rates are escalating; about "half of S&P 500 companies will be replaced over the next ten years" (Anthony, Viguerie, Schwartz, & Van Landeghem, 2018). In *Contemporary Issues in Organisations*, Air New Zealand is used as a case study. Their Sustainability Framework is aligned to their purpose and Go Beyond Strategy. As the effect of the coronavirus pandemic has hit home, the success of Air New Zealand is "inextricably linked to the success of New Zealand" (Air New Zealand, 2020); their Diversity and Inclusion vision (Downes, 2018) leads Aotearoa into a changing future with a changing workforce (Air New Zealand, n.d.).

Consumers deserve more – they demand it. Consumers are demanding a holistic and authentic plan for sustainability, because progress, performance or productivity is meaningless alongside 'revolting inequity' (Ardern, 2020, p 29). Greenwashing is being called out. There is so much to learn in the Applied Management programme given the role that companies play in wealth creation. It is no surprise the best-performing companies seem magnitudes away from rivals, especially in the highly unpredictable circumstances we find ourselves in (Frick, 2016).

This generation of leaders and teachers have been indolent. When a 16-year-old can drive a global movement and can logically, fervently and succinctly articulate the case for climate change in less than four minutes, it is a clear indication of systemic disconnect (Thunberg, 2018). This became a talking point in *Contemporary Issues in Organisations*, where students must analyse and evaluate global data and information for trends that influence industry decision making. Evidently, one learned person can make a difference. It is almost 60 years since *Silent Spring*; it is a truism that "in nature nothing exists alone" (Carson, 1962). From this point, learning takes on a new relevance; insights form other courses can be integrated and communicated convincingly.

New collaborative models for sustainable operations exist, evolve and must be interwoven into the fabric of what we do and how we do it. Tertiary educators must address global sustainability challenges. Our acts should make a difference to inspire, promote and support change in sustainability across campuses (Australasian Campuses Towards Sustainability, 2020, n.d.). Climate change, resource depletion, and biodiversity loss connect to the choices we make every day and the decisions that direct us. Our young leaders know this; the new mindsets and new futures that tertiary study provides are part of a larger ecosystem of possibility. This connects to the idea of a circular economy.

## SUSTAINING AND LEADING AN INDUSTRY FOCUS

The new Climate Change Response (Zero Carbon) Amendment Act 2019 (Zero Carbon Act), is a framework to attain net zero emissions by 2050. Applied management students must come to terms with how this Act will alter the way in which we do business in Aotearoa and create a context for their studies. Aligning with New Zealand's global commitments under the Paris Agreement, the Zero Carbon Act sets steady, staged reductions of Greenhouse Gas (GHG) emissions. In January 2020, the OPAIC *Contemporary Issues in Organisations* course shifted from the theme of disruptive innovation to emissions reduction under the Zero Carbon Act. Students were able to choose industries they were most interested in, and explore data to support innovative approaches for organisational action. A poster exhibit was created and a number of presenters came to impart their sustainability perspectives. Beca's Climate Change and Sustainability Advisor, Ben Mayer, highlighted the sustainability career pathway and how Beca is helping clients navigate climate change risk to unlock economic and social opportunities. Carolyn Cox from Sustainable Business HQ revealed how sustainability consulting supported organisations to establish sustainability strategies, leading to competitive advantage. By reflecting on the implications of the new Zero Carbon Act, a plethora of industry presentations were integrated into scaffolded learning. OPAIC construction students were present en masse at our campus events. Energy usage was a favoured assessment topic, so David Cameron-Brown clarified structure and sustainability issues in the New Zealand Electricity Industry. Chlöe Swarbrick, New Zealand Member of Parliament for the Green Party, inspired students to see the big picture in sustainability and to "make themselves part of something bigger, as participation amplifies actions with a sense of purpose."

This is what the Climate Leaders Coalition is doing (Climate Leaders Coalition, n.d.). They are "on a mission to reduce emissions in New Zealand." In just two years, they have grown from a dozen founding signatories to over one hundred leading firms, partnered to inspire business leadership and collective initiatives and strategies around climate change action. As New Zealand transitions to an emission reduction economy, business leaders are seeking to leverage their actions and learn from each other to accelerate processes of change (Climate Leaders

Coalition, n.d.). Smaller companies can gain advantage as well; the zeitgeist is beginning to shift and initiatives such as Climate-X programmes connect businesses with experts and organisations keen to progress emissions reduction (Climate-X, 2019).

Under the coronavirus lockdown, *Contemporary Issues* had a new context for the Zero Carbon Act. We had a global experiment in emissions reduction. Both the climate crisis and coronavirus do not respect borders; neither catastrophe is "getting the co-ordinated international response it deserves" (The Economist, 2020, p. 7). Lockdown revealed just what it would take to actually achieve our negotiated emission targets; in order for the Zero Carbon Act to have any bite, policy must mitigate emissions, with lower financial, social and political cost. As the coronavirus changes our behaviours, is it 'back to work' and play as usual? We went 'online' overnight. We zoomed around virtually and flexibly; work-life-balance and working from home were real things. Will we be able to 'embrace the mobile mentality,' reduce emissions and traffic congestions to model the culture that employers utilise as they 'quit their CBD offices'? (Parker, 2020). Are we challenging our students to use these agile methodologies and be articulate enough to co-present their research reports while networking at conferences? Will our most employable students be 'culture ready' so as to be head-hunted by corporates as they graduate?

## SPECIALIST SKILLS WITH CAPABILITIES

Tertiary education should not be 'inaccessible.' It is a stepping stone to a world of possibilities. The learner capabilities in the *I am Capable Framework* include 'practises sustainably' (Otago Polytechnic, n.d. b), and EduBits sustainability micro-credentials include 'waste recycling', 'lead strategy development' and 'sustainable practice at work' (EduBits, n.d.). OPAIC is particularly good at delivering mini projects, industry projects and internships in undergraduate programmes, and sustainability topics are the perfect conduit to promote the strengths our student researchers possess; they can lead to real change in the companies to which they are seconded.

What is the value of a pricey international qualification with 'the on-campus experience?' Even before COVID-19, tertiary education was unfit and ripe for disruptive innovation. Lack of meaningful change is appalling, especially since education is the easiest means to 'close the inequities gap' that rages across the world (Barclays, 2020). Unprecedented events have forced educators to look soul-deep; will we enliven educational environs, or be replaced (Soul Machines, 2018)?

Let us create vibrant, innovative and connected campuses. Let us get curious and make learning and teaching exciting and meaningful. We know what we do is valuable and relevant, but there is a bigger, untapped need to get real about the wide-reaching wicked problems that scare the bejeebies out of us. Fear and complacency are just an excuse. What we do at work and at home is who we are. Let us truncate all the superfluous and deliver holistically; that is the kaupapa in New Zealand, never more relevant. It is not rocket science, but if that is what motivates you, we do that here in New Zealand too, and Rocket Lab is hiring (Rocket Lab, 2020)!

## CONCLUSIONS

It has become apparent that the contexts in which Applied Management qualifications are delivered keep morphing at record pace. As we labour to create New Zealand's most employable graduates, the recurring theme of sustainability confronts us every day. Sustainability is not a separate course, soon forgotten; it holds the key to learning that is creative, innovative, tech-savvy and rewarding. Considering the urgency and scale of the climate change catastrophe, it is imperative that we step beyond recognising environmental science as an independent discipline and incorporate it in all our courses as a critical skill for future employment of the learners, just like we do with communication skills and teamwork.

“Climate change is an existential threat and the most important issue of all … there are no grey areas when it comes to survival. Either we go on as a civilization or we don’t. We have to change” (Thunberg, 2018). Educators have to evolve as the environment around them changes. Young leaders need not roll their eyes and march on without us. Sustainability requires societal change along with the wisdom to direct a more positive, sustainable future for generations yet to be born. Wherever we stand, let us acknowledge the interconnectedness and interrelationship of all living and non-living things; we have that framework (Otago Polytechnic, n.d. a). We do not need ‘more’ of anything; we do not have to wait. We do not have to work harder; the learning outcomes stay the same while the contexts differ. Our lofty vision must be bold enough to live beyond our tenure. We must adapt at a fervent pace because, as Bob Dylan sings, “the times, they are a changing.”

**Yury Zhukov** is a Senior Lecturer at Otago Polytechnic Auckland International Campus. He is pursuing his interests in deliberative democracy and e-government at the University of Auckland where he is currently working on his PhD (Deliberation in Tertiary Education Policy). He has been working in tertiary education alongside other jobs for over fifteen years.

https://orcid.org/0000-0001-9346-9139

**Marianne Cherrington** is a Senior Lecturer at Otago Polytechnic Auckland International Campus, studying Computer Science and Analytics. A lecturer in disruptive innovation, her research into machine learning feature selection algorithms applies in many fields, producing interesting collaborations with international partners in many disciplines and sectors.

https://orcid.org/0000-0002-1240-2010

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# EMBEDDING SOFT SKILLS WITHIN LEARNER-CENTRED ENVIRONMENTS FOR VOCATION EDUCATION GRADUATES

Tracey Carlyon and Amy Opperman

## INTRODUCTION

In Aotearoa New Zealand, like many other countries, Institutes of Technology and Polytechnics (ITPs) play an integral role to ensure the workforce are educated for the future. This requires that graduates are 'work ready' and have the necessary qualifications and skills required by employers to make a productive contribution to industry. While a vocational qualification requires the development of hard skills, it has become increasingly evident that soft skills are equally important to enhance a graduate's employability. As such, education providers must respond to this need by ensuring their programmes engage and prepare their learners for the future (Snape, 2017). As an ITP, Waikato Institute of Technology (Wintec) recognise this and are committed to ensuring students have opportunities to develop their soft skills within learner-centred environments. This is reflected in Wintec's *Ako Teaching and Learning Directions*, which provides the basis for "ensuring our students develop critical abilities, skills, knowledge, values and attitudes to be successful in education, work and life" (Wintec, n.d.). One of the key principles of the framework is learner-centredness, which includes teaching practice that engages students; includes explicit skills instruction; encourages students to self-reflect; motivates students and encourages collaboration.

This article reports on research designed to learn more about how tutors from ITPs approach the development of students' soft skills within their teaching curricula. A case study approach grounded in interpretive methodology, which describes and interprets social situations (Mutch, 2005), was considered appropriate for the research. As Cohen, Manion and Morrison (2011) suggest, a case study focusses on portraying "participants' lived experiences of, thoughts about and feelings for a situation" (p. 254). For the research, five highly effective tutors from across Wintec's vocational education programmes were invited to participate in semi-structured interviews in August 2019. The disciplines in which these participants taught included information technology (IT), culinary arts, media arts, nursing, and early childhood education. Pseudonyms have been used to protect the anonymity of these participants. During each interview extensive field notes were taken, which were later analysed for common words and themes. The research was based around the following two research questions:

1. What do tutors consider to be important soft skills for their students to develop in order to be work ready?
2. What are the different ways tutors embed opportunities for their students to develop these soft skills?

The next section explores some of the current literature which is focussed on soft skills. This is followed by a summary of the findings from each of the five case studies. A discussion, including a framework, designed by the authors, to demonstrate how tutors embed soft skills is presented, followed by a conclusion.

## SOFT SKILLS

Sometimes referred to as 'employability' skills, soft skills are considered to be the behaviours, attitudes and personal qualities that are essential for gaining and retaining employment (Tertiary Education Commission, 2020). While it is difficult to define or measure these types of skills, it has been suggested that soft skills include communication, social skills, higher-order thinking, self-control and positive self-concept (Lippman, Ryberg, Carney, & Moore, 2015). Soft skills can also be defined as the four C's—creativity, collaboration, communication and creative thinking (Green & Blaszczynski, 2012). Furthermore, while referred to as values and key competencies, New Zealand curricula identifies skills such as inquiry, curiosity, integrity, managing self and relating to others as important for our learners to develop (Ministry of Education, 2007). While soft skills differ to technical, or hard skills it has become increasingly evident that employees need both types of skills in order to gain employment and make a productive contribution to industry. This is evident in the IT industry where many employers are currently reported to be less concerned with technical skills and are recruiting employees who have the soft skills they specifically require (Stevens & Norman, 2016). This has created much debate about *which* soft skills are important to develop, how much attention should be given to developing them and *how* this can occur alongside hard skills development.

In Aotearoa New Zealand, there are resources specifically designed for supporting tutors to develop their students' soft skills. For example, *Guidelines: Strategies for Teaching Employability Skills in Vocational Programmes* is provided by Ako Aotearoa (Duignan et al., 2018). This resource comprises a toolkit of ideas and strategies to support vocational education tutors to embed employability, or soft skills, into their practice. A further example is the *Youth Guarantee Vocational Pathways for Education Providers* (Ministry of Education, n.d.) which outlines three principles underpinning vocational pathways programme design, including how tutors can ensure programmes of learning are student centred. Although these resources provide some support, generally in ITPs in Aotearoa New Zealand it is up to individual tutors to decide *which* soft skills they consider to be important and *how* they choose to teach these.

Research confirms that many vocational education tutors deliberately embed opportunities for students to develop soft skills within curricula (Fraser, Duignan, Stewart, & Rodrigues, 2019). These authors explain how tutors do this "both overtly and covertly, using a myriad of approaches and strategies which fit seamlessly within their delivery of core curriculum content" (p. 170). Others agree that making explicit links to those skills which relate to employability is essential in order that students can recognise and adopt them (Green & Blaszczynski, 2012). Further to this, Cranmer (2006) suggests the approach of explicitly embedding and integrating soft skills has a higher impact than teaching them through modelling without making explicit links or teaching them in separate courses. "Meaningful learning of these 'soft skills' will occur best in authentic and integrated programmes where explicit teaching identifies the required learning" (Snape, 2017, p. 1). These types of programmes align with learner-centred environments and teaching, which also include explicit skill instruction as well as encouraging reflection; collaboration and motivating students by giving them greater control over their learning (Weimer, 2012). As this author explains, in learner-centred environments tutors are designers and facilitators of learning experiences that focus on the development of learning skills and learner self-awareness (Weimer, 2002).

Despite this literature, feedback from industry continues to identify that a gap exists between industry expectations and graduate work-readiness. Employer engagement groups (EEGs) who regularly meet with ITPs have for some time emphasised soft skills as being equally as important as hard skills. Furthermore, some industries are now seeking graduates with a particular set of soft skills, rather than hard skills, which are thought to be more easily developed in the workplace. Therefore, it is necessary to learn more about how tutors from different disciplines within ITPs approach the development of students' soft skills within their teaching curricula.

## FINDINGS

The findings are presented in a summary from each of the five case studies. Aligned with Wintec's *Ako Teaching and Learning Directions*, the tutors interviewed all demonstrated learner-centred approaches including encouraging students to take responsibility for, and reflecting on, their own learning. They all described examples that demonstrated how opportunities for the embedding of soft skills development occurred both explicitly and implicitly. This practice of embedding soft skills alongside hard skills development is supporting Wintec students' future employability.

### Interview 1: Mary – Information technology

Mary teaches IT programmes with a large majority of her students being male, ranging from 18 to 21 years. The soft skills Mary identified as being most important for her students to develop were encapsulated within the following four areas: being professional; relational; able to problem solve; and having a good understanding of oneself. Being professional included punctuality, personal presentation and showing a positive attitude about tasks one may be asked to carry out. Being relational is a soft skill that Mary also believes is very important and explicit links are made to the importance of working together in positive ways. She is also committed to building and sustaining positive relationships with all her students, which provides modelling of this soft skill. Teaching self-awareness to students, or having a good understanding of oneself, is something Mary considers an important soft skill. This includes her students learning about their personal learning style, so they take more responsibility for their own learning and build confidence to take risks.

A clear strategy used by Mary to teach problem solving is humour, as she explained: "I use humour a lot to teach soft skills as it helps put them [students] at ease." One example of how Mary uses humour is when a student asks her to identify their errors she responds with "Who did the typing?" followed by "I bet you $500 I can spot the mistake." This fun approach is twofold as Mary explained, it takes the students attention away from the screen to refresh their thinking after which they are usually able to identify their own error. Furthermore, she supports her students by requiring them to document, in their own diary, all coding/error messages to help identify patterns for future reference. Mary explained that being able to problem solve involves teaching strategies to break down problems into steps and is relatively easy to incorporate within her discipline of IT. The variety of teaching tools Mary deploys to enhance and draw on the development of soft skills alongside hard skills includes embedding videos and slide shows, drop and drag games, Kahoots quiz (game-based learning platforms), and video scribe.

Mary is clearly very passionate about teaching and committed to building positive, trusting relationships with her students. This was evident as she explained how she emails students to ask how she can support them, provides additional classes in the weekends for those who required it and has a genuine commitment to giving detailed and timely feedback to her students. Clearly Mary is proficient at explicitly embedding opportunities for soft skill development within the learner-centred environments she establishes and innovative teaching practices she creates.

### Interview 2: Carl – Culinary arts

Carl teaches in the culinary arts programme in which there are several international students. He identified the following soft skills as being important for students to develop: professionalism; teamwork; stress management and being reflective. Professionalism includes punctuality, time management, developing routines and taking responsibility for one's own learning and actions. As such, students identifying and taking responsibility for their errors is something that is focussed on a lot in class. Particular attention is drawn to punctuality as Carl considers this crucial to the culinary arts industry. He explained how he always starts his classes on time and whenever a problem occurs that relates to the workplace, he is deliberate about stopping and making the connection for the students.

Teamwork is another important soft skill that Carl pays attention to and he explained that alongside teaching the curricula he talks about how teams need to work together and help each other out. When the students do not work as a team, or he observes one student leaving others to clean up, he stops the lesson and talks about what would happen in the industry if this occurred. He explained: "I encourage my students that if they see a job to step up and do it." Carl also values the skill of being able to manage stress, as his industry can be a high stress environment to work in. In addition to teaching conflict resolution strategies and how to manage stress, Carl takes care to work in a calm manner himself. He believes it is important for students to learn that there are consequences for every action and stress management is an essential skill to have in his industry.

An important part of the culinary arts programme is for students to develop an individual digital portfolio (known as an electronic portfolio), which can be considered a resume, in order to demonstrate their soft and hard skills. This requires students after every lesson to use their own device to record evidence of their best product, the process, and how they are taking responsibility for their own learning. Carl explained that reflective writing is a big part of culinary arts and he supports students through this process so they can self and peer assess and make comments that are fair and constructive.

Carl also draws on storytelling, using real life scenarios and humour to embed opportunities to develop soft skills within his programmes and at every opportunity makes connections to reinforce the soft skills required to work successfully in the culinary arts industry.

### Interview 3: Sally – Media arts

Sally, who teaches in a range of programmes within media arts, identified communication as being one of the key soft skills for students to develop, in addition to time management, teamwork, punctuality and empathy. Sound communication skills include being able to express oneself concisely and appropriately and involve both verbal and non-verbal methods (such as electronic messages). Sally explained that good time management skills are important to develop as working in many areas of the media arts industry require estimating how long tasks may take and calculating costings accurately.

Punctuality is considered by Sally to be an essential skill and she talks to her students about why being on time is so important and how this applies in the workforce. She makes explicit links to time management, being punctual and is quite strategic about starting her classes with fun games and activities as a motivator for students to be on time. She feels that because of this her students are rarely late to class and those who are, tend to apologise for being so. This is linked to having empathy and respect for others and Sally explained she would never embarrass a student about any concern she may have. Instead she would think carefully about having a private conversation to solve any issues in a respectful manner. Having empathy with others is a skill Sally considers is becoming increasingly useful to develop. As her students are becoming more culturally diverse and sometimes less mature than previous cohorts, it is important that they all learn how to understand and support others. A useful activity Sally practices to support this is undertaking personality profiles with her students, which she finds works well as they learn how others see things differently.

One way in which Sally's students can gain an understanding of which soft skills employers are seeking in the media arts industry is by analysing employment advertisements and then writing cover letters, resume, and undertaking presentations. She explained that "we are aiming for them [the students] to be able to present themselves to industry in a positive light as the person they are and what they have to offer." Games and ice breakers, which require her students to work together and communicate effectively, are explicitly embedded into her classes to support students with building skills including communication, teamwork and empathy. Furthermore, activities such as writing timelines, analysing assessments, planning projects and group tasks all provide scaffolding for students to be able to work together successfully on team projects. Attention is drawn to the learning outcomes at the beginning and end of teaching sessions to help students make connections to soft skills. All the activities and tasks Sally includes are enhanced through students writing short reflections. The students are supported through the process of reflective writing and for those who require it, a framework is provided.

Sally acknowledged a shift that has occurred in the design industry whereby employers are often seeking students who have certain soft skills as opposed to technical skills. In addition, she noted that because her students are frequently surprised by this, it is important to be explicit when teaching these skills.

### Interview 4: Leanne – Nursing

Relationality, as opposed to soft skills, is a term Leanne suggests is more aligned to nursing. She considers the term soft skills could be interpreted as being unimportant and explained how in nursing "we look at and talk about relationship skills, and this connects to the caring nature." Leanne described how relationality within the discipline encompasses nurses valuing and working with others. Furthermore, relationality involves considering individual values, building rapport, being genuine around others and establishing authentic relationships. Leanne pointed out "some people could call it an ethical phase" and outlined that because society gives nurses trust it is important to honour this. In addition to trust, encompassed within relationality is having self-awareness, working together, communicating effectively, respect and demonstrating competencies such as punctuality, a clean uniform and not wearing jewellery, which are essential for nursing students.

Opportunities for students to develop relationality are provided through role modelling, establishing group contracts, discussions and most importantly engaging in self-reflection. Leanne believes role modelling relationality is an essential part of teaching nursing and she takes care to get to know her students, takes a genuine interest in them and shows respect. Additionally, she models positive communication skills including not talking over others and taking particular care with wording emails and electronic messages such as in Moodle. In class, students are required to engage in activities that focus on what Leanne refers to as 'ways of being' which require students to share what is important to each of them and then unpack these ideas together. This and other activities are designed to show how students can build respect, work together effectively and communicate positively.

Students are taught how to write self-reflections and consider their own actions and responses in different situations that may arise when out on placement. Placement is integrated into the nursing programme to enable students to gain work experience, including the opportunity to practise further and to develop the hard and soft skills learned in class. These oppportunities make the step from study to work as seamless as possible for students.

Leanne highlighted how her student nurses are supported, both in class and on placement, to develop self-awareness and reflection skills with a framework that has been adapted specifically for nursing and are given feedback on their reflections. She also explained that having self-awareness, seeing themselves as others see them and becoming critically reflective is fundamental to nursing.

### Interview 5: Kirsten – Early childhood education

Kirsten, like Leanne, does not use the term 'soft skills'—but instead prefers 'dispositions' or 'attitudes and attributes' that can be learnt. She explained that dispositions, of both teachers and children, are considered a lot in early childhood education and are an integral part of *Te Whāriki*, the Early Childhood curriculum. She identified a range of professional behaviours that are important to have when working in early childhood education such as: taking initiative; developing time management and ethical relationships; respecting diversity; behaving in a collegial, reflective, and curious manner; and persevering.

Kirsten talked about the importance of punctuality and students developing the skill of critical reflection. Explicit links are made to being on time when working in early childhood education centres and discussions about how this impacts others, including young children, parents and colleagues. She explained that students having the ability to reflect and discuss how they interact with others helps them to learn how to give and receive feedback respectfully over time and develop resilience. Kirsten outlined how opportunities to develop reflection skills are provided explicitly through writing reflections and engaging in class discussions "so students can talk through what 'best practice' can look like." In addition, she described her classes as being "very relational" where the students talk a lot about responsive, reciprocal relationships and what these mean within early childhood education.

Along with class activities, further opportunities are provided in field-based practice for students to develop dispositions such as relationship building and using their initiative which are essential in early childhood education. Field-based practice is included within the programme for students to work two days each week in a centre to learn how to integrate theory in practice. This field-based practice provides authentic opportunities for students to work with young children, collaborate with others and includes visits and observations carried out by tutors such as Kirsten. Students have certain tasks to complete when working in centres such as writing self-reflections and engaging in a project based around an inquiry.

## DISCUSSION

These findings show that the tutors all believed it was essential for their students to develop certain soft skills in order to be work ready. While two tutors preferred *relationality* and *dispositions* to the term 'soft skills', the type of skills they identified as being important for students to develop were similar to and aligned with previous research (Green & Blaszczynski, 2012; Lippman et al., 2015). Furthermore, despite the different disciplines, many of the skills identified by the tutors were interrelated and could be encompassed within the following four categories: *relational, professional, reflective,* and *effective communication*. Being relational included showing respect and empathy while being able to form and sustain positive, collegial, responsive relationships with others. This was closely linked to having the ability to work well in a team while being cognisant of others and their differences. Professionalism included punctuality, which all tutors discussed at length, in addition to personal appearance, positive attitude and behaving ethically. Being reflective was identified as an essential skill to develop self-awareness, self-responsibility and resilience. Finally, having effective communication skills, both verbal and non-verbal, were considered important for students to develop in order to work effectively with others and enhance their employability.

The tutors described a variety of strategies they used to embed opportunities for their students to develop these soft skills including storytelling, humour, role modelling, targeted activities, and making use of teachable moments. Aligned with previous research, (Fraser et al., 2019) the five tutors interviewed showed how they made both explicit and implicit links to the soft skills being developed. Storytelling provided authentic examples to help students develop self-awareness and learn the importance of taking responsibility. Sometimes used within storytelling to gain impact, humour was also used to build positive relationships. Role modelling was another effective method to demonstrate the importance of soft skills such as being punctual, developing positive relationships with others and again taking responsibility. Targeted activities, such as how to write useful reflections, supported students to learn about themselves, how to work effectively with others and provided opportunities to prepare students for recruitment into the workforce. Finally, making effective use of teachable moments offered authentic learning opportunities that linked explicitly to industry in order to develop soft skills.

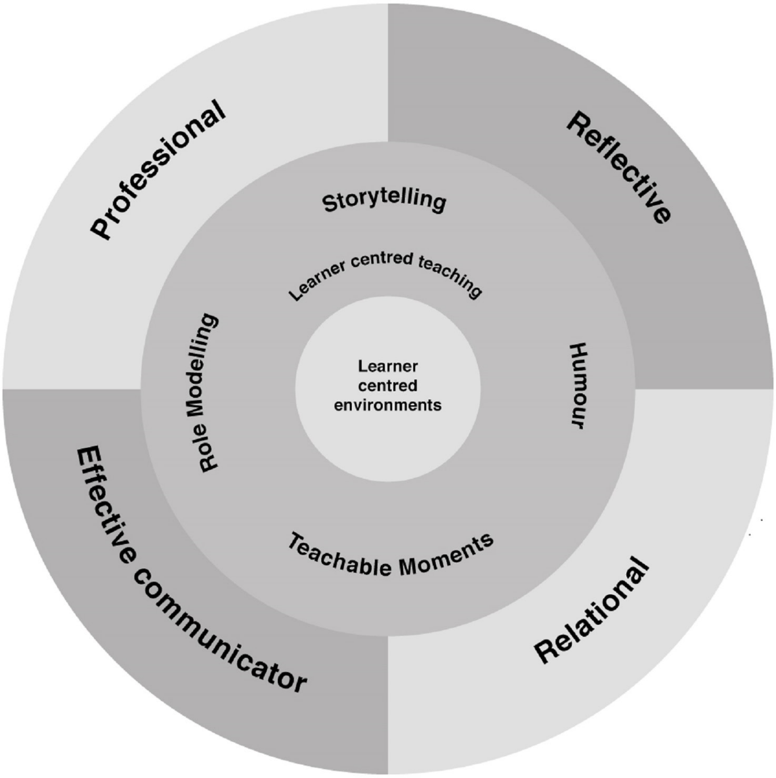


Figure 1. *The development of students' soft skills within learner-centred environments.*
Source Carlyon and Opperman.

Figure 1, developed by the authors, illustrates the connection between the learning environment, teaching and learning strategies, and soft skills. At the heart of the framework sits learner-centred environments which are established from embedding a range of learner-centred teaching strategies that include explicit skills instruction, as well as to engage, motivate, and encourage students to self-reflect and collaborate. In turn, as shown in the outer circle, these strategies provide opportunities for students to develop the essential soft skills they require in order to be work ready.

## CONCLUSION

Findings from the research reported on in this article align with previous literature (Fraser et al., 2019; Green & Blaszczynski, 2012) which suggests soft skills can be successfully and deliberately embedded into vocational education curricula. Tutors from across a range of disciplines show they have a sound understanding of the skills required by industries and are adept at engaging creative and varied teaching strategies to ensure their students have opportunities to develop these skills. In alignment with Wintec's *Ako Teaching and Learning Directions* framework (Wintec, n.d.), the strategies employed by tutors create learner-centred environments to enable students to become independent, employable graduates. While at times the links to soft skills are implied, tutors frequently make these explicit for their students in order to illustrate the importance of those skills that relate to industry. This practice of embedding soft skills alongside hard skills development within learner-centred environments supports Wintec students' future employability.

**Dr Tracey Carlyon** is a Teaching and Learning Coach at Wintec. She has teaching and leadership experience in primary schools and also in teacher education at The University of Waikato. She has published widely on the topic of teacher transitions, how these impact personal and professional identity, and learning.

**Amy Opperman** is a Teaching and Learning Coach at Wintec. In this role, she provides support for tutors across Wintec around their practice, pedagogy and professional learning. Amy also has extensive experience in product development at Wintec and has worked with project team members to ensure programmes are well developed.

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# LEARNING IN LOCKDOWN: A CASE STUDY OF INTERNATIONAL STUDENT EXPERIENCES OF THE COVID-19 LOCKDOWN

Bradley Hannigan and Sarvesh Saini

## INTRODUCTION

At the time of writing, in July 2020, there are 12.9 million cases of COVID-19 with 567,000 deaths globally. The United States of America leads this tally followed by Brazil, India, and Russia (Strongman, 2020). In contrast, Aotearoa New Zealand has 25 cases, all of which are in isolation (Strongman, 2020). Whilst internally the news is good, externally the virus is rampant around the world. There are currently question marks around if and when the borders will open again. It is clear that COVID-19 is different from other pandemics (for example, SARS, MERS, Ebola) in that it is truly global in its reach (Fernandes, 2020).

Businesses around the globe have been deeply impacted by the lockdown in various countries, with some commentators claiming that world economies are heading into a major recession (Carlsson-Szlezak, Reeves, & Swartz, 2020). For importers and exporters, it is clearly not a case of business as usual. Education, as well, has faced major disruption with early childhood services, schools, and tertiary institutions closed over the lockdown period, only returning to face-to-face after 18 May 2020 (Russell, 2020). Since then, the education infrastructure has returned to normal although now with a pressing issue at hand.

At 11.59pm on March 15, 2020, Aotearoa New Zealand officially went into full (Alert Level 4) lockdown to halt the spread of COVID-19. On 28 April, 2020, Level 4 lockdown ended with a drop to Level 3. The country remained at Level 3 until 14 May, 2020. This aggressive strategy worked for the country with a reduction to Level 1 occurring on 8 June, 2020 (Cousins, 2020). In July 2020, Aotearoa New Zealand is still at Alert Level 1, the borders are still closed to international visitors, and isolation facilities are implementing and revising plans to ensure the safe isolation of those entering the country. The touted 'new normal' is anything but normal.

Whilst border closure protects the population from the ongoing spread of COVID-19, it also cuts off an important source of revenue for schools and tertiary institutions: international students. Overnight, the flow of international students into educational institutions stopped, and it has not yet restarted. International students are worth around $5 billion a year and tertiary education institutions in particular are lobbying hard for change (Cooke, 2020). The financial need to replace these students is such that some tertiary institutions are considering chartering their own flights into the country (Wiltshire, 2020b) as the threat of redundancies and four-day working weeks resonate through the sector (Wiltshire, 2020a). Nowhere is the human capital of education felt so dramatically as when the flow of income stops and when the flow of students halts, as happened after the Christchurch earthquakes of 2010 (Carter, Bell, Ali, McKenzie, & Wilkinson, 2014; Healey, 2011), and disasters such as the L'Aquila earthquake of 2009 (Di Pietro, 2017) and Hurricance Ike of 2008 (Esnard, Lai, Wyczalkowski, Malmin, & Shah, 2018).

Aside from, and alongside the human capital cost of disasters such as those mentioned above are the human costs. Carter et al. (2014) noticed not only decreased academic functioning but also increased anxiety and stress. Kemp, Helton, Richardson, Blampied and Grimshaw (2011) found that in the month after the 2010 Darfield Earthquake, students also reported increased anxiety, stress, and loss of sleep. Thamtanajit (2020) also noted these problems after the 2011 floods in Thailand, as did DeVaney, Carr and Allen (2009) in the aftermath of Hurricane Katrina in 2005. From these studies, it is clear that disasters effect more that the bottom line for tertiary institutions: they affect students both academically and psychologically. These studies, however, focus on localised natural events. COVID-19 is not localised and is an ongoing event. At the time this article was written there is still little known about the virus and no certain way to forecast an end to the disruption. For example, the state of Victoria entered and exited lockdown at a similar time to Aotearoa New Zealand, but has now re-entered a level three-type lockdown after a second and more widespread outbreak (Smee & Karp, 2020). Fear that Aotearoa New Zealand might go a similar way maintains the pressure to keep borders closed.

This article is an explorative case study of how international students at one Aotearoa New Zealand tertiary institution experienced the lockdown, guided by the research question "how did international students experience the Covid-19 lockdown?" This article reports how this group of students coped with lockdown and the struggles they faced. The case study approach was adopted as an accepted approach for exploring lived experience and social phenonmena (Noor, 2008). The aim of this research was to give voice to those caught up in the struggle to maintain a focus on studies at a time when the rest of the world appeared to be falling apart. This research draws on those experiences, collected through both surveys and interviews, to provide a snapshot into how one group of students continued their learning, in the hope that it will enrich the perspectives of teachers who work with international students to keep the learning alive in these unprecedented times.

Given the unique global phenonmenon that we are currently living through, this article relies less on a review of literature, for there is little to be reviewed, and has a focus on reporting findings of surveys and interviews. This study is one of the first pieces of empirical research to be reported on international student experiences of COVID-19 lockdown in Aotearoa New Zealand.

## METHODOLOGY

This article reports on research undertaken as part of a Masters degree in Applied Management at an Aotearoa New Zealand tertiary institution. The approach taken is constructivist (Guba & Lincoln, 2005) in so far as the author constructs an understanding of participants' experiences as opposed to measuring those experiences. The approach taken is inductive as the aim of the research was to give voice to a particular group of participants (international students) and to make sense of their experiences to form an understanding of the key themes that emerged. The author did not develop a conceptual framework in advance of the research, which is consistent with the inductive thematic approach to data analysis (Guest, MacQueen, & Namey, 2012).

The data collection was carried out in a small Aotearoa New Zealand city between 15 and 22 June 2020. Data was collected by online survey (n = 50) and through interviews of students currently enrolled in study (n = 6). Survey data were analysed using descriptive statistics, and qualitative data from the survey and interviews were analysed using inductive thematic analysis techniques. Category B ethical approval was granted for this research on 13 May, 2020.

## FINDINGS

The findings of this research are organised into four emergent themes: mental and physical wellbeing, academic disruption, financial instability, and concern about or from family. These themes were found to intersect.

### Mental and Physical Wellbeing

The COVID-19 lockdown impacted participants a great deal. Eighty-six per cent of the sample said that they were adversely affected by the COVID-19 lockdown. The level of impact varied from person to person. A quarter of the participants stated they were greatly affected by the lockdown while a third reported they were impacted slightly. Male respondents were more likely to report adverse affects of lockdown (60 per cent of males) than females (48 per cent of females). It was found that females were more likely to report psychological stress (56 per cent of females) than males (43 per cent of males). Females in the group were more likely to experience anxiety but did not report experiencing sleep-disorders or depression. Thirteen percent of females experienced physical illness during the lockdown, whereas no males reported being physically sick. It was found that those students who were staying with their families reported being more stressed (63 per cent of those staying with families) than those who did not have their families with them (43 per cent of students not staying with their families).

When questioned on the source of stress, some participants stated that the continued need to meet deadlines was a key stressor. For example, one participant stated "I tried to complete the assignments but not being able to write more than three or four lines felt like wasting my time, which created more stress." Another found the source of stress to be financial: "there was pressure on my finances which added extra stress" whereas others identified disrupted travel plans for family, the crashing job market, and a sense of being trapped in New Zealand as sources of their stress.

### Academic Disruption

It was found that the COVID-19 lockdown disrupted the academic achievement for participants. Eighty-three percent of respondents reported that due to lockdown, their academic goals were affected. There was no noted difference between male and female groups. Those who lost their job as a result of the lockdown reported facing more difficulties with their academic study (44 per cent), than those that retained their jobs over lockdown (21 per cent).

All interviewees agreed that due to the lockdown, they faced disruption in their study. During the lockdown, they were not able to access the facilities of their study institution and had to switch to online classes, which required some time and effort for them to adjust. They found that due to the changing style of lecture delivery, they had to find new ways to communicate with tutors, and all reported that this created more pressure on them. For example one participant stated "we do not have face-to-face classes with tutors, and that prevents you from asking questions and not having an opinions of other students on a topic, which makes it hard to understand." Another participant reported "I am not able to understand any topic due to not having the face-to-face classes, which built more stress." Another participant pointed out that "we were asked to study from home, which was hard to do and required flexibility in the course."

### Financial Stability

This research found that 18 out of the 50 participants lost their job during the lockdown. Of the respondents who lost jobs, 44 per cent felt pressure in their academic study as well. The participants aged 25 to 34 were found to be most likely to be adversely financially affected by the lockdown, whereas respondents between the ages 35 to 44 reported being less financially affected by the lockdown.

In the interviews, all participants agreed that they felt extra pressure due to the financial loss they suffered during the lockdown. One participant stated "I went through financial loss, the shop where I use to work that shop was closed and not get any word from the owner about the salary." They went on to say that the wage subsidy given by the government only covered half their rent and living expenses. Two other participants had both lost their jobs at the beginning of the lockdown and were suffering financial hardship as a result. Another participant stated "I lost my part-time job due to redundancy. During this period, no organisations were hiring new staff, and therefore no jobs were available for at least three months, which made it difficult for me to manage my expenses." All interviewees stated that financial pressures had an adverse effect on their ability to focus on their studies.

### Concern About or From Family.

The findings of the survey indicated that out of 50 students, 43 (86 per cent) were living without their families in New Zealand. It was found that 63 per cent of that group felt family pressure, but the level of felt pressure varied from person to person. All interview participants felt family pressure as they were not with their family. As a result, all participants reported they were unable to focus on their studies. The leading cause of their stress was their concern about the wellbeing of their family and not wanting their families to worry about them. One participant stated "my elder son [living outside of Aotearoa New Zealand] has respiratory problems. They faced the medical shortage, food shortage. As a father, my stress was three to four times higher as compared to any other student. All these things stressed me a lot." Another participant highlighted that his families concern for him being alone in Aotearoa New Zealand caused him stress: "my family was quite worried about my health, and one of my cousins died in New York because of COVID-19. My family was concerned about me, which puts extra stress."

## DISCUSSION

The findings of this research highlight the experiences of a small number of international students living in Aotearoa New Zealand during the lockdown. Like students in previous literature on post-disaster teaching and learning (for example Carter et al., 2014), these students reported that psychological and social pressures affected their ability to focus on their studies. However, for this group of students, financial stressors added to their woes. These findings confirm Maslow's (1968) idea that it is difficult to focus on intellectual achievements when faced with physical and psychological trauma.

It is difficult to grasp the effect of being so far from home and family, in a foreign country, studying during a time of pandemic. These findings tell a story of struggle that goes beyond passing or not passing a course, and speaks more of survival in the face of adversity. Participants identified the loss of contact as being particularly difficult to manage, whereas others identified a shift in focus to financial survival as a barrier to "meeting their academic goals." For this group of international students, the ability to adapt in the face of uncertainty and to continue their studies went hand in hand. The findings of this is similar to those of Kemp et al. (2011) where the act of living through a disaster situation has an ongoing impact on perceived wellbeing.

Living with family while studying was not a protection against stresses felt in lockdown. Financial insecurity coupled with a concern for loved ones in country and at home contributed to experienced anxiety and worry for many participants in this research. While Aotearoa New Zealand appears to have COVID-19 under control (Strongman, 2020), many of the home countries of international students do not. This is a source of ongoing concern for many. Again, as Maslow (1968) concluded, it is difficult to focus on self-actualisation when belonging and security are in doubt. The participants in this research experienced this first hand, and it is not over: COVID-19 has not yet finished exacting its toll on the world (Strongman, 2020).

Unlike the Christchurch earthquakes or Hurricane Katrina, COVID-19 is silent and invisible. Unlike similar pandemics, it is global in its reach (Cousins, 2020), and at the time of writing is rampant and evolving. A return to their home countries, to family, was not an option in the lockdown and is still not an option over a month into

Level 1 status. Questions over the availability of jobs or whether loved ones will be allowed through the border to reunite with them were asked during the lockdown and continue to be asked. These are contemporary issues that weighed heavily on the minds of the international students in this study. Marking guides and rubrics tend to pale in comparison with the raw facts of daily existence for many international students. Participants agreed that it was difficult to focus on their studies when they lost their job.

This research shows that teaching and learning for international students post the COVID-19 lockdown involves understanding some of the pressures faced by this particularly vulnerable group. Some participants lost their jobs and were struggling financially, some had family at risk of contracting the virus in their home countries, and most had no way of getting home due to border restrictions in their own countries. Within such a dynamic and uncertain context, teaching must therefore look beyond academic achievement to recognise the achievement that exists in remaining academically focused in such hostile times. The participants in this research had to learn how to adapt, moving from face-to-face to online provision but more importantly to the prospect of living in a foreign country without a job and under the cloud of impending recession (Carlsson-Szlezak et al., 2020).

Yet the drive to open the borders to international students continues (Wiltshire, 2020b). In many ways it has to; the education sector in Aotearoa New Zealand has built a $5 billion dependency on this market. This research has found that increasing international student numbers is only part of the problem for education in Aotearoa New Zealand. To keep them psychologically, emotionally, and financially safe while they are here is an added responsibility. At the end of May 2020, Victoria, Australia. COVID-19 cases were in single digits; on June 6, 2020 there were no COVID-19 cases reported (Vaughan & Ky, 2020). Fast forward to early July and Victoria has re-entered a level three lockdown with daily cases consistently over 200. If Aotearoa New Zealand were to re-enter lockdown, as is always the possibility, how well prepared will we be to support the international students in the care of our education system? What have we learnt from our experience thus far?

## CONCLUSION

This article has reported on a small scale research project involving international students undertaken in a tertiary institution soon after the COVID-19 lockdown, once Alert Level 1 had been resumed. The aim of the research was to give voice to the experiences of international students and to reflect on some of the consequences of those experiences for teaching and learning. The research question that guided this exploration was 'how did international students experience the COVID-19 lockdown?' The key finding of this research was that participants' experiences differed, but academic challenges were connected to psychological, social, and financial hardship experienced by participants.

The COVID-19 situation is globally ongoing. This article acts as a reminder that if academic success is to be commodified, then the psychological, social and financial wellbeing of students needs to be considered as part of the marketing mix. This is particularly true for international students in a time of crisis.

**Dr. Bradley Hannigan** teaches research methods and supervises masters' theses at Nelson Marlborough Institute of Technology Ltd. His research interests are philosophy of education, qualitative research, strategic management and organisational change management.
https://orcid.org/0000-0003-2940-3914

**Sarvesh Saini** is a Master of Applied Management student at Nelson Marlborough Institute of Technology Ltd. His interests are in applied food store management and logistics.

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Article

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# DISCOVERING PERSONAL MOTIVATION THROUGH NEW LEARNING

Steve Ellwood

## INTRODUCTION

Do we wake every day with the heart-felt desire to get to work? What gives us motivation to enter the classroom to teach and learn day after day? And what incentivises our learners to do the same?

Research into *'self-determination theory'* (SDT) may highlight how both intrinsic and extrinsic motivators can be used to balance the learning process. In laying the foundation for this work, Ryan and Deci (2000) state "Human beings can be proactive and engaged or, passive and submissive. Most operate as a reflection of the social conditions in which they develop and function."

Intrinsic motivation can begin with curiosity and intrigue, evolving and connecting to our desire to find answers to burning problems or issues. The extrinsic motivators may realise external reward or consequence. It is this article's contention that the extrinsic motivators in our lives help shape what we know while opening the door to new possibilities and interests. These extrinsic or external goals help to shed light on a favoured pathway to intrinsic motivation, which leads to success and personal discovery.

## BACKGROUND TO THE AUTHOR

For the past ten years I have lectured in the Culinary Arts at Otago Polytechnic. I first taught through the unit standard based programmes which supported a controlled, assessment-based curriculum. I then made the transition onto the Bachelor of Culinary Arts Programme. The degree programme offers more creative, at times conceptual, project-based solutions to culinary based problems or issues.

Like many of my tertiary colleagues my personal teaching trajectory started with and was reflected in B. F. Skinner's behaviourist model of positive or negative reinforcement (Skinner, 1988).

Having grown through experience, I now see myself as a learner's facilitator, connecting more with Jean Piaget's philosophy and constructivist view where learners construct their own knowledge through their individualised experience. (www.teach-nology.com, n.d.) This shift in learning and teaching has introduced questions around personal motivation. What motivates us to learn and specifically how can both intrinsic and extrinsic motivation be maximised within the curriculum while directly motivating learners to achieve their learning outcomes? Reflecting on why, what, and how I teach, or in my case facilitate, new learning, compels me to look deeper into my students' motivation/s for, why they want to learn or engage with new knowledge.

The background above is followed by a dialogue highlighting learners' motivational transition from high school into tertiary education and beyond. The following section maps the Regulative Motivational Continuum and offers an example of how this model is shaped into the Bachelor of Culinary Arts program. Lastly the work offers an opinion on the benefit of a blended model of intrinsic and extrinsic motivation.

## CONVERSATION

The interested, intrinsically motivated learners work on tasks because they find them enjoyable. Their participation is its own reward and is not solely conditional on tangible rewards. New and personal interest motivates a learner's engagement within a subject resulting in their enhanced performance, persistence to learn and do, and extends and motivates their creativity through reflection, feedback and practice. "Interest is a powerful motivational process that energizes learning, guides academic and career trajectories, and is essential to academic success"(Harackiewicz, Smith, & Priniski, 2016)

My seventeen-year-old daughter is in year twelve at High School and sits her NCEA exams at the end of the year. Her ambition is to graduate, enter tertiary education and become a radiologist. Her over-arching motivation for choosing this vocational pathway is to help others empathetically through her *intrinsic* interest in bio-symmetry, skeletal makeup and technology.

My daughter is very well versed in the makeup of credits within her curriculum subjects and through studying, the extrinsic motivators or rewards these subject specific credits will bring has fashioned an extrinsically motivated rewards pathway yielding an intrinsically motivated outcome. In my opinion this may leave a gap in the students' learning due to their focus on the required credit values as opposed to the fullness of the subject matter. What this young person does not yet realise, has been told or maybe even cares about, is the wealth of hidden interpersonal, invaluable social interaction and other learning that hides within conversation and participation in the everyday learning environment. As so eloquently stated by one of my colleagues as "hiding the veges."

The secondary school system we operate within encourages, in fact demands the gathering of extrinsic rewards (subject credits) in order to highlight a level of subjective competence. These extrinsic rewards may only prove the willingness of the learner to see a task through to its predetermined conclusion without revealing any deeper learning or wider knowledge the subject offers. This extrinsically motivated learning model forms the expectation of structure for our learners coming into tertiary education where at first only the 'what do I need to know' mentality drives their learning and may limit what may be learned.

As new learners enter their new environment within the Bachelor of Culinary Arts, motivational observations through conversation are noted by the facilitator. These observations of learner motivation may serve as an example of how both extrinsic and intrinsic motivation can open a door to a learners' previously un-tapped enthusiasm, learning and behaviour. It is worth noting at this point, learners may communicate within these conversations with a higher intrinsic motivation than they actually have, as the power relationship between the student and teacher underpins these conversations.

These observations may be viewed through a SDT lens. Experts in the field Edward Deci and Richard Ryan developed the SDT of motivation (Deci & Ryan, 2008), dispelling the central belief that the best way to get learners to perform is to reinforce their behavior with grades, awards or accolades, they defined this as extrinsic or external motivation. Ryan and Deci describe a learner's intrinsic motivation comes from within. They explain there are internal forces that motivate us to behave in certain ways, including a person's core values and our individual sense of morality.

The observations above meet the three basic needs as specified in Ryan and Deci's SDT as:

1. ***Assigning learner autonomy***, as defined by Ushioda (1996), is "being involved in and taking responsibility for one's learning in all its aspects." Autonomous action is also linked to learner agency. This agency can be seen as a learners independent thought process giving them the initiative and 'power to act.' Derek Wenmoth (2014) discusses learner agency in Core Education, Tātai Aho Rau. Wenmoth considers three core features in understanding learner agency. Firstly, agency involves self-regulation where the learner believes the way they learn will benefit their learning, in other words they achieve a personal sense of agency. Secondly, agency is reliant on the student's realisation they cannot work in isolation nor can they simply do what suits them at the time. It must be realised there are consequences for their decisions stemming from the way they exercise their agency. Thirdly,

agency includes awareness and responsibility in regard to an individual's actions. "Decisions a learner makes will impact on both their own and others thinking and behaviour" (Wenmoth, 2014).

2. ***Ensuring Learner Relatedness or Connection***, to other learners within the cohort or project. The concept of connectedness and collaboration mirrors trust and best practice and is crucial for successful outcomes. In a paper from the Education Review Office, Te Tari Arotake Matauranga states "Trust-based relationships foster connectedness and collective purpose among the members of the community of learning" (Donnelly & Fitzmaurice, 2005).
3. ***Situational competence*** or how the learner perceives his or her level of competence within a given scenario. We all need to achieve, gain knowledge and acquire skills that develop control over tasks that are important to us.

When a learner considers their autonomy, relatedness and competence, as in my daughter's example, it may set them up with a base or scaffold to support their intrinsic or autonomous goals and outcomes.

## CAN WE MAP-OUT THEN IMPLEMENT MOTIVATIONAL PATHWAYS FOR OUR STUDENTS?

We cannot simply separate an individual's motivation for learning into extrinsic and intrinsic pathways, we all constantly cross over between the two depending on the situation we face. These situations include our responsibilities within our employment or how the new learning lines up with our core values. According to Ryan and Deci (2008), it is important to differentiate between an individual's autonomous (intrinsic) and controlled (extrinsic) motivations. Autonomous motivation stems from a learner's (intrinsic) internal drive and enthusiasm but also may include extrinsic motivators as long as they align with the learner's value set and sense of self. Controlled motivation can be seen as external regulation linked to reward or punishment.

A continuum of motivation may be considered based on SDT which displays a pathway from 'amotivation' (the absence of any motivation) through to 'intrinsic motivation.' The table in Figure 1 below highlights the motivational continuum from amotivation or, the lack of any motivation, through extrinsic, to the preferred intrinsic, self-motivating approach.

1. The regulating form indicates the level of regulation through the continuum from no controlled regulation through to autonomous intrinsic regulation.
2. The motivating source highlights a pathway from the amotivational impersonal to the autonomous internal motivations.
3. The 'what regulates motivation' shows the level of motivation from a non-valuing, controlled paradigm to an autonomous, inherently self-supported model.

**The Regulative Motivational Continuum**

**Controlled** ⟷ **Autonomous**

| Motivator | Amotivation | Extrinsic Motivation | | Intrinsic |
|---|---|---|---|---|
| Regulating Form | No Regulation | External Regulation | Personal link to Regulation | Intrinsic Regulation |
| Motivating Source | Impersonal | External | Somewhat Internal | Personal / Internal |
| What Regulates Motivation | Non-Valuing, Incompetence, No Control | Compliance, External Reward or Punishment | Personal Importance, Conscious Valuing | Interest, Enjoyment, Inherent Satisfaction |

Figure 1. The Regulative Motivational Continuum. (Adapted from Ryan, R.M. & Deci, E.L. (2000).

The model in Figure 1 adapted from Ryan and Deci (2000), brings to light where there is less control or regulation in place the lower their self-motivation, whereas the more autonomous and personal the motivator appears to the learner, their motivation will be more aligned with their intrinsic motivations. If we consider a person's extrinsic and intrinsic motivation as a continuum, it follows that we cannot help but be motivated by both ends of the motivational spectrum and each will influence our behaviors and drive us to meet the three basic SDT needs of autonomy, relatedness and competence.

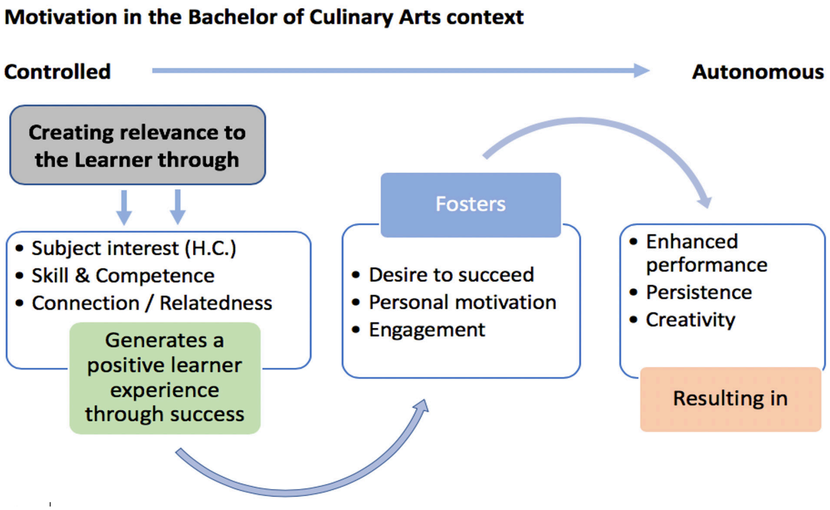


Figure 2. Motivation in the Bachelor of Culinary Arts context. Source: Author, 2019.

Within the Bachelor of Culinary Arts (BCA), consideration of a learner's extrinsic motivation in regard to subject evaluations, skills proficiency and relatedness to others is addressed. This begins (Figure 2) and includes their introduction sessions to academic rigor and assessment, skills and competence classes for theory and craft, along with curricula embedded relatedness to learner pastoral care and well-being.

This introduction lays the foundation for a positive learner experience and fosters a learner's desire to succeed. Success, however, is different for individual learners. For some, the only interest they will equate to their learning may be their extrinsically driven, hierarchical rank or position or financial success while others value the intrinsic learning or doing as their reward.

## SUMMARY

### Recognising both the Extrinsic and Intrinsic Motivators and Goals within our Learners

As discussed in the previous sections, motivation may be seen on a continuum which works as a model of learning for our students. It tracks from the extrinsic, controlled motivators of regulation and compliance, shifts through and arrives at the intrinsic autonomous, individual motivators of internal regulation, interest and inherent satisfaction.

### Motivations and Goals

The intrinsic motivation for participating in an activity may be its own internal reward. The activity may be fun, entertaining, satisfying or personally informative. An intrinsically motivated goal comes from within and its outcomes satisfy the psychological needs of SDT for autonomy, competence and relatedness. The extrinsic motivation for participating in an activity is to be awarded with an external reward. An extrinsically motivated goal is focused on an outcome or external gain such as money, fame, power or avoiding punishment.

In an ideal world, all learners would come equipped with their own intrinsic motivators that would drive them toward success. To help learners recognise this intrinsic motivation, it may be helpful for the learner to be guided to consider both the intrinsic or internal accolade, reward or goal that comes from within while contemplating the consequences of not completing the required task or goal.

By <u>not</u> looking at the extrinsic motivators in isolation or only at a learner's intrinsically constructed behaviour, both learner and facilitator may recognise that the intrinsic and extrinsic complement each other and use both to drive interest in new learning and teaching.

**Steve Ellwood** is a Senior Lecturer in the Bachelor of Culinary Arts programme at the Food Design Institute, Otago Polytechnic, New Zealand. As a chef and academic, Steve's primary focus is on culinary education and learner motivation. Steve has completed his Masters in Professional Practice focusing on pragmatic learning and teaching through human-centred design.

https://orcid.org/0000-0001-5580-811X

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# TERTIARY EDUCATION: MEETING STAKEHOLDER EXPECTATIONS IN A FAST-CHANGING WORLD

Kathiravelu Ganeshan and Farhad Mehdipour

## INTRODUCTION

This article is in three parts. In the first part, the first author documents operational details of a proven method of successfully meeting, and exceeding, the expectations of the stakeholders in the tertiary education sector. In addition, the first author discusses more efficient and effective ways of writing meaningful assessments, marking and moderating, than the ones in current use in many New Zealand tertiary institutions.

In the second part, the second author gives his perspective on the facilitation of learning at Otago Polytechnic Auckland International Campus (OPAIC).

In the third part, the authors, both now working at OPAIC, discuss how they are merging the best practices, and the results.

## PART 1: AUTHOR 1

I have been in academia for a very long time. I started my teaching career using chalk and talk, giving two-hour lectures, and writing and marking written theory examinations. As the years passed, I stepped through overhead projector transparencies, whiteboards, Kodak slide projectors, 3-gun CRT projectors, LCD projectors, and of course, PowerPoint slides and Prezi.

I have taught courses from Level 4 to Level 9. I have taught some courses that used Unit Standards. I had short stints in a community college, with my oldest learner in their nineties, and at secondary school, and coached people in badminton, bridge, sailing and swimming. The major part of my career in education, however, was as a lecturer in degree programmes at universities and polytechnics – lectures, tutorials, exams, projects, and theses supervision, marking and moderation.

More than ten years ago, I ditched Bloom's Taxonomy and stopped teaching. In most cases, I also found a way to avoid giving written theory exams, and I stopped using Turnitin. My learners shifted their focus from passing exams and grades, to authentic learning. All of them enjoyed learning; very few attempted to cheat; the ones who tried to cheat, got caught.

Staff in my department enjoyed being part of the team. They did not have to spend countless hours preparing slides, giving lectures, writing long assessments, marking scripts, preparing and submitting evidence for moderation, and moderating.

In the next few sections, I describe how we did this, why almost everyone enjoys this way of doing things, and why this produces socially-responsive, life-long learners capable of adapting to a fast-changing world. I also discuss why Turnitin is just a waste of time and money, and why the number of learners who tried to cheat was tiny, and how those who tried to cheat got caught.

### Content is Everywhere

We are living in an era in which anyone can learn almost anything as long as they have access to a laptop, tablet or a phone, and access to the internet. Many people, including myself, have learnt practical skills, like swimming and catching green waves, from the internet. The world's best universities, and others are continuing to add to the huge collection of online learning resources. Learners do not pay fees for this content.

### Letting go of Our Ego

Given that there is so much content out there, for free, and at the swipe of a finger, a mouse click or a simple voice command to Alexa, we need to consciously break the shackles that we put on ourselves and surrender our content-provider status. When we let go of our ego and "status", we open our minds to the idea that there is so much content out there, that we can all learn and continue to learn, to come up with new ideas and use these ideas to find better ways of doing things. Without limitation, learning becomes an enjoyable, meaningful activity.

### Recruiting New Learners by telling them that we do not give Lectures

In my role as a head of department, my first encounter with potential learners living overseas was often a Skype video interview. During these interviews, I always told them that in our department we gave no lectures nor had any written theory examinations. Their first reaction was always one of disbelief. I would spend a few minutes explaining to them what we did, and then I would carry my laptop around to the different classrooms to show what our current learners were doing. More often than not I would ask one or more current learners to speak with the prospective learners in their first language and I would leave the room: we had so much confidence that our current learners would sing the praises of, and recommend our way of facilitating learning, and the institution. We know they enjoyed being part of the institution, had fun learning, and were making progress at their own pace, in a highly collaborative environment – so, why would they tell a potential learner not to join the institution?

### Orientation 1: Institution Level

During the orientation at the institution level, I would say very little about my department and spend more time telling all learners about water safety and the dangers of New Zealand's west coast beaches, Hot Water Beach, and rip currents. Learners from other departments had even seen my YouTube swimming and windsurfing videos while they were still in their home countries including Russia and India, while trying to choose an institution in New Zealand.

### Orientation 2: Department Level

On their first day at college, new learners joined the previous cohort in the same classroom. A carousel system of intakes and deliberate planning of course offerings made it possible to have each cohort join the previous cohort in the same course – later on, you will see why this is so important.

Departmental orientation took place on the afternoon of the first day of the term and had three parts. The first part consisted of introductions and getting to know the sporting, cooking, baking, travel and other interests of learners and staff. The second part introduced the concepts of collaborative knowledge building, waka, and whānau. During the third part, new learners observed learners from the previous cohorts present and defend the projects they completed in the previous term. New learners were also encouraged to ask questions during the defence.

These presentations by learners from the previous cohort, who had only been in the programme for just eight weeks, and the quality of the projects and the confidence with which they presented and answered questions helped new learners see what they were expected to, and could achieve in just eight weeks.

## Striking the Iron While it is Hot

Now that the new learners know that New Zealand's west coast beaches have rip currents and it is good to know about rip currents, how to avoid getting caught in one and what to do if they are caught, and also know what the previous cohort was able to achieve in eight weeks, it is time to talk about how we learn without lectures. Remember, most of them already may know that we did things differently, with some even choosing the institution because of the difference (no boring lectures and no written theory exams), it is still a difficult concept to accept.

The new learners witnessing a happy, enthusiastic cohort of the previous group of learners presenting and defending significant projects, with many other learners walking in and out and taking part in the proceedings in a very friendly, constructive atmosphere made a huge difference.

We always finished the day reinforcing the ideas of waka, whānau, and collaborative knowledge building according to the mohiotanga and tukana learning values (Rangatahi Tū Rangatira, 2020).

## During the Term

In the institution, we had three staff with a combined experience of more than 100 years in industry and academia. We had four cohorts of learners in three physical classrooms. It was a one-year Level 7 programme. We had four nominal courses of 30 credits each and a capstone project worth 60 credits as key components of project-based learning.

Project-based learning which emerged at the beginning of the last century now acquires a new way of implementation with the advancement of digital technologies. Project-based learning enables students to acquire knowledge and develop core competences while learning curriculum content (Moura, 2019).

Two of the four 30-credit courses were offered alternatively. The other two were optional and any learner could opt to do one of these optional courses in any of the first two terms. Only learners with prior knowledge in a certain area could choose the other optional course. The capstone project was offered over two terms.

There were three rooms, three staff, and several options for learners to choose from. This would not have been possible if we followed the traditional lecture/tutorial model. We treated each learner as an individual; some had as many as 15 years' experience in the relevant industry, others were absolute beginners, with minimal English language proficiency and very little confidence. Some, especially those with prior experience had unique interests and wanted to extend their knowledge way beyond what the programme offered; others joined with the idea of just getting a qualification only as a pathway to a visa and residency.

## Assessments

This is where assessment design became critical. Assessment is not only about measuring what students know and don't know. Assessment is a tool to evaluate learners' subject based knowledge and skill as well as their transferrable skills such as critical thinking, problem-solving, team-work and communication skills (Nightingale et al., 1996). Since learners were given the option to choose courses other than those scheduled for the majority of students, in some terms we had more 'classes.' What we did was write assessments to cover the learning outcomes comprehensively, but generic enough that they can be used every term. The one thing we did religiously was that at the end of each term, we reviewed each assessment and tweaked these based on our experience, learner performance and feedback.

We did not assess the ability of learners to paraphrase what they learned. We assessed their understanding by looking at how they applied what they learned to solve one or more problems in traditional, or innovative ways. Paraphrasing a well written sentence or paragraph can be time consuming and, in most cases, less meaningful than the application of the knowledge to solve a problem.

## How did our Learners Learn?

One NZQA panel member asked, "If you don't teach, what do you do in the class?" They didn't believe my 25-minute-long answer until they met with our learners.

### *We created highly collaborative learning environments*

Learning always occurs and cannot be separated from a social context according to Vygotsky (1978). Consequently, to create a collaborative community of learning we promoted collaboration and eliminated competition (no Bell curves used to standardise grades); eliminated the stress of, and the mindless cramming before, written theory examinations; and introduced and reinforced the idea that when one helps another solve a problem they both learn.

### *We helped our learners become authentic life-long learners*

Authentic learning is defined as learning that is seamlessly integrated or implanted into meaningful "real-life" situations (Jonassen, Howland, Marra, & Crismond, 2008). To facilitate authentic learning, the roles of teachers vary from a resource provider and subject matter expert to learning facilitator, however a teacher can also act as a catalyst for change (Iucu & Marin, 2014). We achieved this by being life-long learners ourselves, often sharing what we learnt that day, that week, that year and even decades earlier, and what we were learning at that point in time and planning to learn in the future. We emphasised the importance of learning and becoming life-long learners; we shared our experiences as learners, learning things like stretching, Highland fling, yoga, meditation and Bhangra dance in class, and making learning an enjoyable activity.

### *We made the learning personalised and enjoyable*

As mentioned earlier, new learners got to see what learners in the previous cohort completed during their first semester. This gave them a good starting point to think about what they might want to do as a project in meeting the learning outcomes of their first course. They only did one course of 30 credits each term and many senior learners voluntarily mentored and helped new learners find their way in a new environment both in the classroom and often in the outside world. Learners gain better understanding of cultural values in Aotearoa / New Zealand including *tuakana/teina* where more seniors look after the junior *rangatahi*. During the first few weeks each learner negotiated a project with the faculty, a project that interested them, that met the learning outcomes, and was within their ability. As they did projects that they wanted to do, not some fictitious project the lecturer came up with and spent hours writing, the motivation to complete the project was high.

### *We supported them as and when required*

All learners were expected to, and did spend 20 hours per week in class. Timetabling was a breeze: Mondays and Tuesdays 8:00 a.m. to 5:00 p.m., Wednesdays 8:00 a.m. to 12:00 noon, totalling 20 hours per week. Note this met the NZQA/INZ requirements. The faculty did not sit in separate offices but spent most of every working day in the classrooms. Some learners also spent most days and/or several evenings in the classrooms with many others popping in and interacting with other learners and staff. The focus was on learning, caring, sharing, and supporting each other – *waka, whānau* and collaborative knowledge building.

## How did they Learn the Discipline-Specific Content?

We used a range of online resources. Each learner picked the best resources that suited their learning styles. As learners worked on their projects, they found the knowledge they needed to progress in their project and used that knowledge – a just-in-time method of learning. On Mondays, Tuesdays and Wednesdays at 10:00 a.m. and on Mondays and Tuesdays at 3:00 p.m. we did a short stretch session, a yoga session, a meditation session or a dance lesson. Straight after these sessions a few learners would update the faculty and the other learners on their learning, and the best resources they had found with others joining the conversation and building knowledge. We even encouraged learners to deliberately make "mistakes" and celebrated making mistakes and learning from these mistakes. Faculty made sure that the learners were making adequate progress towards meeting the learning outcomes.

### Why Most of our Learners did not try to Cheat

From the above it is clear that faculty, supported by continuing learners, consciously and deliberately created a trusting, caring whānau relationship with new learners. As learners see no one else was trying to cheat, and everyone enjoying the learning and making progress, they also wanted to make progress themselves. No learner from earlier cohorts whispered in their ears that it was easy to pass the course by copying some old assignments.

### How did we Catch the Few that Tried to Cheat?

We had 121 learners complete about 500 courses. Of these, we only had six instances of cheating. In every one of these six cases, the lack of progress of these learners was abundantly clear throughout the term, not only to the faculty but also to all other learners, especially during the mini presentations. Regardless, they were brazen enough to submit work that was not completed by them.

We video recorded all final presentations and defence. During the defence, it is not possible to answer questions on the work submitted unless they completed the submitted work themselves. What surprised us was that two of these learners had been tutors themselves, elsewhere. Both appealed and complained making several unfounded allegations. All we had to do was to provide, to the appeals and complaints committee, our response along with the recordings of the final presentations and defence, as evidence.

### Marking and Moderation

We made the tedious task of marking, the only task that many academics don't like doing, a pleasant experience for staff and a learning experience for all. We also finished marking in a very short time. Every term, graduating learners' grades were ready, on the Monday following the end of term, all were moderated, internally, and externally and, signed off.

Learners loved the whole process too. There was very little stress if any, no cramming, they each had a cool project to show prospective employers, and knew if they passed or failed on the same day of their final assessment.

### How did we do it?

Each learner did several mini presentations during the term. These presentations not only helped our mostly international learners gain confidence in listening, presenting, asking and answering questions, but also enabled faculty to monitor their progress and proactively mentor and guide them towards successful completion.

One week before the end of term, each learner did a trial presentation and defence. During these sessions, other learners and faculty gave feedback.

On the last day of the penultimate week of each term, learners submitted reports that included extensive individual reflections on what they learned during the term. Faculty had a week to read through, make notes and plan what they wanted to ask during the final defence.

Learners did their final presentations and defence to an audience consisting of all members of the faculty, one or more external moderators, industry sponsors, all other learners, interested staff from the rest of the institution, and friends and family. Even members of the public were welcomed.

At the end of each presentation and defence the examiners independently assigned grades to each learner, following the marking rubric and then compared the grades before assigning a final grade. At the end of the day, faculty and the external moderator deliberated and adjusted the grades if necessary, and the external moderators' comments recorded for making improvements the following term. All paperwork, including internal and external moderation was signed off, learner reports, supporting documents and video recordings archived.

Although the faculty did a lot of work on the day of final presentations and defence, the faculty and all learners looked forward to the day which had a different significance for the different groups: presenting learners excited to complete their courses or qualification; other learners to learn from these sessions; faculty, happy to see learners complete courses and qualifications; industry, to see their projects completed and able to identify suitable candidates and offer jobs; family and friends, able to witness learners complete; marketing staff able to see the learners whom they recruited complete and also to capture the stories and use to promote the programme to potential learners.

## PART 2: AUTHOR 2

### Do Things Differ at OPAIC?

As the second author of this paper and a head of department and principal lecturer, I would like to reflect on my experience at OPAIC and whether our current practice is different from the first author's experience. We are currently offering a bachelor's degree and a graduate diploma in information technology at OPAIC. The delivery is based on an experiential learning approach through which opportunities are created for learners to build upon skills as they progress through the programme. The experiential approach allows learners to respond to their needs by taking part in a variety of activities to reveal gaps in skills or understanding. With this approach, learners encounter new experiences, reflect on their observations, solve problems with proposing new ideas and apply their idea to a real-world problem (Kolb, 1984). We actively provide formative feedback to learners to have an informed progress in the development of specific skills. Every learner creates an individual evidence-based portfolio to enhance own employability outcomes (Otago Polytechnic, 2013).

We provide a multi-faceted and incremental approach at different stages of the learners' journey. An incremental learning framework takes learners from structured experience to self-determination. At the beginning, the aim is to recognise prior knowledge and experience and make best use of learners' prior learning and help learners create new knowledge.

In the midway points throughout the qualification, learners are provided with different opportunities to work on problem solving skills within a team including their teacher. This is to generate knowledge, reposition, and apply knowledge through collaborative and inquiry-based problem solving.

The last stage of the programme helps learners develop skills through project-based learning. They build competence to act in various real-life situations. Most Level 7 courses involve project-based learning through which learners find a real-life problem or a business gap and apply their knowledge and skills to build a solution in the context of the course subject. The majority of learners who carry out their final project are involved in real-world projects with industry and/or for industry. The project-based learning is personalised for learners to make the best use of and maintain their motivation and engagement, and to cope with the challenges throughout the project term. They directly work with industry partners / clients and improve their technical as well as soft skills through regular communications with the project clients.

Moodle, as a content management system, is effectively used for all subjects to supply course materials and, as a platform to keep the communication line with learners active. The delivery content including meaningful and engaging activities is created by lecturers with the aim of preparing learners to successfully complete their assignments and project work. Progressive self-assessment is a key part of our team's practice to maintain consistency, quality and performance across the delivery and development processes.

The first author joined OPAIC as a Senior Lecturer several months ago. We are now combining the best elements from our prior experiences to evolve a highly learner-centred mode of facilitating learning.

## PART 3: RESULTS

Merging the best practices from both author's experiences, we have some great results at OPAIC.

1. **Focus group summary Block 1, 2020** for the Programming 1 Course (Entire course delivered *face-to-face*):

| |
|---|
| They enjoy their classes and they think what they are learning is current. |
| They know what is expected of them and they are confident in what they have to do in order to be successful in their course. |
| They enjoy their lecturer's style of teaching and they say that he doesn't rush and he teaches to their needs and builds on what they already know. |
| They are happy with the feedback they get. He provides same day feedback and gives clear formative feedback which they can use to improve. |

2. **Focus group summary Block 2, 2020** for the Web 2 Programming Course (Entire course delivered *online*, due to COVID-19):

| |
|---|
| The lectures are going fine and they are used to the teaching style of the lecturer because they have had him before. |
| They find the checkpoints helpful and useful. |
| They like how all the materials are supplied online. |
| They understand their assessments and know what is expected of them. |
| They think the time spent online with the lecturer is a good amount. |
| They like that they have chances to discuss with each other and clarify with the lecturer. |

3. **In Block 3, 2020** we delivered a course titled, "Developing Flexible IT courses". The following is an unedited extract from work submitted by one of the students in this course.

> *"The type I decided to teach this course, I prefer with my two lecturers delivering style one is Kathiravelu Ganeshan and the other is Farhad Mehdipour. From Mr. Ganeshan, I learn how to be friendly with students and to do more practical things related to the course and to relate your course with daily life learnings, and from Mr. Farhad, I learn how to deliver your course through presentation and the activities after presentations. So, I would like to combine both learning styles for this course delivery."*

## CONCLUSION

Our methods evolved, over time, based on our own experiences. Our focus is on helping learners become independent critical thinkers, capable of positive contribution towards solving the problems facing the world. Our thinking was probably influenced by the thinking of Socrates (470-399 BC). Our methods may even be considered adaptations of the Socratic Method in our domain of activity, the fast-changing and exciting world of computing, robotics, artificial intelligence and machine learning.

We note that similar methods have been used by others. For example, the following is from a 1998 publication of the University of Chicago Law School (Garrett, 1998).

> *We could lecture students about legal reasoning, but those of us who use the Socratic Method prefer to foster as much active learning as possible. Just as a professor who immediately answers her students' questions loses an opportunity to help them discover the answers on their own, the professor who dispenses legal principles in classroom soliloquies will reduce students' opportunities to engage in independent critical thinking that can lead them to a deeper understanding.*

We believe that learning is not sitting some people in a lecture theatre and teaching them what the lecturer knows, copied, or even memorised without understanding. The world and industry need people capable of thinking way outside their bubbles, working with people from many disciplines, coming up with new ideas, and solving the many problems we face as humans.

We believe that if disciplines as varied as law and computing can use similar methods, these probably have uses in other disciplines too.

We are aware that several schools in New Zealand and around the world also use similar methods. These include Albany Senior High School and Ormiston College in Auckland, Agora School in Roermond, Netherlands and several Sri Aurobindo Schools in Pondicherry, India.

The home page of Sri Aurobindo International School has the following quote:

> *It is not for our family, it is not to secure a good position, it is not to earn money, it is not to obtain a diploma that we study. We study to learn, to know, to understand the world and for the sake of the joy that it gives us.*

Sri Aurobindo (1872-1950) laid the foundation for this line of thinking and started the "experiment" in education in the early nineties (Saini, 2017).

Another quite similar, probably even more fascinating, way of facilitating learning with no classes, no classrooms and no curriculum can be found at Agora School, Roermond, the Netherlands (Webb, 2019).

Although, we evolved our own ways of facilitating learning based on our own experiences, challenging contemporary practices such as the traditional lecture/tutorial model and ditching Bloom's Taxonomy (Ganeshan, 2019) and theory examinations, we note that similar ways of facilitation of learning have been in use for at least 2500 years.

We are hoping that in the near future we will find ways of doing something similar to what is being done at Agora School, with students given so much flexibility that there are no departments, disciplines and year-levels, only collaborative learning environments, face-to-face and online, in which students learn what they want to learn, in their own time, at their own pace, supported by teams of staff who themselves are life-long, passionate learners.

## AN OPEN INVITATION

Readers interested in finding out more are encouraged to drop in announced or unannounced into any of our classes. Those outside Auckland can Zoom into any of our classes, anytime – no need for prior notice. Video recordings of project presentations and defence are also available for viewing.

**Kathiravelu Ganeshan** has extensive experience teaching at universities, polytechnics and private colleges in Australia, New Zealand, Singapore, Sri Lanka, and the USA. He has more than sixty publications, including five books. He enjoys learning and helping others become life-long learners. "Learning should be fun, not a chore."

https://orcid.org/0000-0003-2620-4784

**Dr Farhad Mehdipour** has 20 years' academic and research and development experience in Japan and New Zealand. He has initiated and led several interdisciplinary research and development projects and has published around 100 peer-reviewed articles. He is currently a head of department (Information Technology) and a principal lecturer at Otago Polytechnic Auckland International Campus.

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# MOVE FOR MOVEMBER: REFLECTIONS ON EXPERIENTIAL LEARNING ACTIVITY FOR COLLABORATIVE LEARNING AND PEER LEARNING

Rajeev Chawla and Marianne Cherrington

## INTRODUCTION

Experiential learning is integral to the teaching philosophy at Otago Polytechnic Auckland International Campus (OPAIC), especially in the Postgraduate Diploma in Applied Management. Experiential Learning Theory (ELT) provides a holistic model of the learning process and a multilinear model of adult learning and development, both of which are consistent with how the individuals learn, grow and develop. Another reason the theory is called "experiential" is its intellectual origins in the experiential works of Dewey, Lewin, and Piaget. Taken together, Dewey's philosophical pragmatism, Lewin's social psychology, and Piaget's cognitive-developmental genetic epistemology form a unique perspective on learning and development (Kolb, 1984). With a focus on industry-relevant teaching, students deepen their knowledge and understanding of current management capabilities and issues in a range of applied settings using pragmatic strategies and reflective practice. To ensure the 'Leadership in Action' paper had real-life challenges in leadership capability, students experimented with strategies to carry out 'Movember' on campus in Term Five, 2019. This article outlines the teaching strategy and management theories that formed the basis for 'Leadership in Action.' By following the progress of students using feedback and reflection, ideas for practical classroom experiences are highlighted. A surprising collaboration took place for more profitable results and deep learning; it ensured the Movember experience was impactful for all participants, enlivening campus culture with a collegial spirit.

Movember is the "leading charity changing the face of men's health… and suicide prevention, transforming the way health services reach and support men" (Movember, 2020). Finding a charity event for students to get behind is not difficult; New Zealand has many causes with which students connect. Movember in the month of November, which nestled conveniently between Weeks 3 and 6 of an eight-week, final term at OPAIC, 2019. Was 'men's health' relevant to a group of young international students? Of course. We care for humanity, and victims of depression or suicide need awhi (embrace and support). With approval for the event, we began. We explored leadership in action.

## LEADERSHIP AND FOLLOWERSHIP

Why should we study leadership? Admittedly, we can not all be leaders. Consider how some famous leaders think. How many of those leaders are deceased? How many have questionable ethics? How many are inspirational? We need more leaders and leadership; like playing the violin, it is a skill that can be learned and honed.

It began on a Monday morning on campus with 23 postgraduate Applied Management students. Recognising several senior students, it was reassuring to know that the OPAIC teaching approach would be familiar; self-directed learning would be required for a campus Movember event. We used icebreakers with a 'lead and follow' nuance, then we discussed leadership, followership and 'how to create a movement' (Sivers, 2010).

The first assessment was a report on leadership style in specific situations and cultural contexts. We began with leadership theories (trait, behaviour, contingency and transformation) which led to a discussion on leadership styles (Manning & Curtis, 2014). Exercises helped visualise leadership style using radar charts. We looked at Change Theory in particular and shared stories about choosing to take the lead or deciding to be a follower and the situations and contexts that framed those decisions. We named famous leaders, and in a class of international students, some surprising examples were shared and various perspectives explored. Inevitably, ethics and motives are integral to these conversations, and inspiring personal stories were revealed.

The next class began with Greta Thunberg's Ted Talk (Thunberg, 2018) and we discussed issues for 2020. We looked back and reflected on Whina Cooper and her moko on hikoi to Wellington (Keane, 2017). We looked at the leadership equation, 'matching the qualities of leaders, characteristics of followers and the nature of the situation,' and we began to consider how to strengthen that three-legged stool in the context of Movember.

The students then decided which of four teams they would like to be part of based on their abilities and inclination. There was a Project Management Team, a Communications Team, an Operations Team and a Finance Team. Only three students chose finance, but that small solid group was confident and all teams were excited to begin. We began brainstorming. A student took notes on the whiteboard as ideas arose. With the Movember website on a screen, we searched for information as required and began to come up with a ranked list of possible ideas and fundraisers. We developed a calendar and a template for meetings; deadlines loomed! With just one week to go, students designed a poster to create some interest; we would launch the first Movember event with photos and fake moustaches. See Figure 1.

Figure 1: Movember Launch 2019, at Otago Polytechnic Auckland International Campus, with posters and fake moustaches.

## ACTION PLANS AND AGILITY

It was a struggle keeping the theory on track; everyone wanted to make a poster. We used the 'law of forced efficiency' with a deadline to refocus (Tracy, 2017). Students drafted more of their assessment before they could have a break. We returned and re-ranked our ideas from a financial perspective. We needed seed money. In the spirit of fundraising and communicating awareness, we decided to launch a '30-day, $30 Challenge': sponsors would get a Movember Calendar in exchange for pledging one dollar 'saved' each day. Leadership students 'buddied up' and spread the word around campus; we had over 30 pledges by the end of the class. As the initiaves progressed, even the shy students participated with high energy and enthusiasm. The initiative was not quite 'money in the bank', but we did get two 'paid in advance' to kick-start our venture. At the next class, students had their assessments well underway. Key leadership concepts had been introduced, and students were planning a 'Chai Chat' – $5 deals at break time and lunch so students could talk about Movember, or anything else. More posters were made; I enlisted our Content and Communications Specialist to take photos of our fake moustache launch at the start of November as students and staff arrived on campus (Otago Polytechnic Auckland International Campus, 2019). We had public relations for our website!

We learned and used 'Agile' methodologies. In Agile firms, small, diverse teams (with a 'scrum master' and 'product owner'), visualise tasks in columns of 'to-do', 'in progress' and 'done.' Typically, there is a 'daily stand-up' (to get on track), 'sprints' (where products are planned, developed and actioned) with 'reviews and retrospectives' (reviews and debriefs for consistency and quality) as in figure 2. An Agile Scrum Framework was a secure means of getting our four teams' initiatives and ideations communicated within each group. Working across teams helped mitigate the potential for silos (Kropp, Meier, & Biddle, 2016). We also used a buddy system to communicate these fast-evolving initiatives throughout the campus. In this way, perceived language issues were assuaged, and more confident students could model constructive approaches (Seki, 2016).

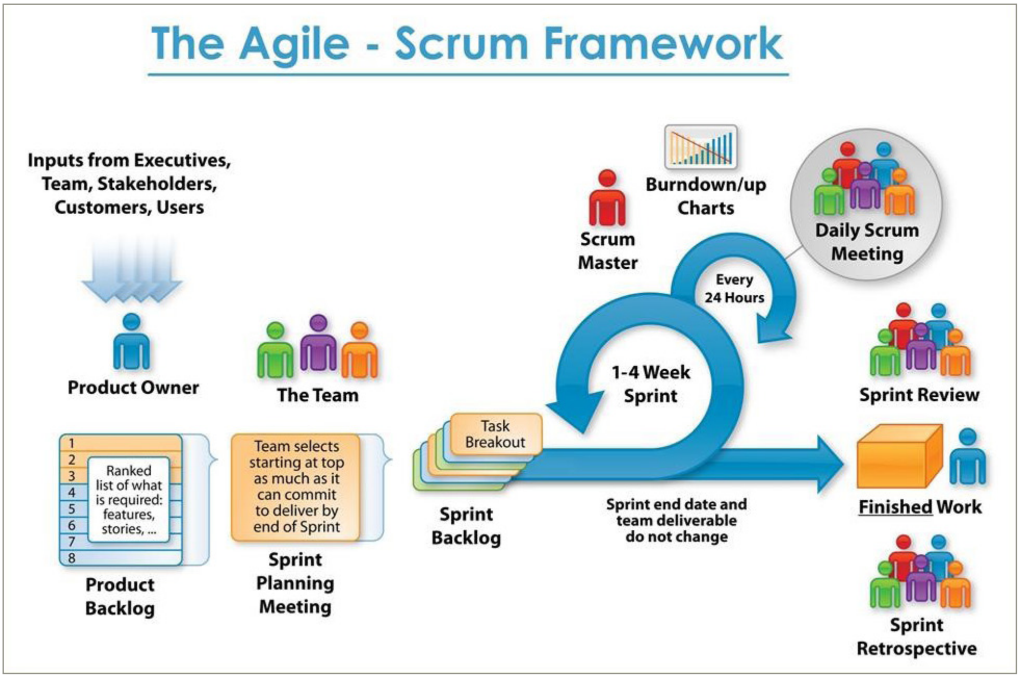


Figure 2. Agile Framework for iterative product and process improvement (Yelkar, 2017).

Traditional leadership does not lend itself to Agile organisations; however, self-organising, diverse teams do require leadership skills especially in the context of situationally dependent leadership and followership roles. In terms of contemporary industry capability demands, there is an overwhelming need for graduates to have wide-ranging problem-solving and decision-making competencies to surmount operational rigidity or dynamic contexts. By exploiting autonomous specialisations with team synergies, Agile frameworks overlay order, organisation and collective intelligence that can generate competitive advantage (Parker, Holesgrove, & Pathak, 2015).

Spark had 'gone Agile' in 2018 (Dann, 2018) and many employees who did not want to get agile left the organisation. Industry feedback via our Permanent External Advisory Committee (PEAC) required students to be work-ready so experiencing Agile methodologies became a key focus. As a means of project managing to meet deadlines with diverse groups, Agile made sense. It is visual, tactile, and aural; it pivots when things go awry. Everyone had a meaningful say in the process. We integrated some of these Agile principles by writing on whiteboards and using them on team meeting templates. We continually checked in to keep the students on track of their goals and objectives.

We finished the week with a plan that would be actioned on the following Monday morning. We would have 'Chai Chats' at morning break and lunchtime, with a slice of pizza and a beverage for $5. We finished the week with a visit from the Strategic Management class who added their viewpoints, comments and advice. The students' peers in the Strategic Management class were already spotting issues that we were too busy to notice.

As part of the initiative to entice peers and other stakeholders, the student teams organising Movember had been visiting all the classes on campus. They had been delivering a pitch for the event and seeking confirmation and commitment from fellow students. One of the classes they visited was Strategic Management. These students were exploring and analysing the concepts of 'Vision', 'Mission' and 'Internal Analysis' using the case study from Harvard Business School on Apple Inc. They were brainstorming, and the activity was an opportunity for them to apply the strategic management concepts in real-time for this event. One of the first things they noticed was a difference in understanding of the event among team members.

Additionally, the pitch was not inspiring and lacked a vision. After seeking permission from the lecturer of Leadership in Action, students from the Strategic Management class decided to share the concepts of Vision and Mission with the students of Leadership while connecting these to the characteristics of a leader. It was suggested to change the event sales pitch by changing the promotion of the event from 'what' the event is all about to 'why' the event is being organised for the charity. It was heartening to see the Strategic Management students embrace the event as their own and take responsibility for success by applying the principles of strategic management. As part of goal-setting, each of the four teams from the Leadership in Action class took on selling raffle tickets and mapped each team's success to an overall goal.

## JUST-IN-TIME LEARNING AND TEACHING

We should have been ready with Chai Chat for Monday but we had not all understood the idea that commitments must be followed through. We had a debrief and avoided accusations, but the truth was that the Chai Chat for morning break was not ready. Movember was here; we were to lead and take action. We used the Agile methodologies to regroup and re-energise. Repeating a fundraiser twice a day, every day of the week was exhausting, but we needed to focus any frustrations on the process of improvement using Agile methodologies.

We reaffirmed our commitments and were ready for Chai Chat at lunchtime. Enthusiasm and pizza won the day, and the day after, and the day after that. It turned out to be a lot of effort for small reward. There was a minor insurgence. It was a lesson in small business, nonetheless. The finance team counted the coins earned and tallied up that we had spent more than we had collected. We reflected, soul searched and learned lessons. We had lots of beverages for the next week; the Communications Team decided Chinese dumplings were required for the next week and they would make them! A new product iteration was to be trialled in week two, and product ownership moved from the operations team to the communications team.

On Monday, 'buddies' delivered Chai Chat invitations room by room, and the new menu was well received. The dumplings were delicious, but we ran out of stock. In our debrief, we felt triumphant, but a new kind of weariness had crept in; it was easier to bring pizza in than to make dumplings every day. It was decided that Chai Chat would only occur twice a week, on 'in class' days and that dumplings could be purchased and served with miso soup. We began to make a profit, mainly because beverages were already in stock, and valuable lessons were learned. The Strategic Management class asked if they could join the leadership class after the break to give us feedback from a customer and student perspective.

The Strategic Management students agreed that the new plan was working, but the issue of resource management had been a challenge for broader success. We all were running short of ideas. The Strategic Management team suggested evaluating whether the concept of value proposition could be applied here. At this stage, the internal environment for efficiency was working but not productive. It came down to the lack of resource of available money to spend to bring in stock. Two main points came out of the brainstorming sessions: (1) look at the external environment principles and see what else can be done; and (2) consider how to sell more raffle tickets to collect more money, and hence resources, to use in the activity for a profitable outcome. For the external environment, it was agreed that we could reach out to our corporate partners for sponsorship. This ensured partners had visibility of their products and services during the event and also had the opportunity to participate in the Movember charity event as part of their social responsibility commitments. The sales pitch also changed at this stage to make prospect participants see the value proposition by entering their tickets into a raffle where they could win products valued at more than the ticket. The marketing department committed to providing bottles of wine as their contribution to prizes for the raffle.

The feedback and brainstorming that resulted were exactly what was needed: open communication is what good leaders nurture and great businesses use to improve offerings. We rechecked our ranked list of ideas and decided it was an excellent time to reconnect with our challenge sponsors. We realised that raising funds was not our only goal. Awareness was vital, and we decided to connect and partner with the OPAIC mental health initiative. We joined their lunchtime sessions supplying biscuits and coffee at no charge. We decided that a more controlled Chai Chat twice a week would generate better support and that getting feedback and advice from the Strategic Management class was an excellent idea. We ruled out several other strategies but began to think about a sponsored auction in the final week as a low-cost, high revenue and fun campus event. For weekend homework, students would canvas businesses that they had associations with for items to auction.

## VISIONARY LEADERSHIP AND SERVANT LEADERSHIP

With two weeks left for the final event for Movember, we were still trying to agree on a financial target for our Movember project. Only three students had attempted to find auction sponsors so any meaningful financial goal seemed tenuous. It was all part of Leadership in Action experiential learning; we went back to our brainstorming list of ideas, and students began to put the fun back into Movember. With one big 'send-off' event, they could lift spirits by using fun and games to conclude Movember before term-end. Without spending money, competition and auction tickets could bring in funds, such as a school gala day. It would be 'pure profit.' We called this 'Move for Movember.' Finally, a financial goal of $2000 was set as the '30-day, $30 Challenge' pledges were yet to come.

Students were reinvigorated with their visionary goal and by the idea of achieving outcomes in a fun and beneficial way. Assessment Two required students to write a reflective essay, with a one-page team plan and a portfolio of evidence of their leadership actions as tasks, responsibilities and achievements. Their Agile teamwork was creating a record; personal leadership growth could be shown via a self-assessment matrix including:

- ethical participation in various team roles to inspire others and self to achieve desired outcomes
- evaluation of self-leadership action using reflective practices and feedback for leadership development.

'Chai Chat' was now part of our Monday and Wednesday routine. This new product iteration was almost directing itself. A new approach to sponsorship could be realised with existing industry partnership and a treasure trove began to materialise. Ticket sales were next on the list, and a real sense of excitement was building.

Strategic Management teams embraced the event as their own and were as committed to the success of the event as the Leadership in Action teams. To demonstrate the commitment, they immediately bought tickets worth $150. The Strateghic Management teams continued to visit 'Chai Chat' to enjoy a cup of tea with their participating teams, to evaluate success and participate in the event and to help out as much as they could. The success of the event depended on the realisation of the 'commitment' by the lecturers and students – it was strongly suggested the money from ticket sales be realised for efficiency and better resource management. Essential concepts that the teams learned were that although commitments may add to the top-line for the revenue in the accounts, it will not add to the bottom-line unless the sales are realised. Efforts were made to reach out to all the committed parties who had not paid, and this helped to collect the money efficiently.

Somehow the final event came together despite everything happening at once. Ticket sales for the auction were about half of what was anticipated but that just meant many people who bought a ticket realistically won a prize. We 'live-streamed' the auction with all its excitement. Students from across the campus were involved bringing in additional funds as they joined the Movember swan-song. It was a success.

## CONCLUSION

Polytechnics are about the application and qualification in applied management that should lift the capabilities of students beyond theoretical research. The experiential approach to learning and teaching at OPAIC also has a focus on industry-relevant education. By using Agile methodologies with strategic management feedback, students developed a more profound, real-life understanding of collaborative Leadership in Action, with all its challenges and commitments. This article outlined some of the specific teaching strategies and management theories that formed the basis for Leadership in Action while reflecting on issues encountered and overcome in a Movember challenge on campus. All of the students in this article achieved their learning outcomes. An even more significant number of students came away with an experience that was authentic and fun, and that developed a positive campus culture while supporting our greater community.

In the final weeks of term, students completed their assessment and collected '30-day, $30 Challenge' pledges. To their surprise, almost everyone paid up. The financial team was busy documenting the financial results; the final tally was $1032.40 donated to the Movember Foundation. It was less than our target but more than we thought we would raise. However, this project was not just about the total of the revenue generated. The experiential learning was invaluable, and we lived up to the intent of Leadership in Action. More courses could be explored, that have meaningful inter-connections between learning outcomes and real-life, authentic learning opportunities.

**Rajeev Chawla** is a Senior Lecturer in Applied Management and Hospitality Management at Otago Polytechnic Auckland International Campus. With an extensive business background in multi-cultural environments, he has a demonstrated record of achievement in business development, training talent and operations planning in corporate settings. He has spearheaded product initiatives, launched products and managed product lines in highly competitive environments.

https://orcid.org/0000-0003-2744-5723

**Marianne Cherrington** is a Senior Lecturer at Otago Polytechnic Auckland International Campus, studying Computer Science and Analytics. A lecturer in disruptive innovation, her research into machine learning feature selection algorithms applies in many fields, and produces interesting collaborations with international partners in many disciplines and sectors.

https://orcid.org/0000-0002-1240-2010

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Article

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# DEVELOPING AN EXPERIENTIAL LEARNING MODEL FOR STUDENTS OF ENGLISH FOR ACADEMIC PURPOSES TO USE IN THEIR FURTHER STUDIES – A REFLECTION

Vera Maria Nistor

## INTRODUCTION

As part of my Master of Professional Practice research project, I developed a learning model for my students of English for Academic Purposes. The main motivation behind this idea was that during my teaching career I have always wanted to find ways to get my students to become more independent and to help them get better learning habits, but I never developed anything original and personalised for my students.

My project's research question was "could a learning model or process help students learn better both in English and in other subjects?" I developed an approximate experiential learning model that I thought would be suitable for my English students. However, I did not want to just give my students this model, but instead, I wanted to guide them to find what was right for them and to make any adjustments as they thought necessary. The plan was to work alongside my students in English class, to collaborate on the development of a learning model that would work for them. Eventually, I was going to follow up with them once they had progressed to their main degree courses, in order to see if they were still using it after finishing their English course.

## LITERATURE REVIEW

To support my research on finding an experiential learning model for my English students, I looked at both literature from the field of English for Speakers of Other Languages (ESOL), which is inherently more inclined to be experiential due to its practical nature (Knutson, 2003), as well as more general literature on experiential learning cycles and their role in the field of education in general.

One of the most popular modern ESOL strategies and the strategy at the basis of my experiential learning model, is task-based learning (Willis, 1996). This theory is mainly based on the concept of 'learning by doing' and its normal structure is pre-task, task cycle and language focus. This means that the teacher introduces the topic so that students are familiar with it, then sets a communicative task which should ideally inspire the language focus that needs to be addressed (based on the teacher's monitoring), and then after the language focus is explicitly addressed with the students, the same task (or a similar one) is once again set. There are many supporters of this experiential theory, which seems to be a more efficient way to learn than the classic lecturing, as students can more clearly learn from their own mistakes and are offered a more "holistic experience" (Willis, 1996, p. 40).

A study by Macaro (2006) outlines some popular 'learner strategies' for learners of a second language. He refers to Oxford and Burry-Stock in showing that language learning seems to be more successful through "generally high strategy use" (Macaro, 2006, p. 320) and that motivation can also be affected positively by strategy use. This study focuses on specific ESOL strategies, such as strategies to learn new vocabulary, or to become a better speaker or writer, but metacognition is an idea that can be applied further to any similar practical subject. Archibald et al. believe that metacognitive learning strategies "are seen as the gateway to successful integration of language learners into mainstream classrooms" (2008). This further distances modern learning from traditional learning, in that it is no longer believed it is enough for students to just automatically learn all the information they receive in class without asking questions and without delving deeper into the reasons why this is important for their knowledge or life.

Probably one of the most well-known experiential learning depictions in modern education is Kolb's (1984) learning cycle of experiential learning (based on Lewin's experiential learning model). It consists of a concrete experience, followed by reflective observation and abstract conceptualisation, and finally active experimentation which puts everything into practice and extends the purpose of the experience into other contexts.

However, when it comes to learning from experience, the model that has inspired most other authors on this topic is Dewey's 'theory of experiential continuum' (1938). At its core, this theory shows that students learn from previous experiences, which then in turn inform present and future experiences: "the experiential continuum" based on the "category of continuity" (Dewey, 1938, p. 33). In his book *Experience and Education*, he emphasises the need for a purpose to each experience in order to enable an actual learning process in students through organised activities. He names the following as the formation of purpose in the context of learning through experience: observation of surrounding conditions, knowledge of what has happened in similar situations in the past (your experience or others'), and judgement which puts together what is observed and what is recalled to see what they signify.

'Reflective practice' (Moon, 2004) has also been a part of any ESOL class in order to accomplish the understanding of how language is being retained and improved. However, reflection is a useful tool in any subject, following any task. "It will usually involve the sorting out of bits of knowledge, ideas, feelings, awareness of how you are behaving and so on" (Moon, 2004, p. 187), this whole process of re-organising and clarifying your thoughts Moon refers to as "cognitive housekeeping" (2004, p. 188). Reflection is arguably one of the most important components of an experiential learning cycle, in that without reflection learning from experience would not be possible.

At the heart of all of these learner-centred methodologies lies the concept of 'facilitation', meaning the teacher acts more as a facilitator or 'guide' (Richards, 1998) than an actual 'teacher' in the classic sense of the word. Their main responsibility is to "create lessons that enhance communication and cooperation between learners" (Richards, 1998, p. 52), in order to increase their autonomy. Heim (2012) also negatively refers to the teacher as an 'expert', who represents a figure of absolute authority for the students, and somebody students might even fear, rather than feeling comfortable cooperating with. She points out that there is a crucial difference between "having expert knowledge" and "using that expert knowledge to dominate a group" (Heim, 2012).

Going hand in hand with the idea that the teacher needs to take a step back and take on the role of facilitator for a class to become truly learner-centred, a higher degree of autonomy should also be encouraged in the students. This idea of student autonomy has been recently discussed in the context of a psychological theory called "self-determination theory" (Ryan & Deci, 2017), which is closely linked to student motivation, and namely to the intrinsic motivation that students have and that involuntarily influences each one of their choices when it comes to how they learn. Another aspect linked to student autonomy is the idea of a teacher co-creating class materials, and even assessments together with the students. Rogers, Lyon and Tausch (2014) have written about "person-centred freedom" and supported the idea that each student should be more actively involved in the processes regarding their own learning.

## RESEARCH METHODS

Overall, I used a pragmatic research methodology, which is, as described by Patton (2002), an eclectic approach that uses multiple research methods. It is less traditional or restrictive, and relies on abductive reasoning in that it is believed different methods can all be used as long as they are appropriate for the analytical purposes. The reason why this particular qualitative methodology was the most suited for my project was the interactive nature of pragmatic research, as well as the flexibility in approaches (Patton, 2002).

The overarching research method I used for the entire project was action research (Lewin, 1946), which is made up of different cycles of planning something, trying out that activity, and then evaluating the results, in order to learn from this and inform subsequent trial cycles. The project consisted of a total of three cycles and at the end of each cycle the data was analysed and lessons were learned from it in order to inform the next cycle, of research. In Cycle 1, I interviewed past English students, in order to gauge how responsive and prepared the students were to engage with an experiential learning model, as well as to rethink my approach in terms of how to present this model to them. In Cycles 2 and 3, I worked with and surveyed current students, in order to try and get them to develop this experiential learning model.

Due to the pragmatic nature of the research, a triangulation approach was used (Long, 2005; Patton, 2002) to increase the validity of the qualitative research. Long (2005) recommends using both multiple sources of data (in my case three different cycles working with three different groups of students) and multiple methods (in my case qualitative surveys, focus groups, as well as informal observations).

For the analysis of the data gathered from both the qualitative surveys (written responses to open-ended questions) and the focus groups (oral responses), thematic analysis seemed like the most suitable process; in other words, finding themes in large chunks of data and summarising them across participants (Patton, 2002).

Regarding ethics, all data was collected using ethical methods strictly following the ethics approval guidelines for this research project. My current students were always surveyed anonymously, and only former students were allowed to participate in focus groups.

## RESULTS

### Cycle 1

Cycle 1 was a retrospective action, where I only worked with former English students. I conducted focus groups and an online survey with them in order to get a general idea of whether they had found anything particularly useful from what they had learned on their English course, and if they had used any of these skills or methods in their main degree courses as well. I wanted to see if the fact that they did this course based on ESOL strategies helped them learn better after they finished it, and if they took something practical away from this. This information was then going to be used to plan Cycles 2 and 3 with my current students.

The main finding from Cycle 1 was that students generally found the English course very useful and appreciated the practical nature of the course. They also remembered some particular skills that they learned and which proved very useful in their main degree courses as well, such as presentation skills and academic writing. From their answers, it was clear that students were only able to make some temporary connections between isolated tasks and activities on the course, but they could not articulate any of these learning strategies they were using and this impacted on the way they were applying them later. As a teacher, I understood that if people do not understand exactly why and how they are doing something, they will probably not get any quality lifelong learning habits out of it.

### Cycle 2

Following the lessons learned from Cycle 1, in Cycle 2 I introduced my current group of students to different learning strategies from the very beginning of their English course. This initiative was also aided by the curriculum for our course and by our textbook, which had a focus on metacognition and learning strategies. Throughout the course, the students had many opportunities to reflect on how they were learning and to trial different methods themselves, to see if they were working for them. In Cycle 2, I tried to guide my students as much as possible to develop a model of learning themselves, after knowing better and more explicitly about these ESOL learning strategies. I was hoping that by the end of Cycle 2 they would be able to choose their preferred way of learning and create something similar to the approximate learning model I had developed.

In an analysis of their responses from the end-of-course survey, they showed awareness and interest in separate learning strategies, but were not able to connect them and develop a learning model. I asked myself why the outcome was not what I had expected and I realised it might have been because my students were not from the field of education. It seems that it was too difficult for them to see the big picture all by themselves and connect everything. Their knowledge only remained at isolated tasks, isolated activities, which they applied in their learning, but they could not develop something overarching that could be applied to all these tasks consistently, in every learning situation. As an advocate of student autonomy, I wanted to give them more independence, but they would have benefitted from more input and guidance from me.

### Cycle 3

After reconsidering the whole approach, I devised a new plan for Cycle 3. I took the learning model I had developed for my students and simplified it for them. I started again by making them aware of different learning strategies, and then I elicited the learning model from them, trying to obtain a model as close as possible to mine. Even if the model had been initially developed by me, I wanted them to have the feeling that they were part of the development process. I elicited the different steps from them while we were trying out a class activity where this learning model was being applied. We eventually came up with a simplified version of the ESOL-based experiential learning model together (Figure 1).

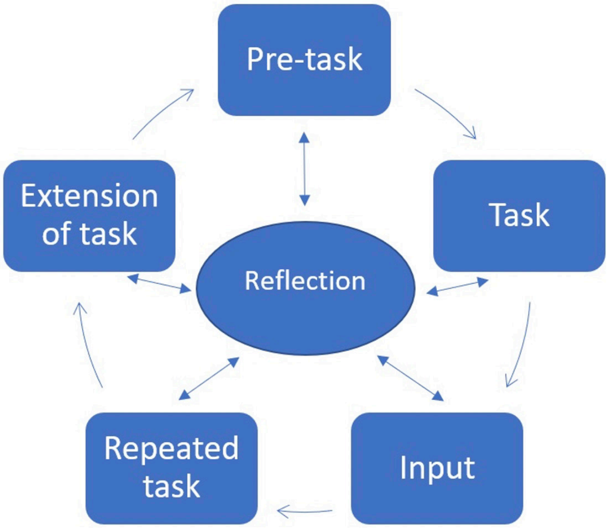


Figure 1. Simplified experiential learning model

The big difference in Cycle 3 was that they could see the model explicitly and follow it by applying it to different tasks, such as doing oral presentations and writing reports. Cycle 3 had a more complex structure, consisting of three different stages. Stage 1 was done with my current group of students and ended with an online anonymous survey. The responses from the students regarding the use of this model were very positive—they not only understood the model very well, but they used it successfully both in their English class, as well as in their daily life at work or in their free time. They also stated that they would definitely keep using it in future courses, as they found it very helpful. Stage 2 consisted of two focus groups with the same group of students, as I was no longer their teacher and another lecturer had taken over their English class for the second half of the course. Stage 3 consisted of one more focus group with the same group, once they had already been on their main degree course for a few weeks. Stages 2 and 3 were done in order to investigate the consistency with which they were still using the learning model and they confirmed that they were still actively using it, giving many interesting examples of activities where it was particularly useful for them. All throughout Cycle 3 I encouraged my students to try out the learning model and to personalise it to better suit their learning needs, but even after having started their main degree course they still did not wish to change it and were happy to use it the way it was.

## DISCUSSION

Cycles 1 and 2 were very useful in terms of my action research, as they provided a lot of inspiration and I learned from past mistakes. This helped provide a better structure for Cycle 3, and gave the students the most of the opportunity to develop their present and future learning model.

In Cycle 3, the students were able to experience this learning model in three different stages, both with active teacher support, as well as more autonomously in Stages 2 and 3. They got to exercise student autonomy (Rogers et al., 2014; Ryan & Deci, 2017) and understand that they can also learn without constant input from the teacher. They got more familiar with the idea of 'facilitation' (Heim, 2012; Knutson, 2003; Richards & Rodgers, 1986) during the Stage 1 class time, as I tried to step away and let them make sense of these concepts and steps by themselves, even when we were in the actively taught phase of the learning model. In general, the learners got gradually more used to this "autonomy-supportive teaching" as opposed to the "controlling instructional behaviours" of more traditional teachers (Reeve, 2016, p. 131) and understood the benefits this type of flexible and inclusive class facilitation had for their motivation and learning. From the second focus group, it became more apparent that working in groups or teams during class time had helped them further engage with this learning model autonomously. They confirmed that following Cycle 3: Stage 2 of the autonomous practice with the learning model, they could use it autonomously and together with their peers during English class activities/tasks. They also believed that they could continue to use it in their future degree programmes the same way, even if their new teacher was not going to be using this model or actively reminding them of it.

In their responses to the qualitative surveys and focus groups, the students showed they not only understood the learning model, but also the importance of being aware of it and using it, or what Illeris refers to as the "understanding of learning", which is at the core of any learning model (2009). This further supports the idea that metacognition is highly appreciated by students and that it gives them an extra level of control over their own learning (Archibald et al., 2008; Macaro, 2006; Osterman, 1998). In their answers, they not only quoted examples of how we used the model in class, but were also able to give examples of how they used the model autonomously outside of class time, such as at work, in their pastimes, or even during their main degree course. This supports Dewey's belief and proves the increasing popularity of the active "inquiry-based approach to teaching and learning that is defined by agency, a questioning attitude, experiential engagement with resources and materials, discovery, integration, and an overall desire to continue learning" (Makaiau, Ragoonaden, Wang, & Leng, 2018, p. 97).

## CONCLUSION

Even though it was an English language learning model at its core, the students noticed that this model was not limited to this subject and they understood the universality of the learning process. The students also realised by themselves that they were able to use this learning model independently, and that this would be very useful for them in a world where the focus in education is currently on self-development and self-study. They understood the need to develop their own learning habits, which do not need to be teacher-imposed or even teacher-led, and it seems that this experiential learning model has become one of their lifelong learning habits. Most importantly, this project showed that students are willing to delve deeper into metacognition and being in control of their own learning by exercising student autonomy and understanding these processes more explicitly.

My intention was to create a culture of learner-centred practice that any lecturer can use at tertiary level, irrespective of the subject they are teaching, based on the principles of 'ako' (to teach and to learn simultaneously) (Cameron, Berger, Lovett, & Baker, 2007). This means considering students not just as students but rather as partners that are included in the decision-making process by facilitating experiences that are "context rich, relevant and appropriate, learner centred" (Edwards, 2013). I would like to continue to give my students the opportunity and the tools to contribute to the development of a learning model that works for them and to support them in using it consistently, all along their learning journey. Ideally, this would inspire other tertiary educators to enable their own students to continually enhance their learning models in a student-centred environment.

**Vera Maria Nistor** is a Lecturer with the English Department at Otago Polytechnic Auckland International Campus, currently teaching Academic English to international students pursuing postgraduate studies in New Zealand. Her research interests include interdisciplinary research on experiential learning and learner-centred teaching practice, and their applicability across different academic subjects.

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# ANALYTICS FOR MANAGERS

Barnaby Pace and Marianne Cherrington

## INTRODUCTION

The aim of this paper, Analytics for Managers, is to provide the skills needed to evaluate critically data for decision-making within applied management. Learners obtain, relate, analyse and visualise data in managerial decision-making contexts, with the help of advanced data analytics techniques. For graduates with a Master of Applied Management, it is particularly important to gain confidence when addressing issues in contemporary business contexts and when justifying analyses in order to provide recommendations for risk management, predicting change, or personalisation. Here, we articulate some of the concepts underpinning analytics by addressing data-driven decision-making opportunities alongside key issues in the transforming world of work. Lessons learned from a post-COVID hybrid delivery of the paper in June and July, 2020, will exemplify some of the larger issues in the work-place such as the role of technology, productivity and up-skilling of the workforce.

## RISK VERSUS UNCERTAINTY

Uncertainty has marked the first half of 2020 and the World Health Organisation (WHO) warns that globally, new COVID-19 cases are accelerating out of control (Tan, 2020). It has been a dirty data deluge, because from an analytics and modelling perspective, the probabilities used in assessing risk are unreliable and normal scientific research regimes have gone 'absent without leave' (Cherrington, Dunn, & Airehrour, in press).

The world is going through dramatic changes before our eyes and the pace of change is gathering speed. In lockdown, we had a moment to remind ourselves of other socio-economic realities, including the need, or chance, to re-imagine a visionary path for the future of the planet, especially through the choices we make, now. It is more than work-life-balance; we are being forced to reimagine how we work, why we work and our purpose.

For those of us who are grateful to be still employed, we must wonder what will be. For computer science specialists, the future holds endless possibility; artificial intelligence (AI) and machine learning (ML) are actually creating more jobs than they are taking away (a-connect, n.d.). The question is how will we manage that transition? Our workplaces must be creative, agile and visionary; workers must problem solve and navigate issues decisively.

Today's graduates face an open talent economy. The new environment requires flexibility and adaptability (Govindarajan & Bernstein, 2020). At Otago Polytechnic Auckland International Campus (OPAIC) we use an experiential style in an open plan environment. We are lean and adaptable. We can model this changing world of work, in which problem solving, based on informed realities, leads to better, holistic decisions (Otago Polytechnic, 2020).

## CHANGING THE WAY IN WHICH WE WORK

If a good model is one that works in practice, traditional models of change are too cumbersome. Two-thirds of change success factors depend on talent (CEB Global, 2016); as the cost of good talent escalates, it makes good sense/cents to focus on people and culture to leverage success in the dynamic world in which we live. Furthermore, three out of four CEOs expect change to be implemented more quickly (CEB Global, 2016). To enable such agility, data-driven decisions are required to understand trends, variation and singularities. The average organisation has undergone five major operational changes in the past three years and three-quarters of firms are expecting more complex change initiatives (see Figure 1). Think of the waste: research shows only one third of those initiatives will succeed, and such upheaval takes its toll on organisations (CEB Global, 2016).

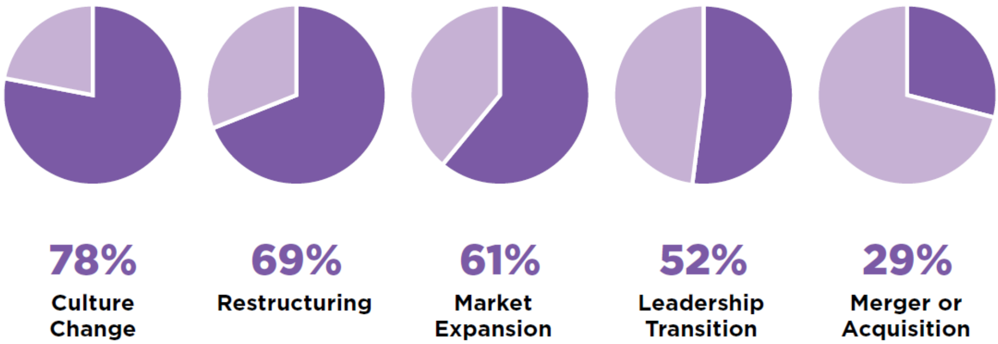


Figure 1. Increasing complexity of organisational change (CEB Global, 2016)

But data can quickly become obsolete. In December 2019, Australia was on fire during their 'Black Summer' and New Zealand was experiencing its 35th straight month of above average temperatures (Morton, 2019). Mother Nature was proving to be a force to be reckoned with; climate change risk and the new Zero Carbon Act were realities that boards of directors were having to contend with (Institute of Directors New Zealand, 2019). Then the new decade arrived: Coronavirus turned the world upside-down. We were fighting for our lives, our jobs and a sense of normalcy.

With Level-four lockdown looming in New Zealand, the shift to online delivery was implemented within days. We survived this crisis well. But do we have employees that are truly capable of rapid change? Are we developing work-ready graduates for these new conditions?

Some of the biggest barriers to change are not skills-based, or even linked with sentiment; empowering perspectives come from an external, future focus (Figure 2). It is also transformational to contemplate that "how people perform correlates to how situations occur to them," so emotion can get us in motion (Zaffron & Logan, 2011). Good change management is invigorating and good business.  Today, data analytics track and motivate empowering sentiment (Papacharissi, 2015). Human computer interaction is part of daily life; learning and capability development intertwine (Otago Polytechnic, n.d.).

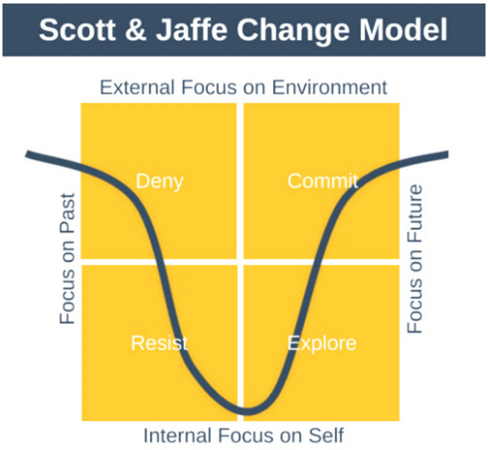


Figure. 2. The Change Focus Continuum
(Scott & Jaffe, 2004)

## TECHNOLOGICAL INNOVATION

We think of innovation as a technology that is software or hardware based. But for most organisations, process improvement is the backbone of all critical developments, where information technology (IT) acts as a driver or tool for business progress. From quality improvement to Total Quality Management and six-sigma, to deep learning, data-driven approaches and methodologies – these have been the back-bone of informed decision-making in leading organisations (Provost & Fawcett, 2013). This is how Analytics for Managers differs from analytics papers in an IT qualification. Managers need to speak the language of IT; they must frame problems in analytical contexts to activate data-driven decisions.

Today, the volume, velocity and value of data is almost unimaginable. 'Black box' techniques exist, delivering insights from which decisions with sweeping consequences are made (Cherrington et al., 2019a, 2019b). We cannot delegate analytics to data scientists, there are not enough even in the pipeline and so too for cybersecurity experts. We deliberate and debate teaching online; however, digital teachers are already taking over (Soul Machines, 2018). Polytechnics are ripe for technological disruption and there is a burning need for learning and teaching to confront the realities of this digital future and the digital world of work already transforming organisations. Digital natives are entering the workforce, so lecturers must creatively navigate complexity to add value (Wang, 2020); qualifications need flexibility, affordability plus creative, technological communications (Govindarajan & Bernstein, 2020).

## LEARNING ANALYTICS

Analytics turns data into knowledge, resulting from the systematic application of statistics (Figure 3). The study of analytics typically covers computer science data modelling and pre-processing, data driven techniques, and algorithmic techniques. The focus of Analytics for Managers additionally frames problems and uses selected techniques to create data-driven decisions leading to business strategy, with justifications. The basic analytic techniques are not new, but processing power and computational efficiencies as well as analytic platforms allow data to be manipulated in countless ways. Students build their confidence when using business data.

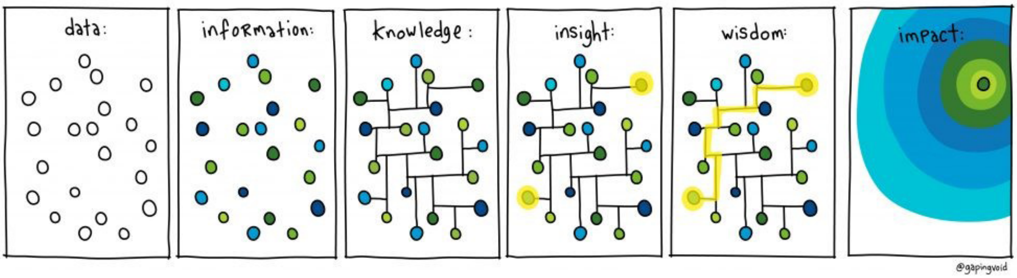


Figure 3. A creative view of 'D-I-K-W' progression, with added insight and impact (gapingvoid.com)

"Learning is the heart of intelligence" (Cherrington et al., 2019c): machine learning uses advanced analytic techniques like clustering (unsupervised allocation of observations into subsets) and classification (assigning observations into known categories from a training data set) to better identify features of big data (Cherrington et al., 2019c). By understanding differences between these two similar techniques, students can then explore pattern and sequence analysis to better understand 'recommender systems' that personalise offerings when online.

An understanding of these commonplace customer service applications can serve as a basis to appreciate more advanced AI algorithms, robotics, and even digital humans used by industry (Cherrington et al., 2019d, 2019 e). These technologies not only use data to train their algorithms, they gather data with every interaction, as do online and social media sites that firms use in business management. The platforms used in business are real-time processing machines that tech-savvy managers can mine to inform judgements and strategy. First, however, managers need to talk with technology specialists in order to frame problems to attain solutions.

This is the fundamental way in which Analytics for Managers is different from Data Analytics studies in a computer science qualification. For IT students, multifaceted software is used to experiment with various analytic techniques for data reporting, whereas management students need to use simplified techniques that exemplify analysis capabilities. In that way, confidence is developed. The ability to connect issues requiring technological inquiry is fostered by framing organisational issues in the context of data analysis. The uncertainty and necessity of pragmatic decision-making is the ultimate outcome, but nuance is addressed by illuminating how these techniques proliferate in business. The social and cultural issues that envelop data mining are mentioned but are too mammoth to tackle in a two-month paper (Cherrington, 2019).

## FRAMING PROBLEMS FOR DECISION-MAKING

For all the advancement we have made within the sphere of data science and the application of advanced mathematical techniques, Analytics for Managers starts off very simply with how to identify and frame a business/management problem. This is a basic skill all managers should poses, and yet experience would suggest otherwise. Too often within the business world problems and issues are incorrectly identified, which leads to solutions and decisions which create further problems rather than appropriately addressing the true problem. So the course begins by teaching students how to make data-driven decisions for successfully and productive outcomes.

In total, ten different approaches to how one might frame a problem were delivered to students with examples of how each might present themselves within the management context but not to exclude other areas in which students might find future employment. This set of ten approaches was then distilled down to three methods, moving from a particular approach, dependant on the personal style of the manager, to a series of steps. Anecdotal feedback received from students suggested more comfort with the three methods as concrete steps to follow (not unlike a cookbook), rather than the more subjective natural of ten 'personal managerial style' approaches provided.

What followed on from discussions about the steps required to (1) contextualize the problem, (2) justify the business need, (3) understand the customer or stakeholder, and (4) find the opportunity, was how to effectively and efficiently write problem statements which framed the problem appropriately. Towards the end, students were posed with a series of questions that was to guide them to write concise problem statements (Pace, 2013, 2015a) which would include all the necessary information for a data-driven solution to be obtained. It was this task beyond any other that was the focus of their first assessment. Weighted at 30 per cent of their final mark, the importance of this skill within Analytics for Managers is evident.

## VISUALISING BIG DATA

The visualisation of big data, especially with high dimension, is problematic. We can only 'see' in three dimensions; when data is 'collapsed' in two or three dimensions, there can be hidden yet important insights that may be missed or that lead to misinformed conclusions. Yet in many business contexts, these simplified techniques for viewing quantitative and qualitative data are commonplace; results without understanding data are pointless. As with the simple start to Analytics for Managers outlined above, the same approach was taken with data visualisation: get the basics right.

You may well question why a postgraduate course is covering the basics of data visualisation. Surely you are thinking to yourself everyone who completed high school can put a graph together correctly? Sadly, this is not the case. Understanding the basics of graph (or table) construction forms the foundation on which more complexity in data visualisation can be built. Using tutorials to support the lectures, students were guided through correct construction of bar graphs and histograms, pie charts and scatter plots. This included the appropriate use of axis labels, keys, and titles to ensure their presentation in a fully readable format. Predominately Microsoft Excel was used for this visualisation as this is the foremost software used by managers in the workplace. Examples (Pace, 2015b) were also provided using the R statistical programme to offer alternative software packages for those wishing to explore data science further.

With the basics in hand, further lessons expanded the data visualisation toolkit available for students to use and explore. This involved tutorial sessions on the creation of clustering graphs and classification tables through the use of various in-built functions within Microsoft Excel. This not only offered students additional skills to add to their analytics toolkits but further demonstrated some of the computational features in Microsoft Excel that users are unaware of. Basics features such as the 'COUNTIF' and 'VLOOKUP' functions through to installing 'add-ins' such as 'Data Analysis' and 'Solver.' To demonstrate the power of Microsoft Excel to perform data visualisation, 3-D flood and river modelling (Pace & Whittaker, 2017) was demonstrated to show how such analysis was used in urban and city planning.

## ADVANCED ANALYTICS APPLICATIONS

By the end of the first assessment in Analytics for Managers, students grasped the importance of framing business problems using descriptive statistics analysed with software. At this point, 'lecture' and 'tutorial' delivery roles were swapped in the co-teaching role. From an agile business perspective, this is 'just another day at the office', but a confluence of events created apprehension for students. The lecturer they had known from campus was now changing roles. Also, the Auckland campus was coming 'offline' and back in the classroom; this was not entirely possible for this cohort as several students were unable to procure flights back to New Zealand due to border restrictions. There was also a step change in the level of difficulty in the analysis techniques; basic statistics now took a machine learning twist, as well as a key focus, in the next weighty assessment. Finding data sets appropriate to the task (even when open data websites were provided) seemed to be a reason for the trepidation some students felt. This is a common emotion. Data analysts are trained to communicate difficult quantitative subject matter using language that is relevant to users; this is all part of the learning process that is developed in this paper.

Semantics and personalisation are the way of the future; it is part of the Analytics for Managers discourse and also a balance that must be managed in the context of teaching and learning. To assuage worries felt by some students, it was decided that a hybrid delivery of the paper would continue, with both lecturers available online at the same time. As well, on-campus tutorial sessions were added three times per week. Interestingly, only a few students availed themselves of this opportunity, but the few who did advanced their understanding markedly by sharing their data insights.

## USING ANALYTICS IN A MANAGERIAL CONTEXT

From regression, cluster and categorisation analyses, students are then shown techniques commonly used by businesses with an online presence. Frequent pattern and sequence analysis by means of market basket examples were used. It is easy to imagine that, for every customer buying groceries, the buying patterns and associations within the big data generated at checkout provide an opportunity for a staggering number of customer insights that would affect the entire operations of the supermarket and its brand. We give that data away freely, especially with every swipe of our loyalty card. This is an everyday example of data analytics.

A simple illustration of a priori probability can be conveyed using Bayes' Rule, as per secondary school statistics class. With a humble 2x2 table, often used in business, probability analysis can be explored by all students as well as visualised using a tree diagram. Interestingly, tree diagrams lend themselves to problem solving and decision-making. For organisations with diverse teams, managers who master these simple yet powerful tools can gain support for data-driven decisions and can convey change as circumstances progress strategically.

Recommender systems are also discussed. When we purchase online, it is now common to have product or service recommendation alerts. It has become an expectation and a mark of excellent customer service, yet it is also a data mining, sales and marketing strategy which affects operational decisions and supply chains. In fact, time is our most precious resource; these recommender systems help us navigate personal decisions daily.

Sentiment analysis has evolved markedly over the last decade. Organisations and the internet are awash with text; emotion can be gleaned from text to ascertain mood, opinion, and trends. This can be analysed to predict and manipulate situations, to pivot them in predetermined ways. Communications can be duly tailored. It should be noted here, that as lecturers, we do discuss privacy and ethical issues, yet the need for social science specialists has never been more imperative. This should be considered as part of diversity planning within firms.

## VISIONARY STRATEGIC LEADERSHIP

New Zealand has long been under-performing in productivity metrics (Earle, 2010). This should not be the case. New Zealanders are known for their 'can-do' spirit, and the means to exploit a new digital future already exists. The COVID-19 lockdown was a "crisis-driven opportunity to reset people's minds about what technology really does enable" (Parker, 2020). This should not be taken lightly; it is a pathway for growth using a bigger platform. The 'tyranny of distance' is an opportunity to work as the world sleeps to improve productivity and to create high-wage employment. This is the real aim behind studying Analytics for Managers; focussed, tech-savvy firms with a digitised value chain will not only survive but thrive in a post-Covid era, even while we await a vaccine.

The best students will not only solve business issues with data analytics, they will use their insights to make an impact. The recommendations that students create will have analytic engineering perspective with managerial power. This will be delivered as a 'digital customer strategy' for a data analytic focus in tandem with a business strategy that works alongside organisational processes. It will be a process or flowchart visualisation that will integrate the recommendations students make for the industry or organisational issues they have sought to resolve. It will be a learning and development exercise for some, and an insightful amalgamation of knowledge that students bring with them through their studies and experiences. This is difficult to bring to life online and using chatrooms, but for those students who did use 'study buddies' or share in lively on campus discussions, the sharing of knowledge enriched their analyses and elevated the tone of their reports. Maybe that is why firms exist – "they can develop intellectual resources … from company-specific knowledge to specialised skills that cannot be developed by individuals acting on their own or working through the market" (The Economist, 2013).

## CONCLUSIONS

Analytics for Managers is not an IT paper; it is a management paper that helps graduates better understand data-driven problem solving that leads to more specific and personalised, data-driven decisions. It is a step into the future, where agile firms value talent and diversity for the insight and impact graduates can deliver from a humble D-I-K-W paradigm (Figure 3). Managers manage people, a firm's most valuable and malleable asset. This requires an understanding of change management and for more visionary leadership within organisations. Soon we will be mining text data within firms for semantic analysis; "leaders listen for the future of their organisation" (Zaffron & Logan, 2011) and the brightest future materialises when semantics connects with commitment (Figure 3). Data-driven decisions are more than statistics and pie charts: when managers empower synergies within firms in visionary ways, we will be pulled into a better way to work. After all, creative destruction is accelerating and learning and teaching must be part of that new vision.

**Barnaby Pace** is a Senior Lecturer at Otago Polytechnic AIC. He is a seasoned academic with extensive experience in teaching and learning practices in the delivery of postgraduate courses in applied management and information technology. He is an active researcher in the field of cybersecurity and in the application of theoretical models to solve 'real world' problems with the aim of moving theory to practice.

https://orcid.org/0000-0002-7611-646X

**Marianne Cherrington** is a Senior Lecturer at Otago Polytechnic AIC, studying Computer Science and Analytics. A lecturer in disruptive innovation, her research into machine learning feature selection algorithms applies in many fields, and produces interesting collaborations with international partners in many disciplines and sectors.

https://orcid.org/0000-0002-1240-2010

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# WATERWISE REFLECTIONS

Marianne Cherrington

## INTRODUCTION

The joint UNESCO - Untouched World Foundation Waterwise is a field programme in partnership with Otago Polytechnic (OP), for young adult leaders, focussing on water/bio-diversity sustainable best practice. The week-long December 2019 Waterwise Bannockburn programme considered use, quality, availability and economics of water as a resource in the Otago region. By interacting with key regional stakeholders, youth leaders gained a unique appreciation for the complexities of water issues and interconnectedness of human activity with the ecosystem. This article is a reflection from an Otago Polytechnic Auckland International Campus (OPAIC) staff member, as a facilitator. A view is given on lasting impressions and programme impacts for participants, and the process of behavioural change that began via the programme.

## WHAT HAVE I SIGNED UP FOR?

At 9:09 a.m., 19 November, 2019, at my stand-up desk at OPAIC, an email popped up: Waterwise – leadership opportunity – Expressions of interest. Scanning, my eyes stopped at "UNESCO", followed by "looking for one (additional) OP staff member to join the team on this leadership journey." I clicked on the link and seven minutes later, I had sent my expression of interest and CV away for consideration. I went back to work, but before my lunch break had ended, I sent a message with supporting evidence in an email, explaining why I would be a good, albeit unusual choice. By the end of the week, I was offered a place, given some flight details and was asked to provide acceptance confirmation. I had already discussed the opportunity with my manager; my colleagues agreed to provide support. I had two weeks to prepare for a week away. It was the end of year, end of term. I had a conference paper to complete as well as my Graduate Diploma in Tertiary Education. What exactly had I signed up for?

In 1981, Peri Drysdale (MBE) established the Canterbury luxury merino fashionwear firm, Untouched World™, under the parent company Snowy Peak Limited. Troubled by environmental impacts, she questioned how might "every one person, every one company, make a difference?" (Founder, April, 2020). A journey began. Untouched World became the "first and only lifestyle fashion company in the world to be recognised by the United Nations, for sustainability." The firm is motivated by quality as well as holistic, sustainable product life cycle operations (Untouched World New Zealand, n.d.). Part of every purchase supports the Untouched World Foundation (UWF), to inspire young leaders' development relating to sustainable best practice. As a UNESCO Global Action Partner supporting the United Nations' Sustainable Development Goals (SDGs), UWF's programmes focus on quality education, clean water, biodiversity and partnerships (Untouched World Foundation, 2020). UWF Programme and Sustainability Director, Dr. Barry Law, has developed a student-centred framework which builds skills via experiential leadership, with collaborative problem-solving and mentorship from community specialists from wide-ranging milieus.

Research completed, I felt confident that while I was unsure of my role, I could make a valuable contribution.

## GETTING UP TO SPEED

I was still furiously working on unfinished tasks on the plane to Queenstown. I read Waterwise notes at the airport, including health and safety, leadership notes, experiential learning and global citizenship guidance, as well as kaupapa (Māori themes). The programme seemed well planned but not especially detailed. I wondered where I would be able to provide expertise. My fellow traveller arrived and we got acquainted. We had Northland commonalities and chatted on the 45-minute drive to our lodgings at Bannockburn School camp near Cromwell. We were greeted by lead facilitator, Caroline and sixteen students from eight Otago secondary schools. Nine tertiary Waterwise alumni were to lead, facilitated by a handful of educators. I thought we were a bit 'top heavy' with only sixteen students, but this was not to be my last misjudgement.

We began to get to know everyone by helping here and there, and attempting various icebreaker games. The kaupapa for the day was whanaungatanga, defined in the Māori dictionary as "relationship through shared experiences and working together which provides people with a sense of belonging. It develops as a result of kinship rights and obligations, which also serve to strengthen each member of the kin group" (Moorfield, 2005). I was soon to find out just how essential whanaungatanga was to the entire Waterwise programme.

A team roster was made for students to prepare tea, then tidy up. We took in our surroundings with a cuppa. Cromwell has an average 400 mm annual rainfall. Ironically, Otago had a deluge of heavy rain and thunderstorms; road closures delayed students' arrival. Cell-phone towers were down. We performed an icebreaker and reflected in our journals. The evening finished with groupwork on values, and issues of water quality availability as an essential to life. All in all, it was the most relaxing evening I had experienced in quite some time; I began to forget about Auckland's frantic pace and recalled living in Otago as an international student decades before.

## IN THE SPIRIT OF THINGS

I woke early; I still had 'my day job' to attend to. One of our students jogged along the track as the sun rose. Soon the student breakfast team arrived; I packed up my work to lend a hand, but this resulted in too many cooks, so I sorted the pantry.

We had a briefing before the breakfast tidy up. We mind-mapped leadership in groups. I know leadership theory and pitfalls; this is where I could provide input! Yet it was all running quite well with the tertiary team roving as facilitators. I took a look. Some of the work was quite interesting and I pondered the different perspectives. I sat with the educators as proceedings concluded. As the students got prepared to head to the Cherry Block at the OP Bannockburn Campus, Caroline had a debrief with the tertiary team. I eavesdropped intently.

In the cherry orchard, we learned about its development and the Otago stone fruit industry. We tried a few ripe cherries. We learned how water was used with the auto-control systems and crop optimisation issues. From a management perspective, it was fascinating and some of the realities of having to irrigate were complex. The students had so many questions; it was a more engaging environment in which to learn than a typical classroom milieu. There were other students studying in classroom blocks here too, but they seemed more active and involved than usual. Everything seemed quite freestyle, which is ok for a leadership camp, I thought.

I wanted to stay longer, but we left for a lunch in the historical precinct in Cromwell. We could see and discover more about the contentious flooding of Lake Dunstan, in the early 1990s, for the Clyde Dam. The old town centre was underwater and a large part of the town was moved or rebuilt. As we strolled through the old town centre, we read about its partial relocation and walked further to see remnants of buildings partially engulfed. I recalled the controversy of the project when I was a student, and I thought environmentalists would never allow the Clyde Dam to be built today! I felt a nostalgic sadness and shrugged it off as 'the price of progress.'

Next on the agenda was a visit to the Cromwell Historic Cemetery. When we arrived, we were prepared by Caroline as to the importance of this visit and the respect for this tapu (sacred) place. We were excused from entering if we felt uncomfortable. I followed one student who was very knowledgeable and could read Mandarin, who deciphered some of the tombstones of Chinese miners from the area. There were many headstones dated around the same time. I read the Scally family headstone; four children died in one month and then the mother and another child a year later. Apparently, an open water race was used by the early settlers. Those near the top of the hill were fine, but their waste and the typhoid that resulted took whole families. This surely was not the dream that propelled immigrants to leave everything behind to begin a new life. 'IN HOE SIGNO VINCES' arches the top of the stone and in Latin, it literally means 'in this, conquer.' Cruel comfort. I wasn't sure if typhoid killed Mrs Scally or heartbreak and despair but I struggled with tears and felt sick to my stomach. I had to get out; it was too overwhelming. I turned on a tap and sprinkled myself with fresh water.

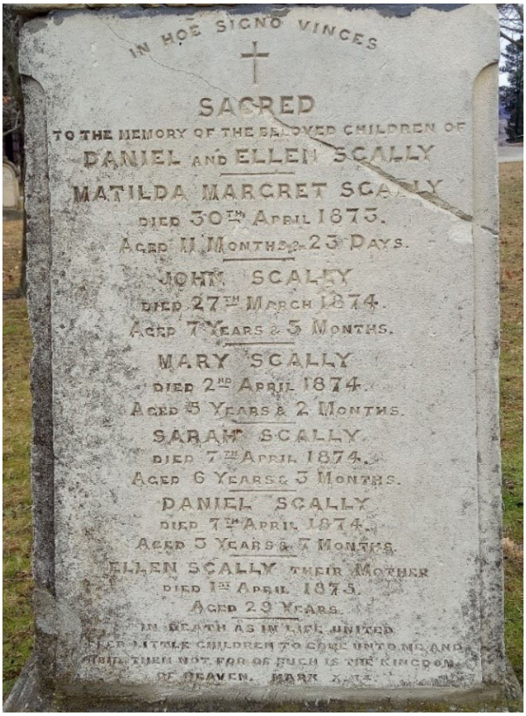


Figure 1. *Scally Headstone.* Source: courtesy of the Historic Cemeteries Conservation Trust of New Zealand

## A SENSE OF COMMUNITY

We regrouped to share thoughts and feelings; the experience had left a deep impression. Even the segregation of the cemetery 'spoke volumes' and added to the sombre mood. I thought about how I had been teaching about United Nations' Sustainable Development Goals. It was all very clinical, theoretical and very detached from Auckland campus realities, but this was visceral learning. Inequity and despair resulting from a lack of clean water was chiselled in stone. It is no less of an issue in 2020. We took our time to ponder what we had seen as we drove a circuitous route past the OP campus, into Cromwell's town centre. I thought of my colleagues in Auckland and Dunedin and wondered how my international students were faring, so far from home.

The next task was more interactive and challenged us to get out of our comfort-zones. We began interviewing local residents and businesses about their perceptions regarding water in the Otago region. I thought two hours was a lot of time for a few questions, especially on a quiet Sunday afternoon. I tagged along as one group began a conversation about Waterwise and perceptions of water accessibility in the region. A lengthy exchange ensued with far-reaching comments made about dry conditions and water concerns in the area, despite the recent downpour and on-going drizzle. From household users, to business owners, to real estate agents concerned that development was proceeding without sufficient pause to consider resource management, this exercise provided a wealth of information and diverse perspectives on water issues. It also brought out the hidden communication skills of both outgoing as well as the more reserved students. Again, I was moved by the capabilities of the students; it was eye-opening.

The Cromwell community were so co-operative with our students, generous with time and forthcoming with views. Water is a precious yet contentious issue; people have opinions to share. I was humbled, grateful and taken aback. Perhaps people and organisations have a sincere desire for young people to learn and succeed.

When we were back at the camp, we discussed the issues that were raised and shared perspectives from the afternoon. We also elaborated some of the transferable skills we were developing, related to the OP *I am Capable Framework*, supporting students with employable skills (I am Capable, n.d.).

The next leadership topic focused on how to direct influence and create impact; we discussed how to progress change with disconnected populations. This is suddenly very serious, I thought! Having a voice is one thing but implementing change is another. Then I recalled the Student Volunteer Army that arose from the Christchurch earthquakes (Student Volunteer Army, n.d.); I chided myself for being old and cynical. Then I recalled a former student who came out of his shell to suddenly ooze with charisma after reading the classic *How to Win Friends and Influence People* while activating its advice (Carnegie, 2005). Hmmm. I wondered how I could create more impact.

A film on the plight of the long fin eel ended the evening. It was obvious that we were connecting water usage with the Clyde dam, the flooding of Cromwell and the effects on nature. I was beginning to think of the more and many challenges that lay ahead. I couldn't focus; I had a million things running through my head simultaneously. My legs wanted to move but I felt stuck in the chair. I wanted to get up and run and shout, but instead, I sat on my hands.

## WIDER WATER WORRIES

The next three days were full-on. Suddenly, the seemingly laissez faire setting was chocka block with industry visits, stakeholder perspectives and a tsunami of water issues. I soon realised the power of whanaungatanga and value of taking time to form as a team, because I witnessed students working together and debating issues from personal perspectives, gaining new insights, and using empathy while acknowledging others' views; they were action orientated. I had wondered how and why certain students had been selected and unusual events were occurring; emotion was held and released. Through these visits, respectfully, students were listening using their own field of experience. They also trusted each other and valued their differences. I was very much at the back of the group now and struggled as I searched for something that I could contribute. Appropriately, wairua (spirit) and mauri (life force) were our kaupapa themes and the buoyancy of the students lifted me up.

Monday began with a presentation at Cromwell Dry Garden, which promoted the use of common plants that were useful and more resistant to drought; common sense really. It was followed by hands-on restoration, protection and mulching of trees planted by the Mokihi Trust along the Kawerau River. Somehow the students made it a game and contest, so several weekends of work got done in a few hours. I should include more of these environmental working weekends in my calendar, I thought. We had an afternoon tour and water use discussion at the very hospitable organically-certified Carrick Vineyard in Bannockburn. They were very forth-coming answering questions about their sustainable management practices, especially regarding water and how they differed from some vineyards. They made us consider when water should be used to save crops.

The next day began early at the Crown Range Summit wetlands and with Otago Regional Council (ORC) representatives. We waded through the water and surveyed for aquatic life, discussing the water quality in the streams and ways to measure and assess impacts; new residential developments were just a few paces away. I thought about the streams I used to play in as a child with tadpoles and crawly things. These streams were scant in comparison.

We had a farm station visit at Hillend in the Cardrona Valley Catchment; along with ORC staff, a lively and frank discussion ensued. I was struck by the courteous exchanges. On one hand, farming practices with races and historical water rights were having to be re-examined. Farmers could not borrow to irrigate more effectively; Resource Management Act allocations were years away. Council staff were more likely to implement change if they worked with farmers via the ORC. Again, where your farm was, relative to the water source, was vital. Some of our students had farming backgrounds. Some families hunted for a living. Some students were vegetarian. You can hide in a city and close your eyes, but in small communities, environmental issues are everyday issues.

Wednesday was electric; Clyde Dam was spilling spectacularly, as it had not done in twenty years! We had an informative visit through the control room, tunnels and inner workings of the dam. In a board room, we debated everything from historical controversies behind the building of the dam, to sustainable energy, to eel recovery plans. Students then broke into groups, debating Otago water usage issues from various perspectives. I chimed in playing devil's advocate at times and especially enjoyed the solutions that the students put forward for presentation after a fabulous lunch provided by Contact Energy. Finally, we explored Cromwell Museum and learned more about the history of Cromwell. Back at camp, we spoke about behavioural change topics with Dr. Barry Law.

It was an explosive three days. We were worn out! What really impressed me was that by the time we discussed behavioural change, the intention of Waterwise was starting to take shape. I belong to an era where we 'speak when spoken to' but I had seen students respectfully become part of the discussions at a very real, even emotional level. The objective of Waterwise is to make students agents of change. If older generations could make change happen, they would, but they are invested in their view. If we need change, *now*, then we need youth to instigate and lead. I remember asking my 92-year-old mother why they didn't do more about the environment, after all, *Silent Spring* was written in 1962 (Carson, 2009). It's older than I am. She said that they just didn't believe what the scientists were saying. Maybe that reality has not shifted much in decades.

Waterwise doesn't give students the answers; it surrounds them with the environment, experts and tools that they can 'try on' and develop. It doesn't tell them what they don't have or grade the answer. Waterwise lets students fit in where they are at and invites them to discover more and experience the value of their potential.

The next day, we had a gentler start, considering how to progress a more deliberate future. Then we went to study waste reduction at Wormworx, where they convert bio-waste and biodegradables into rich fertilizer and soil conditioner. Who knew chlorinated water significantly reduced the size of worms *(and us)*? Well, chlorine is a cheap way to a safe public water supply, I suppose. The bulk of the day was spent sifting through water quality issues and leadership. We discussed how we can be part of the 'next best action' in the short term, with a long-term vision of value. We pondered inter-generational contributions and conventions, and how collaborative effort can make things happen, a lot faster. I had gained a better understanding of my role; it was not to lecture.

The next day, as we packed up to leave, we reflected and reconnected. We had come together, lived together and learned together. Everyone had a unique input. Every person had a role to play. As I headed to the airport, my Northland friends discussed how the April Waitangi Waterwise program would be the same yet very different in the beautiful Bay of Islands. I knew *Ngā Tupuranga o Te Taitokerau* would be, just as I knew how dynamic and capable those Northland young leaders already were. I wanted to be there and to understand the issues. I wanted to be a part of the kōrero (narrative). I tried to soak in the views and beauty of Otago as it passed by and wondered at our impact and our footprint here, in New Zealand and from a global perspective.

## BACK TO THE REAL WORLD

I had hours to wait for my flight. I had an assignment to complete and watched a Japanese grandmother feed her grandson as he played on an iPad. Everything seemed so much more significant now, but I knew not why. I managed to submit, then completed some emails. The boy had left his hat behind and I ran to give it to the mother; we smiled without words. Three generations on holiday in Queenstown; I flew back to Auckland.

I was back again soon to cycle the Otago Rail Trail. I viewed the water damage from the deluge of rain along the river's edge in Alexandra. Rain soaked me to the core when I passed NIWA at Lauder, so I sheltered in Hayes Engineering Works and Homestead for lunch. I felt as if Central Otago's 400 mm of rain only fell when I arrived! Or was this climate change? I stayed in Naseby, home to 120 residents and one of our tertiary students; it was full of holiday homes and of course was famous for the Naseby Indoor Ice Curling Rink. I cycled to Hyde and stayed in their pub, which no longer sells beer, and I took the Taieri Gorge Railway Train back to Dunedin to say 'kia ora' to Stu from Waterwise. We met at OP's Hub; Stu really knows how to walk the talk.

It's just too easy to fall back into old habits and Auckland isn't Otago. It was the driest summer I had ever experienced. I had always saved rainwater for my vege garden, but there was none this summer. I washed dishes in a bucket to water my flowers. I saved water every way I could think of. Several trees died anyway and my figs didn't produce. By the beginning of April, Auckland's storage dams had about 65 per cent less rainfall than normal in the first three months of the year. But that was not the headline. The world was in lockdown due to COVID-19. We were washing our hands while hoarding hand sanitiser and toilet paper. Zoonotic transfer was a different kind of assault on nature. Ironically, I was teaching about emissions reduction and Zero Carbon Act targets while the world had shut down and all industry had stopped. Targets achieved!

I wonder if we can go back to how we were. I wonder if I will still have a job. I wonder if I ever took as much time to walk everywhere in my community and really notice my surrounds. I smile and greet my neighbours. I am so proud of my international students stocking shelves on the night shift as they pull over on the deserted road home to have their online project team meeting at 8 a.m. I don't have any solutions, but I can do my bit.

And I am not idle; I have a lot to do. I'm grateful and fed up at the same time. I don't have to have all the right answers and people aren't really asking me for that anyway. What I do have to offer is guidance and support and some words that move things forward. That's what Waterwise taught me. We can have an impact and we do have a wealth of knowledge and experience; we all have a role to play in influencing positive change. We already have all the facts and solutions. All we have to do is to wake up and change (Thunberg, 2018).

## LEADERSHIP LESSONS

How do I reconcile my job as a lecturer with the experiential learning I witnessed at Waterwise? I struggle with having a voice and holding my tongue. Arrogance and humility. I have to reinvent my role in the classroom and at home and in the community. I revamped my teaching papers over the New Year. I discovered many of my colleagues were engrossed in sustainability teaching and learning. Their support helped me spearhead several industry sustainability speakers on campus in the first term. It was easy. There is so much generosity towards young people that can be harnessed to build their spirit, their knowledge, and their confidence to lead.

I sip a Bannockburn wine with COVID-19 news on; my focus shifts. Jane Goodall stresses the value of youth leadership programmes in affecting change.

> *Every single one of us makes an impact every single day. We have a choice as to what sort of impact we are going to make and so yes, there are people in the high places in governments … who listen, who get it and our Roots and Shoots programme with the young people, they are influencing their parents and grandparents, many of whom may be the heads of big corporations or … governments*
> (Goodall, 2020).

Waterwise is not just a youth leadership programme at all.

Northland Waterwise was cancelled due to COVID-19. Water restrictions are in place in Auckland after a seven year wait for consents from the Waikato Regional Council. New Zealand is a 'team of five million' and growing. We want to water blast our decks and wash our cars; we can't wait to come out of lockdown. We haven't changed at all.

Lock-down kept us safe, so far. My students continue to study and some are essential workers, in supermarkets or as drivers; some will resume work in takeaways and warehouses. We make more time for whanaungatanga, wairua and mauri online. Sustainability is straightforward, but rangatiratanga (leadership) is our aspiration.

**Marianne Cherrington** is a Senior Lecturer at Otago Polytechnic Auckland International Campus, studying Computer Science and Analytics. A lecturer in disruptive innovation, her research into machine-learning feature selection algorithms applies in many fields, producing interesting collaborations with international partners in many disciplines and sectors.

https://orcid.org/0000-0002-1240-2010

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Article

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# REVISING TEACHING EXERCISES TO ENGAGE FIRST-YEAR UNDERGRADUATE SOCIOLOGY STUDENTS

Edgar Burns

## INTRODUCTION

This article describes an extended re-evaluation and reflection on a teaching activity. The revision of a previously used first-year undergraduate sociology teaching exercise checked its relevance in a different national and institutional context. Continued relevance of the exercise was confirmed and the new iteration showed additional elements could be introduced into the exercise, enriching student learning. This ongoing teacher reflection also identified potential application to social research classes, creating further pedagogical value.

The present teacher reflection draws on the original 'bathroom politics' class exercise, often described by students as the "which-way-should-the-toilet-roll-hang?" class (Burns, 2003). This description presents the process of reusing this existing teaching exercise and making changes while doing so. The discussion demonstrates how instructors can adapt and extend a teaching exercise from its first formulation or use. Rather like the environmental mantra, "reuse, repurpose, recycle", such adaptive logics have relevance to teaching exercises, adding value to prior teaching development efforts in the same or different fields.

Using the original 'bathroom politics' exercise got students thinking about usually unnoticed bathroom rules that create toilet protocols and etiquette in western societies' domestic household settings. The exercise was devised to introduce beginning sociology students to small-class interactive learning – learning to speak up in the academic environment, and starting to understand threshold sociological concepts of norms and roles. The original article has been occasionally cited (Kaufman & Schoepflin, 2009, pp. 24, 28; Nefes, 2013) and used as a template for similar teaching exercises creating sociological insight using taboo or "unspoken about" social practices (Paul, 2006).

## BACKGROUND AND CONTEXT

Active pedagogy benefits by revisiting teaching exercises. This original class exercise started with the following question written on the whiteboard: "Which way should toilet-paper hang?" After a few smiles and comments, and sometimes further explanation, students were asked one by one whether they thought toilet-paper should hang 'in' or 'out.' The sociological teaching purpose was to get students to see that there are many invisible rules that govern social behaviour, even in apparently unimportant aspects of daily living. At the beginning of first-year tertiary life, there is also an issue of breaking the ice socially and academically in the classroom so that students begin to express themselves in front of others at post-high school level. This exercise achieved this. Without much explicit coaxing, students were drawn into participating: first by committing temporarily to an opinion written on the whiteboard and then being innocently asked to explain why they hold the view they had just expressed. Discussion skirting round a mildly taboo area of personal and household behaviour created interest and a certain buzz amongst students as they began 'doing sociology.'

## Rationale

Student class exercises and case studies have a long history, whether done individually or as a group. They range from the famed Harvard case study approach (Forman & Rymer, 1999) to scenarios created for graded assignments, through to use for "in the moment" discussion and analysis in classes and small groups (George & Bennett, 2004). Exercises or case studies can involve the description of real or created examples, issues, relationships, client-professional situations, or similar circumstances. Turcsanyi-Szabo et al. (2006, p. 343) described adaptations in problem-based approaches to student learning, distinguishing between teaching and learning as follows:

> We need to reconsider our teaching aims and methods and reflect on our own faults, trying to look for early remedies that might improve the situation. There are several examples in learning theory that suggest promises which need to be revisited.

Shulman (1998, p. 5) proposed that such scholarship or reflection should be public, susceptible to critical review and evaluation, and accessible for exchange and use by other members of one's scholarly community. This applies equally to teaching exercises as to any other instructional or curriculum element (Biggs & Tang, 2007). It includes both deepening learning (Burns 2016, 2017) and learning from mistakes (Metzger, 2003), and ideally involves the personal learning of the instructor in the act of engaging students in their learning (Trigwell & Shale, 2004).

Many disciplines' journals present teaching exercises and related pedagogical practices for engaging students and communicating effectively (Nye et al., 2011). Experimenting with Brouillette and Turner's (1992) classic sociology exercise is described in the next section. Such published accounts can potentially be adapted by others to their own teaching circumstances. Many instructors do so, enhancing their teaching but without necessarily reporting in the literature how they have modified or extended these teaching tools.

Valuable examples of scholars actively re-examining and re-working teaching exercises include Sullivan's (2011) adaptation of a traditional engineering teaching exercise "The egg-drop exercise revisited" from Warner (2005) for teaching entrepreneurship; Bryant's (1994) description of revisiting a biology teaching exercise; or Rosenquist's (2012) re-analysis of class engagement of students for revising letters. Chappell (2007, p. 259) commented "Unless lecturers engage in critical reflection and on-going discovery they stay trapped in unexamined judgements, interpretations, assumptions and expectations." Boyd and Boyd (2005) described instructors using a personal diary to assist such reflection.

## Example: Changing Teaching Settings for Existing Exercises

Applying this kind of teaching renovation practice in relocating to a new institution provided an opportunity to experiment with Brouillette and Turner's (1992) famous sociology teaching exercise. This involved getting students to spit into a spoon in order to – somewhat theatrically – make a point about how we define normal and deviant.

In emulating Brouillette and Turner's exercise for the first time, the 'yuck' factor of student revulsion at the saliva-in-the-spoon sample was evoked as expected. Thus, in similar fashion to the original exercise, it provided the platform for strongly engaging students' attention to make the teaching point. The sociological intention was to show students there was no chemical, biological or other difference between 'spit' and 'saliva,' only the social definitions students made, such as believing saliva exchange between kissing couples acceptable and natural, but similar intimate contact when saliva was defined as 'spit' unacceptable and even 'horrible.' The original article, brief though it was, explained the teaching exercise beautifully.

A key difference was seen, however, using Brouillette and Turner's exercise two decades after it was first published. One or two students showed willingness to contemplate swallowing the spoon of spit if enough urging or pressure seemed likely to emerge from the social interaction of instructor and class-mates. This seemed to show a reality-TV show mentality about doing things as a dare even if defined as revolting or deviant. In such shows contestants are seen standing in mud, coping with flies or other insects, or eating worms. Some students appeared to be applying this modus operandi in the contemporary classroom (Montemurro, 2008). One student advised friends who were being solicited for a saliva sample, "Don't do it. It's a trick!" which was quite disruptive to the exercise – though raising student engagement – and again seemed to stem from a reality-TV idea about 'making yourself' do something 'yucky,' or in a minor way socially deviant.

Such reactions illustrate how any given teaching exercise, over time, is gradually positioned differently. Reality TV with its 'dare' mode of participation was uncommon when the saliva exercise was published. How students respond, and the usefulness of teaching exercises, needs periodic review.

## PROCESS

### Observation 1: Does the Exercise Still Resonate with Students?

Figure 1 presents reconstructed data from one class comprising 24 students. Actual results from each class varied, some having more 'ins' than 'outs' or vice versa, expressing opinions which way toilet-paper should hang. Like former iterations using this class exercise, having got students temporarily committed to an 'in' or 'out' opinion, visually drawn on the whiteboard like Figure 1, the second part of the exercise was to go round students asking them, "Why did you choose the answer that you did?" With a bit of prompting and drawing out the quieter ones, and sometimes a student's comment/question on another student's response, everyone found they had something to say from their own experience. The discovery of patterns of behaviour and normative expectations which differ – sometimes markedly – from their own, in other people's private worlds, for many in this new cohort of students was revelatory.

| IN | OUT |
|---|---|
| | |
| ✓✓✓✓✓ | ✓✓✓✓✓ |
| ✓✓✓ | ✓✓✓✓✓ |
| ✓ | ✓✓✓✓✓ |
| | |

Figure 1. Standard data collection table.

After a gap of four years from having used this exercise to teach first-year sociology to an older mix of 'non-traditional' students (Law, 2007) in New Zealand, questions about using this exercise once again included whether it would work in a new institutional environment, and in groups with a greater proportion of late-teen students in each class. The first observation, then, was that the exercise evoked a similar buzz to previous classes, and its currency had not waned. These new university students gained a small window into private bathroom rules and norms of their fellow classmates. Seeing the contrasting answers on the whiteboard, and listening to justifications for opposing views over a mildly taboo subject, again evoked interest and attention to how social rules and norms are created and maintained.

### Observation 2: Extending the Exercise Quantitatively

A variation introduced almost incidentally in the current classroom version of this exercise was a new step (Figure 2). Students were invited to spend a few moments as a group considering the implications of this newly collected evidence before them on the whiteboard. Then, following the previously second step, students were encouraged to discuss why they had made their 'in' or 'out' choices, drawing on their own experiences and beliefs about bathroom behaviour and rules.

| IN | OUT | |
|---|---|---|
| ✓✓✓✓✓ | ✓✓✓✓✓ | |
| ✓✓✓✓ | ✓✓✓✓✓ | |
| ✓ | ✓✓✓✓✓ | |
| | | |
| 10 | 15 | 25 |
| 40.0% | 60.0% | 100.0% |
| | | |

Figure 2. Raw data plus basic statistics..

But a new step involved drawing lines on the whiteboard at the bottom of the table, below the data. Students were asked to sum each column downwards, calculate totals, and then add the totals horizontally to the right hand side. Immediately these numbers made it possible to compose a sentence: "Ten out of twenty-five of the class prefer the toilet roll hung inwards, and fifteen out of twenty-five prefer rolls hung out" – or whatever it was for a given class. Reading a data table, and expressing the numbers in words, is an important practical skill.

This simple maths can be further extended, converting the raw totals into percentages. In teaching first-year classes, numeracy skills vary from some who would be comfortable doing science, to a sizable proportion of students who had chosen social subjects, consciously avoiding anything numerical.

Bearing that demographic in mind, briefly tallying the numbers/percentages allowed the instructor to step through this most basic of statistics, showing how the percentages are calculated for those needing this piece of learning. From Figure 2, this could be stated in words, either by the instructor or soliciting students to make the effort: "Forty per cent of responses prefer toilet-paper hung in the 'in' position, while a majority of sixty per cent prefer toilet rolls hung in the 'out' position." Today, phone apps can be used to help students do this.

It was possible to lead the discussion more widely by asking students, "What, overall, does the evidence on the whiteboard tell us? What generalisations can we make?" Students made comments like, "More people prefer rolls hung 'in' or 'out'," depending on the class result. If they sensed the importance of the quantitative aspect of things here, students often tried to use the percentages in their replies. Pushing them further, I asked, "Could we say, for instance, that forty per cent of the whole country prefers 'in' and sixty per cent prefers 'out'?"

Depending on their answers, I reminded them about different responses in other classes, and we explored questions of sampling (their class being just one sample), generalisation and over-generalisation. The idea of extrapolation from class to whole populations can be inserted into the conversation – what are the issues involved? Together we could identify that it is the class members from whom the data comes; as a group of mostly younger tertiary students, why might their percentage not apply nationally?

### Observation 3: Introducing a Qualitative Intensity Measure

An innovation that departed sharply from the original exercise introduced a much clearer view of the strength of student opinions on this topic. This was the introduction of a five-point Likert question on the whiteboard after initially collecting and discussing 'in' and 'out' responses. The five-response categories offered a hierarchy of choice for students rating how strongly – or not – they held their views when answering the original question about which way toilet-paper should hang. Figure 3 reconstructs results achieved using a Likert question to measure the degree of intensity students felt committing to their original 'in' or 'out' opinion. This time responding to, "How strongly do you hold the opinion you expressed earlier? Place yourself in one of the five categories listed on the whiteboard, between high at rating five to low at rating one."

What did this new data do for the discussion? Firstly, there was an additional buzz around groups as the extra layer of revelation became apparent as students in turn gave their answers. Again, the teaching purpose of involving everyone was reinforced, that participation was not hard, and students could learn something about other peoples' feelings with little self-disclosure. More specifically, for three of the males in one class, this was an appropriate release-valve that permitted them to honestly declare that they did not care for this measure, but had simply chosen a number to be obliging since everyone was choosing a number.

| DECREASING INTENSITY | High | NO. OF RESPONSES |
|---|---|---|
| Very strongly | 5 | ✓✓✓✓ |
| | 4 | ✓✓ |
| | 3 | ✓✓✓✓✓ ✓✓ |
| | 2 | ✓✓✓✓✓ ✓✓ |
| | 1 | ✓✓✓✓✓ |
| Not at all strongly | Low | |
| | | (N=25) |

Figure 3. Raw data of intensity measure.

## DISCUSSION

As a result of revisiting this toilet-paper exercise, the two modifications of (1) the introduction of a basic quantitative aspect, and (2) the development of an intensity measure led to discussing this exercise in second-year undergraduate research methods classes (Haney, 2009). Here, it was not the buzz of novelty that engaged beginning sociology students' interest but an opportunity to learn about research methodology: that is, talking about the toilet-paper exercise in class with students who know they are then going to write a report about research issues in data-collecting illustrated in the exercise. Some students had already experienced the first-year exercise.

Using the safety and convenience of the topic, students were able to traverse strengths, weaknesses, issues and limitations common in one form or another in any research project. They were able to compare qualitative and quantitative aspects. They used the discussion of the class exercise to understand better how similar it was to a focus-group. The intensity data as a second round of focus-group process provided a concrete example to discuss Likert scales and go beyond yes/no responses to strength of attitudes and views. Over a number of research classes, it became apparent that many of the issues on serious social research were embedded in the light-hearted toilet-paper exercise. What were the exercise's methodological strengths and weaknesses? Research students were invited to reflect on teacher ethics and research ethics – where were there overlaps and what should be separated out?

### Socially Acceptable Responses/Response Bias

The original data collecting phase (Figure 1) had an artefact in the data collection method used in the classroom that was subordinated to the teaching purposes of ice-breaking and getting students 'doing sociology' in first-year classes. That is, the pedagogical purpose bracketed out important underlying research questions. For learning purposes with the more advanced students, however, we explored such issues further.

It is noticeable in conducting first-year exercise that when the instructor goes round the class getting each student in turn to commit to an answer, either 'in' or 'out', there can be a run of three or four students in succession choosing one option rather than the other. At times this has been, in the banter of class interaction, an opportunity to tease students: "Are we going to maintain this streak of a given choice, or will we get an independent thinker breaking for the other option of 'in' or 'out'?"

Putting the fun aspect of classroom management aside, this raised a problem as a data collection method in conducting objective investigations. The question for students was, "What is the flaw here?" The problem was the influence that one student, or a run of students choosing one option, may have on the next selection. Choice/selection independence is problematic. Students, especially those new to tertiary study, are often very sensitive to what their peers are doing or saying, and the need for joke with them about how they are deciding testifies to this sensitivity. Thus, results could be significantly skewed one way or other by a strongly expressed prior view, or the opinion of someone seen as an opinion leader. This made the data collected open to the charge of not representing in an unbiased way the opinions of students in the class.

### Response Eliciting and Interpretation

A different research issue can be found in Burns' (2003) original article description how at first students might be allowed to make a 'don't know' choice rather than a substantive response. But also how, with good humour in the class, this was subsequently erased from the whiteboard as 'fudging', since other students had made the effort to actually choose. Thus, the 'don't know' students were usually also encouraged to commit – just for the moment – to an 'in' or 'out' position. Obviously the main goal was pedagogical – getting active class participation, beginning to think sociologically. The suggestion in revisiting this exercise with research students, however, was to re-analyse this instructor guidance as 'interference' with the data collection process. This idea added another useful subject for reflection by research methods students evaluating the rights and wrongs of research methodologies generally. Developing skills to identify all kinds of possible influence on research results is a key area of social science learning.

Another, somewhat different point was occasionally made with research classes, depending on the run of discussion. The distribution of responses to the Likert question in the intensity extension of the exercise in Figure 3 shows a roughly normal distribution curve, although this varied from class to class. Exploration of measures of central tendency and variation, along with other sampling issues, was helped by being grounded in this familiar local data. This extended the exercise to compare the reconstructed class data with textbook diagrams of bell-curves, and standard deviation measures, and how these apply to other cohorts and larger populations.

## CONCLUSION

Willingness to question whether existing teaching exercises work as well as they should, or whether exercises are still relevant, requires a degree of self-confidence and introspection. Revisiting the present teaching exercise achieved three things: firstly, it confirmed positive engagement with a new and younger student cohort in another country. Secondly, revisiting the exercise resulted in two innovations when adapting and revising it from its original application. These were developing a small quantitative aspect and incorporating a simple intensity measure, both yielding positive engagement with students and deepening the analytic value for class learning and better teaching. Thirdly, this subsequently led to a new application of the exercise to illuminate dilemmas in getting research methods classes and concepts to come alive for students.

More generally, revisiting the "which-way-should-the-toilet-roll-hang?" exercise showed other insights that different instructors might consider using. First, themes of taboo or deviance are capable of considerable expansion. Mostly the sense of discussing a minor taboo topic has been used in this exercise as the engine that generated student interest and involvement, but it could also energise discussion in class sessions about things we can and cannot talk about, or not easily such as the norms surrounding such constraints. Second, it continues to be the case that biophysical/ water/ environmental concerns come up only infrequently even in this latest iteration of the exercise. However, the politics around industrial processes are significant: dioxin is used in bleaching toilet-paper white and is a highly toxic cancer-causing chemical, often discharged at unacceptable levels in water-ways, but little knowledge or interest was expressed by students (Gibbs, 1999). The social politics of water and sanitation (Purvis, 2015), or the uplifting story of making lives better for developing countries (Pholeros, 2013) provide further avenues for teaching and research.

Revisiting and checking the adequacy of existing class exercises after some time or in different institutional settings opens up new possibilities – re-invention, adaptation, replacement or extension. Literature that documents such revision, like the original publication of teaching and learning exercises, helps resource other teachers and further contributes to quality educational practice.

**Edgar Burns** has taught in the polytechnic and university tertiary sectors for more than twenty-five years. He takes an interdisciplinary approach starting from his core sociology teaching and research roles. His recent book *Theorising Professions: A Sociological Introduction* is published with Palgrave Macmillan.

https://orcid.org/0000-0002-6645-3358

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# INACTION IS ALSO ACTION: ATTEMPTING TO ADDRESS PĀKEHĀ PARALYSIS

Joe Citizen

## BEING OPEN TO CHANGE

As a Pākehā creative arts tutor and practice-led researcher working for the regional polytechnic Waikato Institute of Technology (Wintec), I have often been aware of what Tolich (2002) calls 'Pākehā paralysis': the tendency by Pākehā not to engage with Māori because it is 'too hard' due to an inability "to distinguish between their role in Māori-centred research and their role in research in a New Zealand society, which involves Māori among other ethnic groups." (Tolich, 2002, p. 176). The default position is often one of avoidance, or worse, positioning Māori within a 'mainstream' education framework that frequently makes universalist assumptions in a manner that has been called "whitestreaming" (Denis, 1997, as cited in Milne, 2013, p. 3). Intellectually being aware of these issues is, however, quite different to doing something about it as a Pākehā schooled and practising within the same liberal humanist traditions one is attempting to be critical of (Jones, 2017, p. 189). Some may even reasonably ask if it is possible to step outside of oneself, to escape an education system where one's position and privilege is predicated by values that emphasise expertise as a foundation for authority. To really attempt partnership as a Pākehā working with Māori, it is necessary to change oneself and to be open to the possibility of such changes. Such a process is, by necessity, uneasy, full of awkwardness and discomfort, as one realises that Pākehā foundational understandings of the world are not universal and cannot be taken for granted.

## CHANGE IN THE REAL WORLD

In reflection, it was perhaps with some naivety, when at the end of 2016, I approached Wintec's Director Māori, Hera White, and asked if the Māori Achievement Unit would countenance a partnership project with myself as part of my then PhD candidature. Her companion laughed when I asked, but Hera just nodded to herself and remarked that "opportunities like this don't come along very often." Then to the surprise of both myself and her companion, she agreed to the proposal. The idea was to attempt to embed Wintec's Te Ngāwhā Whakatupu (Māori capability framework) into a real-world multidisciplinary collaborative project, where students and staff would help to make a 6.8 metre interactive waka sculpture that would stand on the banks of the Waikato River as a permanent public artwork. The objectives of Te Ngāwhā Whakatupu are a "commitment to Māori success, ngā huatanga Māori - Māori cultural identity, mātauranga Māori - Māori world view and kaupapa Māori" (Te Ngāwhā Whakatupu, p.2, 2013). This framework identifies several core 'values' that Wintec staff are encouraged to build competency in, ako, te tiriti, ahurea, tikanga, and te reo. Woven into the tangible sculpture concept was the use of interactive sound and lighting compositions that would be informed by an Internet of Things sensor network, to refer to the seven stars of Matariki as recognised by Waikato-Tainui.

## RELATIONSHIPS AS ONGOING PROCESS

It is fair to say that at the time I had little idea of the journey I was about to embark on, for despite my good intentions it quickly became clear that in practice I had only a rudimentary understanding of te ao Māori. I needed the Māori Achievement Unit much more than they needed me as Wintec had declared a 'whole of organisation approach' towards embedding Te Ngāwhā Whakatupu into teaching and learning. Nonetheless, Hera agreed to the formation of a new research group called He waka eke noa after the famous whakataukī (proverb), which literally refers to being in the same boat together.

In retrospect, I realise that Hera had taken my proposal seriously because she had observed my practice over the previous ten years. As a former master's student, one of my early jobs at Wintec had been to work as the arts archivist for the library. I first met her in 2008 when I'd realised that the Excel spreadsheet approach favoured by Finance to categorise artworks as assets couldn't be applied to taonga. At that time, she'd introduced me to Kaumātua Tame Pokaia, who had since then advised me on various research and teaching projects I'd been involved with. In other words, our whanaungatanga (relations) had already been established when I had proposed the project to her – it was not as if I was a complete stranger.

## MĀORI WAYS OF BEING AND DOING AS NORMAL

My realisation of the importance of whanaungatanga was, in the event, a crash course in coming face-to-face with my own ignorance. Having publicly announced the project, enlisted the goodwill of my engineering colleagues and set in train the requisite processes for a permanent public artwork with Hamilton City Council, it was agreed that a whakawhanaungatanga barbeque, in early February 2017, would give students and staff working on the project a chance to meet each other. It was a relief to finally start the process and I was anxious to see the first of the scheduled production milestones now become a reality. Having made and taught community-based filmmaking for over twenty years, I felt confident leading a collaborative project of this magnitude. A month later, when one of the tutors and his class had to drop out of the project, it was relatively simple for me to find a replacement tutor and a new class to take his place. It was only when I breezily announced this to one of my colleagues in the Māori Achievement Unit that I realised what I thought was a normal thing to do was actually the exact opposite.

I was completely unprepared for her rage. How dare I introduce people to the project who they had not met, nor who had had the opportunity to meet everyone else? It is extremely rare to be shouted at in a professional educational context by a colleague, and I was utterly shocked. I had no idea what I had done wrong, but quickly realised that not only had I caused offence, but that in all likelihood the entire enterprise was in now jeopardy. I made my apologies and left, convinced that the damage was irreparable.

Later I was to discover that whanaungatanga refers to "the primacy of kinship bonds in determining action and the importance of genealogy in establishing rights and status" (Hēnare, 2015, p. 91). It has also been described as the "process of establishing relationships, relating well to others" (Maori Dictionary, n.d.), or literally, to "become as family."

## CONFRONTING ONE'S OWN CULTURAL ASSUMPTIONS

Reflecting on this incident, it became clear to me I was not relating well to my Māori Achievement colleagues nor with the wider project partners. I had taken it for granted that I was the one leading the project, and that my 'top down' task-focussed production management approach was normal. These assumptions completely blinded me to the core tenets of the partnership agreement in the first instance, which was to embed the values of Te Ngāwhā Whakatupu into everyday practice. It is one thing to read about structural discourse from a distance but quite another to realise that one's own assumptions are part of that discourse. I was neither relating well to others nor behaving like a member of a family, and to extend the common analogy of the Māori-Pākehā partnership as being like a personal relationship, my actions could be described as thoughtless as best. When such thoughtlessness is repeated or brushed aside in favour of meeting other needs such as a rigid approach to allocable time, then such behaviour is an attempt to exert control. For at the heart of these actions, motivated by anxiety or otherwise, sit assumptions about power with the 'who' and 'what' of decision-making being taken for granted. Such realisations are uncomfortable to consider and because our shared goals were to embed Māori ways of being and doing as the default mode for teaching and learning this entailed confronting my ideas about cultural equivalency and equality head-on. Being a good partner means not taking one's own cultural assumptions for granted, and this includes those individualistic liberal humanist understandings of what intercultural partnership is.

## WOVEN INTO WHĀNAUNGATANGA

Extension of the personal partnership analogy to its fullest extent now became extremely challenging, as slowly it dawned on me that far from 'solving the problem', I was, in an institutional context, part of the problem:

> *Dominant and controlling partners do not relinquish power easily. Nor do they readily see themselves as part of the problem. They find it threatening to acknowledge that their minority treaty partner has a language, culture, curriculum and pedagogy that are all alive and well, with their own integrity, but rendered largely invisible within our school system.* (Glynn, Berryman, Walker, Reweti, & O'Brien, p.5, 2001).

Comprehension of my own complicity within the interwoven field of relations was something of a revelation because it meant taking responsibility for my actions in a way that did not 'naturally make sense.' Any sense of neutrality or 'standing at a distance' became untenable, for when one realises that one is in a partnership, then an absence of action becomes an action as well. That I was simultaneously researching entanglement and performativity became manifestly ironic because my agency was clearly one of many agencies that co-constituted the continuously unfolding phenomena at the time (Citizen, 2019).

## PĀKEHĀ FEELINGS OF AWKWARDNESS

A shift now occurred without my really noticing it. Previously at ease and confident in my abilities, I began to feel like a stranger – awkward and out of place. How then, must some of my students feel, when they come into a teaching and learning environment that takes particular ways of being and doing for granted? This awkwardness is not pleasant, and I can quite understand why some of my Pākehā colleagues altogether avoid engaging with Māori culture in any meaningful sense. Yet it seems to me that such feelings of awkwardness and discomfort are also part of the partnership process, not to be celebrated in themselves but to enable those moments whereby one realises the discomfort for what it is and thereby introduces new possibilities into situations. For when one feels conscious of being an awkward stranger, then rather than simply reacting, one's actions are able to become more considered.

## WHĀNAUNGATANGA INFORMS PARTNERSHIP

Recognising how whānaungatanga informs the partnership paradigm as process rather than event leads to a reconsideration of what partnership might look like. When it became clear that I too was on a learning journey, then disestablishing my authority amongst the complexity of relationships became obvious. Identifying Māori Achievement as the central partner and positioning myself as one of many other partners in orbit around them became an essential next step. Rather than staking any claim to leading the project or having an authority over knowledge that did not belong to me, I could act within an existing framework as a co-learner amongst other co-learners. Te Ngāwhā Whakatupu could now operate as it was intended, as a set of values to be embedded into practice. Such a move makes no sense when viewed from the one-to-one individualistic manner that partnership is commonly understood as being within Pākehā traditions but it makes much more sense when viewed from a collective approach that puts the goals of the endeavour first.

## EDUCATOR AS CO-LEARNER

That the public art sculpture named *Tōia Mai* by Kaumātua Tame Pokaia now stands on the Western bank of the Waikato river at Hamilton's Ferrybank reserve is mainly due to a whole of organisation approach that puts the values of Te Ngāwhā Whakatupu into practice. Positioning myself within a partnership paradigm where 'partnership' is not grounded by my own cultural understanding ultimately ensures that I can more authentically engage with what Te Tiriti ō Waitangi can mean for teaching and learning in an actual embodied manner. As a tertiary educator attempting to understand what ako means beyond the mantra that 'teaching and learning is reciprocal' is much more potent when approached from a co-learner's perspective. Instead of having to be an authority all the time, I can now appreciate that students know much more than I do in any number of fields. To approach Māori society as something of a stranger means to acknowledge not only my own sense of awkwardness but, fundamentally, the multiplicity of differences between Māori and Pākehā ways of doing and being that are often ignored or brushed over within institutional discourses. My appreciation of tikanga has similarly increased, not only as a means by which this awkwardness of being can be safely navigated but as a recognisable framework where existing whanaungatanga is acknowledged and nurtured. As a respectful stranger in a land that is not as familiar as the worlds in which I previously took for granted as being normal, te reo Māori has enriched my life in ways that I had not thought possible. In summary, when educators become co-learners not only do students find us more approachable, but their learning becomes self-motivated as their existing expertise is acknowledged.

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**Joe Citizen's** practice-led creative research, located at the intercultural space between Māori and Pākehā in Aotearoa New Zealand, mainly explores some potential parallels and synergies between the metaphysics of te ao Māori and te ao Pākehā. By seeking to identify Māori and Pākehā metaphysical strands that challenge human exceptionalism in the production of knowledge, he reassesses aesthetics beyond traditionally Western claims of it being solely a human practice.

https://orcid.org/0000-0002-3805-1829

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Article

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# LEARNING TO TEACH IN THE NZ ITP SECTOR: LESSONS FROM LITERATURE

Julia Walne

## CONTEXT

Now more than ever, Institutes of Technology and Polytechnics (ITPs) are central to enabling New Zealand to be competitive in a global market as both an economic force and as a quality, skills-based education provider. There is growing evidence to suggest that practitioners in this vocational sector need to have a "sophisticated pedagogical repertoire" (Guthrie, 2010, p. 12) and be skilled at pedagogical decision-making in both learner-centred and work-based practices (Brown, 2017; Guthrie, 2010; Lucas, Spencer, & Claxton, 2012). Despite this growing expectation on teachers' performance in the New Zealand ITP sector (Messman, Mulder, & Gruber, 2010) and a reported correlation between quality vocational provision and teaching competence (Guthrie, 2010), there is limited research on how best to support novice ITP teachers to learn to teach. As yet, there is no national framework of competence for ITP teachers and no requirement for teachers in this sector to hold a teaching qualification. As a result, polytechnics tend to employ new teaching staff members on the basis of their domain-specific knowledge and skills and then expect them to gain a formal teaching qualification whilst doing the job of teaching.

Otago Polytechnic is the only ITP that requires its teachers to hold a Level 7 teaching qualification and new academic staff members are contractually required to complete the Graduate Diploma in Tertiary Education (GDTE) within two years. The first iteration of the GDTE was approved in 2012 and there have been a number of iterations and many lessons learned since then. Past stakeholder feedback has mirrored the findings of research on traditional teacher education and highlighted a mismatch between the pedagogical knowledge espoused in formal programmes of study and what learners perceive as valuable teaching knowledge in their own contexts (Bound, 2011; Dymock & Tyler, 2018; Korthagen, Loughran, & Russell, 2006). As a result, the GDTE has integrated a work-based learning approach that situates learning within the learners own teaching context. However, this approach is not without risk as it is commonly agreed that the social bonds, collegial interactions and socio-cultural practices can constrain learning and development of teaching practice. Therefore, the purpose of this article is to see if any further lessons can be learned about potential barriers between formal programmes of study and informal workplace learning. It first presents a brief review of recent research on learning to teach, exploring five key themes relevant to the vocational sector. It then presents a brief discussion of the key considerations before proposing that learning partnerships could integrate the GDTE within specific teaching contexts and bridge the gap between theory and practice by leveraging the inherent value of informal learning in the workplace.

## BRIEF REVIEW OF LITERATURE

### Formal Learning

For many years, research on teacher education development drew on cognitive theory to promote traditional teacher education that taught theory for application to practice (Opfer & Pedder, 2011). However, recent studies appear to agree that traditional approaches are ineffective because they fail to recognise the importance and influence of the socio-cultural context in which each individual teacher is situated (Opfer & Pedder, 2011; Viscovik, 2005, Wenger, 1998). Furthermore, there is general consensus that tensions arise from novice teachers' existing conceptions of teaching and the pedagogical practice espoused in traditional programmes (Bound, 2011; Dymock & Tyler, 2018; Korthagen et al., 2006). Through prior experiences in occupational contexts, novice teachers in the ITP sector will have developed not only considerable occupational knowledge, but also strongly-held conceptions of teaching and learning (Aderibigbe, Colucci-Gray, & Gray, 2016; Darling-Hammond, 2006).

Robson (2002) finds that vocational teachers' ways of learning are particularly influenced by how they developed their occupational knowledge and skills prior to becoming a teacher. He also finds that they tend to value occupational knowledge more highly than teaching knowledge. Transformative learning theory identifies such conceptions as barriers to learning and acknowledges that where there is a mismatch between conceptions of teaching and learning and the reality of a formal programme, learners will experience dissonance and may disengage (Mezirow, 1990; Zepke, 2011). These barriers mean that formal programmes are rarely effective in developing teaching practice (Opfer & Pedder, 2011).

Recent research draws on transformative learning theory to suggest that teaching about teaching adopts a bottom-up approach that begins with an examination of existing conceptions and how they might enable or constrain both learning and teaching practice (Forzani, 2014; McDonald, Kazemi, & Kavanagh, 2013; Peercy & Troyan, 2017). As a result, they call for teacher education programmes to embrace more practice-based pedagogies that recognise that "learning is an active, constructive process that is heavily influenced by an individual's existing knowledge and beliefs and is situated in particular contexts" (Borko & Putnam, as cited in Feiman-Nemser, 2008, p. 700).

### Informal Learning

Hoekstra and Korthagen (2011) define informal learning as any learning that takes place without an organised learning community or planned pathway. Much of the research shows that teachers value informal learning and believe that their expertise develops through every day experiences of teaching (Viscovik, 2005). Kwakman (2003) suggests that this is due to an assumption "that learning is embedded within the trial and error of everyday activities" (p. 166). This assumption is rooted in theories of adult learning and the belief that adults learn by reflecting on experiences to construct new meaning (Dewey, as cited in Harris, 2011). However, there is evidence that such reflection does not naturally occur and that informal learning frequently results in little awareness of learning and primarily tacit knowledge (Eraut, 2004; Hoekstra, Brekelmans, Beijard, & Korthagen, 2009). Furthermore, the evidence suggests that tacit knowledge limits development of teaching practice (Brockbank & McGill, 2006; Korthagen & Kessels, 1999).

Darling-Hammond and Bransford (2005) claim that even when teachers do reflect on their everyday teaching experiences, there is no guarantee that they will learn from it. Gelfuso and Dennis (2014) find that novice teachers often reflect in isolation, which leads to learning that is based on existing beliefs about teaching. Jarvis (2004) discusses this phenomenon as non-learning, which is similar to Habermas' concept of non-reflexive learning whereby learning occurs without critical discussion (Habermas, as cited in Brookfield, 2005). In order to act as reflective practitioners, novice teachers need to compare past and current experience in light of educational theory, in order to make reasoned decisions about approaches to teaching (Harrison, Lawson, & Wortley, 2005; Boud, 2000; Timperley, Wilson, Barrar, & Fung, 2008). Gelfuso and Dennis (2014) recommend that novice teachers are supported to critically examine their practice through focused and collaborative discussion on practice in the presence of "knowledgeable others" (p. 1). Hopper (2001) recommends evolutionary workplace mentoring to foster the growth of autonomous, reflective practitioners. Evolutionary mentoring relationships are described as "between equals in which one or more of those involved is enabled to: increase awareness, identify alternatives, initiate action, and develop themselves" thus identifying the need for a non-hierarchical, reciprocal and enabling partnership (Hay, as cited in Brockbank & McGill, 2006, p.67).

## Work-based Learning

Much of the recent research on teacher learning emphasises the social and situated nature of teacher learning and highlights the potential for inevitable workplace variances and different socio-cultural contexts to variously influence learning (Andersson & Kopsen, 2015; Blömeke & Kaiser, 2017; Eraut, 2007). A common theme arising is the influence that collegial interactions can have on learning (see, for example, Koffeman & Snoek, 2018; Opfer & Pedder, 2011). A review by Kyndt, Gijbels, Grosemans, and Donche (2016) identifies that colleagues' attitudes and dispositions towards learning influence novice teachers' engagement in learning opportunities. They also find that the "dominant norms, values and traditions" within the socio-cultural context influence what is learned (p. 1133). More specifically, Maxwell (2010) finds that learning is influenced by naturally occurring interactions with colleagues and suggests that novice teachers need to be given support to challenge any collegial interaction with the potential to inhibit learning. Harris (2011) suggests that to develop a more sophisticated repertoire of pedagogical practices, novice teachers need to broaden their experiences of teaching through observation of expert teachers outside of their everyday teaching contexts. In this context, expert teachers are considered able to articulate the "trial and error" of teaching by making their pedagogically-informed decision-making explicit to less experienced teachers (Hattie & Clinton, 2008, p. 242).

Singularly, Maxwell (2010) seeks further understanding of the in-service nature of learning to teach in the vocational sector and finds that beliefs and prior experiences and collegial interactions have a significant influence on engagement in learning. As a result, she calls for better integration between formal and informal opportunities for workplace learning through "guided participation in an intentional curriculum" (p. 185). Maxwell's use of the term 'guided participation' reinforces Gelfuso and Dennis' idea that novice teachers should learn alongside more knowledgeable practitioners.

## Teacher Identify Development

Teacher identity development emerges as a central idea in the literature on teacher learning over the last 20 years (Beijaard & Meijer, 2017). Research from a socio-cultural perspective tends to agree that teacher identity is dynamic and under construction through continuous interpretation of both current and future perceptions of self-as-teacher (Akkerman & Meijer, 2011; Van Lankveld, Schoonenboom, Volman, Croiset, & Beishuizen, 2017). Research in the broader teacher education domain highlights the importance of a secure and coherent teacher identity as a platform for the informed pedagogical decision-making necessary for highly-skilled practitioners. Yet there is growing evidence that vocational teachers identify more closely with their previous occupations than they do with the teaching profession, and that they draw on experiences of learning and teaching in occupational contexts to inform their teaching practice.

Tang (2006) describes the process of learning to teach as constructing "the teaching self in the professional artistry of teaching" (p. 51) and finds that novice teachers do not yet have a secure identity but one that is only partly-formed, arising from a "plethora of unarticulated and unexamined beliefs about teaching, learning and the self as teacher" (Bullough & Gitlin, as cited in Tang, 2004, p. 187). The research commonly acknowledges that current contextual factors, including collegial interactions, exert a considerable influence over this process (Beauchamp & Thomas, 2009; Grier & Johnston, 2009). Collegial relationships are often valued by novice teachers because they support socialisation into the teacher profession (Grier & Johnson, 2009). However, such social and occupational bonds can influence perceptions of what is valuable knowledge in their context and influence novice teachers' engagement in formal learning (Hansman, 2008), which has the potential to lead to identity ambiguity (McNaughton & Billot, 2016; Trautwein, 2018).

In order to promote development of a teacher identity, Sutherland and Markauskaite (2012) discuss use of authentic learning experiences to motivate novice teachers and support them to develop their practice through engagement in real "routines, rituals and conventions" (p. 750). Similarly, Grier and Johnson (2009) suggest the development of mediated experiences that facilitate participation in "joblike", "accountability environments" but are supported by modelling and mentorship (p. 57). It is interesting that the term participation is used again here and suggests novice teachers need guidance from more experienced teachers within those environments.

### Communities of Practice

A review of research on teacher professional learning in the UK by Opfer and Pedder (2011) recommends integration of a Communities of Practice (CoP) framework to represent the interrelationships between the individual, the teaching community, and their specific teaching context. They describe these interrelationships as the "systems of influence in a teacher's world" (p. 368). This study is one of a growing number emerging from Europe over the last 20 years that explore the potential of a CoP framework for teacher learning in either higher or secondary contexts. In contrast, Viscovik (2005) studies aspects of informal learning in three different tertiary organisations in New Zealand. Through the case studies that emerge, Viscovik highlights the potential of the CoP framework for teacher learning in the New Zealand tertiary sector and argues that institutions should draw on situated and social learning. However, the nature of these learning communities and how best to cultivate them is still contested in the literature.

Early conceptualisations of CoPs perceive them as naturally occurring, voluntarily and unstructured (Wenger, 1998). More recent studies suggest that CoPs can be intentionally nurtured as facilitated learning environments that support participants to make tacit knowledge more explicit (Reaburn & McDonald, 2017; Sanchez-Cardona, Sanchez-Lugo, & Velez-Gonzalez, 2012). However, the growing number of studies, mainly from the compulsory and Higher Education (HE) contexts, that explore the cultivation of CoPs for teacher learning present conflicting messages. Some researchers question the overly collegial view of CoPs and argue that much of the research ignores the potential for relationships to influence negatively or inhibit learning (for example Annala & Mäkinen, 2017). However, others find that CoPs can promote collaboration, reduce isolation and support engagement (Patton & Parker, 2017; Retna & Ng, 2010; Viscovik, 2005).

## KEY CONSIDERATIONS

The research shows that conceptions of teaching and learning can impact on learning in two ways. Firstly, novice teachers in the ITP sector often come to teaching with considerable occupational expertise and strongly-held, partly-formed conceptions of teaching. These conceptions act like a filter on how novice teachers interpret and learn from their everyday experiences of teaching. Secondly, these conceptions can affect engagement in formal learning opportunities because of a perceived mismatch between espoused pedagogical approaches and existing knowledge. Zepke (2010) discusses this unwillingness to engage and suggests that it occurs because they are not ready to learn. Despite this evidence that existing conceptions can constrain both learning, these conceptions are often left unexamined to be continually reinforced through workplace practices and interactions. As a result, a bottom-up approach is suggested that begins with what a collaborative deconstruction of beliefs, assumptions and expectations, not just of teaching but of learning, including perceptions of self as a learner (Forzani, 2014; McDonald et al., 2013; Peercy & Troyan, 2017).

Whilst the first course in the GDTE begins by asking learners to reflect on what they already know about teaching and how they know it, time constraints limit the depth of discussion. In addition, conceptions evidence an affective dimension to teaching as they are highly personal and therefore often tied to strong feelings and emotions. Furthermore, when conceptions are established in prior occupational contexts and occupational knowledge is perhaps valued more highly than teaching knowledge, there is potential for dissonance that might impact on participation. Therefore, a key consideration is how best to establish a trust environment in which beliefs and assumptions can be openly shared and safely and constructively challenged.

A key outcome of the GDTE is that graduates can act as reflective practitioners. Whilst it is often assumed that novice teachers instinctively reflect on their experiences and question assumptions or misconceptions, research identifies that the ability to reflect on teaching experiences is a key limiting factor to learning. From a socio-cultural perspective, much of the research advocates for opportunities to collaborate with peers in the analysis and interpretation of teaching experiences in presence of a knowledge other (Gelfuso & Dennis, 2014; Grier & Johnson, 2009). The GDTE is underpinned by a practice-based pedagogy and therefore recognises the importance of reflection on practice for the development of practice. It integrates opportunities for learners to try out new pedagogical approaches in their classrooms and then to reflect on the experience. Learners are given probing and exploratory questions to support them to examine the experience, followed by facilitated opportunities to participate within a learning community and collaboratively analyse and interpret the experiences with other learners and a GDTE facilitator. This is similar to the notion of learning communities (Dirksen, Klassen, & Daniels, 2017; Shulman & Shulman, 2004).

However, research also suggests that novice teachers' practices are deeply informed by past and present workplace practices and strongly influenced by collegial interaction within specific teaching contexts. This means that the perceived value of the GDTE facilitator acting as a knowledgeable other may well be tempered by the learners' perceptions of what is valuable knowledge in their context. Therefore, whilst GDTE facilitators do have considerable knowledge of learning and teaching, it must be acknowledged that learners may not consider this to be valuable knowledge. Thus, a second consideration is how to increase the perceived value of teaching knowledge in order to promote reflection for meaningful learning.

As previously discussed, novice teachers' practices may be deeply informed by the ways in which they were taught in prior workplaces. Additionally, conceptions are strongly-held and often reinforced through the dominant discourse in their specific teaching contexts. These findings suggest that novice teachers must broaden their experiences of teaching in order to expand their own conceptions. This view is supported by Dewey, who believed that observations of others' teaching practice are central to teacher development (Dewey, as cited in Harris, 2011). Harris (2011) suggests that the knowledge required for skilled teaching practice needs to be articulated by an expert teacher. Boud (2000) identifies that expert teachers possess not only extensive teaching knowledge but are also able to make this knowledge explicit and therefore accessible to novice teachers. Hattie and Clinton (2008) refer to this process as "a staccato of trial and error" (p. 242) whereby teaching knowledge and reasoned decision-making is made explicit as they deconstruct and reconstruct their teaching practice, thus supporting novice teachers to make connections between what they have observed and the underpinning pedagogy.

Whilst novice teachers may observe some of their colleagues as part of an induction process, or through peer observation activities that are integrated within the GDTE, these opportunities do not necessarily broker access to an expert teacher. This means that where observed practice fits with a novice teacher's existing conceptions, they may well replicate it without question, or where it does not fit, simply reject it as not relevant in their context. Thus, a third consideration is how best to broker access, not just to observations of teaching, but observations of expert teachers who can make the reasoning behind their pedagogical decision-making explicit.

The research suggests that development of a teaching identity is important to the development of teaching practice and yet it also finds that vocational teachers often identify more strongly with their prior occupation than they do with teaching. There is evidence that the socio-cultural context may influence the outcomes of informal learning and suppress emerging teaching identities, particularly when the dominant discourse is occupational rather than teaching knowledge. Research suggests that authentic, mediated learning experiences are facilitated in real-world work environments but that they need to be supported by mentorship (Grier and Johnson, 2009; Maxwell, 2010). The GDTE integrates authentic learning activities and subsequently facilitates collaborative discourse and reflection across contexts, within a more formal learning environment. However, it does not currently support the on-going mentorship in the specific work environment that is required to leverage the perceived value of informal learning and to challenge non-learning. The final consideration then is how to mediate the formal learning opportunities that are integrated into the GDTE with the informal learning through mentorship within the specific teaching context.

These four key considerations highlight potential barriers between formal learning and informal learning in close knit workplace communities. It is clear that whilst a perceived separation of formal learning in the GDTE and informal learning in the workplace continues, tensions will continue to arise. Therefore, the GDTE facilitators need to find a way to leverage the value inherent in informal learning and the strong social bonds within workplace communities. The research suggests that integrating a CoP framework would support situated and social learning and enable discursive conversations to make explicit the tacit knowledge arising from informal learning in the workplace. However, although research indicates that the some of the norms associated with CoPs can be used to create more effective learning environments, it also presents conflicting messages and raises significant questions about how best to establish and facilitate these communities. Furthermore, it queries the collegial view of CoP relationships and suggest that CoP relationships can perpetuate tacit knowledge and can negatively influence or inhibit learning (for example, Annala & Mäkinen, 2017).

Therefore, rather than setting up intentional CoPs, GDTE facilitators could draw on the norms associated with traditional CoPs, whereby novice workers work alongside more experienced others to establish learning partnerships. However, learning partnerships in this context would differ from the traditional socio-cultural, one-to-one partnerships also to a GDTE facilitator. A triumvirate of novice teacher, more experienced teacher or learning leader from the learner's specific teaching context, and a GDTE facilitator would work together to situate the GDTE within the workplace. Acknowledging that all partners come to the relationship with significant life experiences to share, and established conceptions and expectations of both learning and teaching suggests these partnerships would be non-hierarchical and reciprocal. Similar to evolutionary mentoring relationships, as described by Hay (1995), these partnerships could create the high trust environment needed to both challenge and support a novice teacher.

Learning partners could share the roles of workplace mentor and GDTE facilitator to begin to break down the barriers between formal learning and informal workplace learning and increase the perceived value of teaching knowledge. Partnerships could come together to broker access to expert teachers and lead post-observation conversations that explore the expert teachers' knowledge and reasoned decision-making and support novice teachers to make connections between theory and practice. In addition, they could situate learning in the learner's own experiences by providing ongoing mentorship: mediating GDTE learning experiences, challenging learners to analyse their experiences, and sharing and constructing new pedagogical knowledge as and when it arises. As knowledgeable others, the more experienced partners could share valuable pedagogical knowledge to support novice teachers to make connections between theory and practice within their own teaching context, thus developing more reasoned pedagogical content knowledge (Van Driel & Berry, 2012).

## CONCLUSION

It is clear that learning to teach in-service is a complex process involving interplay between formal and informal learning and neither of these approaches present a ready-made easy answer to learning about teaching. Instead, each has potential to promote and constrain learning. Whilst the new iteration of the GDTE integrates a more practice-based pedagogy in order to situate learning experiences within the work environment, a review of the literature suggests that barriers are likely to exist between formal and informal learning, and the perceived value of teaching knowledge. The establishment of learning partnerships between novice teachers who are enrolled in the GDTE, more experienced teachers or learning leaders from their specific teaching context, and GDTE facilitators could more closely situate formal learning within the workplace context and leverage the value placed on informal learning and the influence of workplace communities.

**Julia Walne** has 30 years' experience working across educational sectors, the last 12 of which have been in academic capability development and advisory roles within the ITP sector. She has broad experience in the design, development and facilitation of tertiary teaching education programmes.

https://orcid.org/0000-0002-2646-7237

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Article

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# DEVELOPING A CONTEMPORARY CURRICULUM FOR UNDERGRADUATE NURSING LEARNER SUCCESS

Karole Hogarth and Donna Burkett

## INTRODUCTION

The development of a nursing curriculum that prepares nursing graduates to address both current and future health needs of our communities, whilst meeting requirements set by the Nursing Council of New Zealand (NCNZ), New Zealand Qualifications Authority (NZQA) and the Tertiary Education Commission (TEC), is not an undertaking for the faint of heart. This article describes the journey of a curriculum review in a Bachelor of Nursing (BN) degree in the New Zealand context. It was important to share the learning from this process and to show the importance of transparency and teamwork, and that research and maintaining currency in the health environment were essential components.

In the School of Nursing (SoN) | Te Kura Tapuhi at Otago Polytechnic (OP) | Te Kura Matatini ki Otago, the 2020 curriculum review was initiated due to the regulatory requirements for a five-year review cycle. From experience, this process proved to be lengthy and required careful consideration, hence it was commenced in 2018. The nursing curriculum at OP is built from a 30-year history of learner success supported by the guiding philosophy of critical social theory which was relevant when nursing transitioned from an apprenticeship-based model to a tertiary diploma. Our focus for the 2020 curriculum review was to contemporise this philosophy by incorporating important aspects of nursing theory that are relevant in twenty-first century clinical environments locally and globally.

Critical social theory is well integrated into many ways of thinking within the health environment, however our perspective was that Habermas' theoretical system no longer met contemporary thinking. Literature suggests that contemporary nursing curricula require graduates to possess criticality by using established frameworks such as clinical judgement and clinical reasoning (Levett-Jones, Hoffman, Dempsey, Yeun-Sim Jeong, & Noble, 2010; C. Tanner, 2006; T. Tanner, 2010; Lasater, 2007). These nursing frameworks allow learners to become reflective practitioners whilst understanding what it means to become a nurse within a safe supported learning environment.

Further literature reviewed, both locally and internationally, indicates that contemporary nursing curricula are essential in the maintenance of currency for graduates and academics, and uphold and align with the World Health Organisation (WHO) targets and the United Nations (UN) sustainable development goals, which include interprofessional education and sustainability goals. Curricula must also address health targets and specific focus areas set nationally by the Ministry of Health as well as be guided by the NCNZ core competencies and the BN graduate profile.

To ensure that the elements mentioned above were considered in the review process required significant engagement with the academic team. We also had to be cognisant of the requirements of our governing body, stakeholders and communities. The curriculum needed to be focussed and fit for purpose but flexible and adaptable to be able to change as necessary in response to the healthcare environment nationally and globally.

We were aware the graduate profile for BN programmes in New Zealand had been recently revised. This allows for individual tertiary provider curriculum delivery to be related to the varying community health and wellbeing requirements, which can differ widely across the country.

Of utmost importance however, was that throughout the curriculum review process, it was vital to acknowledge and respect the contribution of our academic nursing colleagues (tipuna) that had brought the curriculum to such a positive place, as demonstrated by our consistently excellent learner outcomes. Acknowledgment of this rich history enabled a successful launch pad for the contemporary development of a revised curriculum.

## CURRICULUM REVIEW PROCESS

The development of the Curriculum Review Team (CRT) began with the Head of School and Curriculum Leader nominating the three programme leads from each of the self-leading teams within the BN programme at OP. In turn, each programme lead then nominated one further member from each of their teams. The purpose of this was to ensure that future reviews have team members that understand the process which allows succession planning to occur simultaneously. The CRT was also complemented by administrative support and inclusion of the school's dedicated learning and teaching specialist from OP's Learning and Teaching Development team.

Initial CRT meetings helped to determine a clear goal of what was to be achieved, provided an overview of the entire review process, and established an expected timeline (Figure 1) of outputs and associated responsibilities. All meetings were minuted and made available on a shared access drive for all staff to access at any time to ensure transparency of the process and to demonstrate accountability. All the progress of the CRT was further communicated to SoN staff at our monthly staff meetings as a standing agenda item.

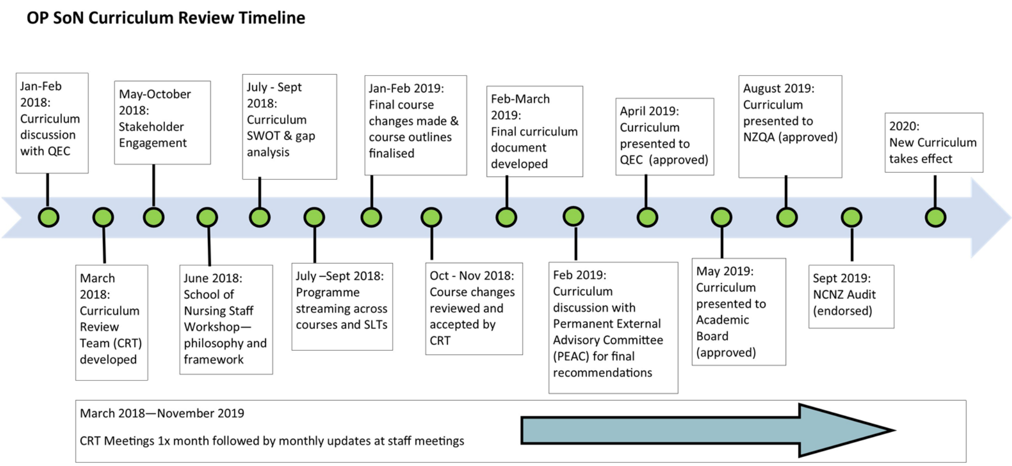


Figure 1. Curriculum Review Timeline.

One of the first tasks for the CRT was to undertake a research review of contemporary nursing practice and the development of nursing theories and philosophies to ensure a broad perspective was considered. This enabled a robust discussion of potential theories and philosophies that would best meet the contemporary requirements of the nursing profession in New Zealand and global contexts, both now and into the future. These theories and philosophies are explored further in the Discussion section.

Simultaneously with the research review, a critical aspect of this curriculum review process began by seeking wider stakeholder involvement. This stakeholder group included our current and past nursing students, our clinical practice partners across all health care sectors, Kaitohutohu, Permanent External Advisory Committee (PEAC) members, the Ministry of Health and SoN staff. This stakeholder engagement and resulting discussions were grouped in datasets and then analysed into themes using a SWOT framework (strengths, weaknesses, opportunities, threats). This helped to identify strengths, weaknesses, opportunities and threats of the current curriculum and potential priorities for the future curriculum. This analysis was further supported by recent external monitor reports and contextualised around the local, national and global healthcare context and it ensured challenges that this raised for the nursing profession were addressed within the review process.

The resulting outcome of both the research review and stakeholder engagement group discussions was the development of a new contemporary philosophy summary statement. The draft philosophy introduced contemporary nursing theories that would become the core component of the curriculum. The nursing theorists that the SoN chose by consensus, following research and robust internal discussions, were Tanner (2006), Lasater (2007) and Levett-Jones et al. (2010), all of whom had developed visual tools that both learners and academic staff could articulate and apply to practice.

It was important that this new philosophical direction was supported well by associated rationale for challenging the status quo whilst still paying respect to our tīpuna. This philosophy was launched to our SoN staff at a dedicated curriculum review workshop, where further discussion and input was considered to help finalise our future direction.

Once agreed upon, key components and aspects within the new philosophy statement were identified to assist in guiding the creation of the new curriculum framework. The remainder of the workshop then focussed on creating visual representations of concept frameworks by the SoN staff in attendance. There were four self-assigned groups who discussed and created four concept designs. Each of the four designs was presented back to the wider group, including their discussion, narrative and rationale for their chosen design (Figures 2-5). Each presentation was recorded, with permission of each group, to allow for review by staff who had been unable to attend. The model that best aligned with the future vision of our SoN team was then decided on by majority vote.

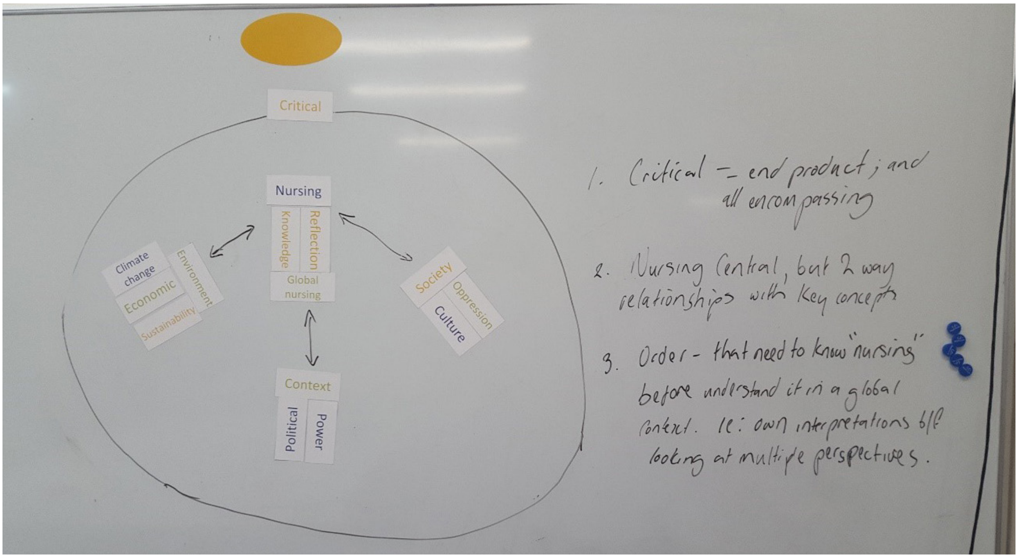


Figure 2. Concept frameworks (a).

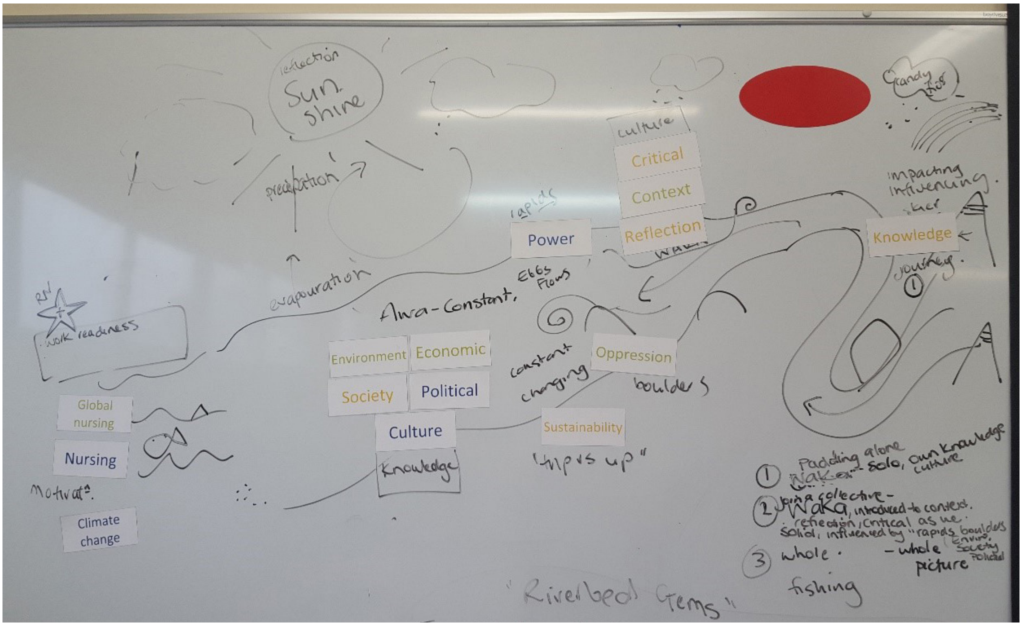


Figure 3. Concept frameworks (b).

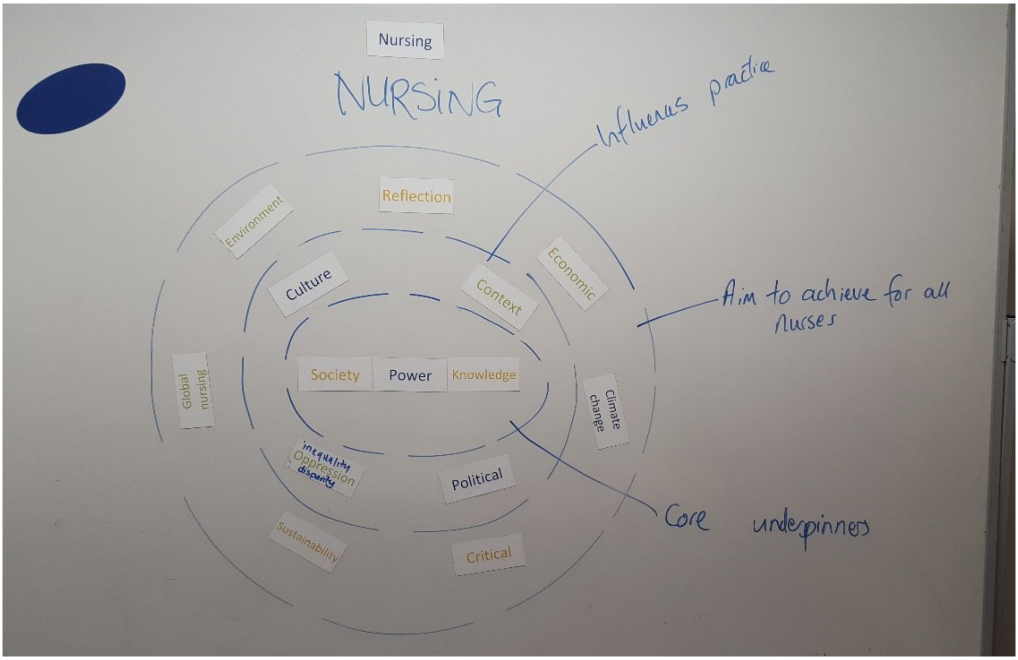


Figure 4. Concept frameworks (c).

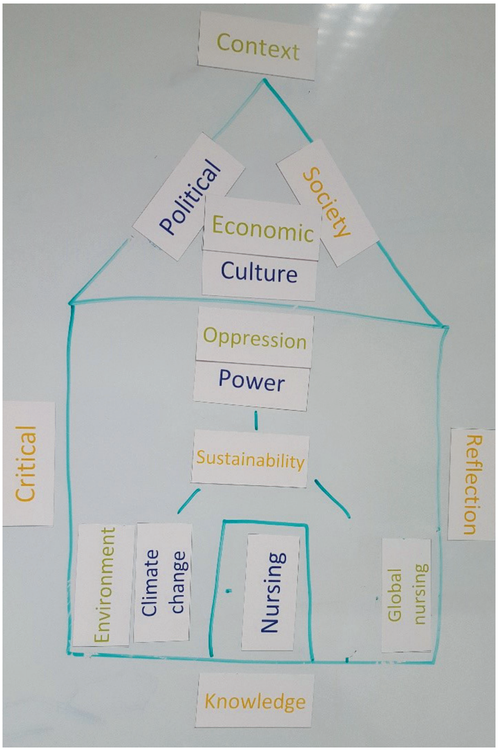


Figure 5. Concept frameworks

The four framework designs were developed by the SoN team during a curriculum workshop. This shows the depth of thinking and collaboration in this process.

The preferred final framework for practice design was decided by democratic vote by the SoN team. The design was then enhanced with the support of the OP Visual Design Team resulting in a visual that was incorporated into the curriculum document (Figure 6).

Once the guiding philosophy and framework for practice using a competency-based curriculum model were decided, the hard work began. Each course within the BN programme was reviewed in turn to ensure that course names, credits assigned, course aims, and learning objectives aligned and were appropriately stair-cased within learning streams, and aligned with the future curriculum direction and intent. This was achieved by the development of dedicated stream meetings that were attended by course co-ordinators and at least one member of the CRT to ensure consistency. The resulting outcomes meant significant changes to predominantly all our theory courses in order to contemporise their content and course delivery models. There was also a welcome re-visit of clinical courses, how they are facilitated and co-ordinated to ensure they were fit for purpose across the BN programme.

It was at this stage we discussed a gap in clinical experience that had been identified in stakeholder feedback which needed to be addressed. This involved a complete shift in the Year 2 clinical courses to incorporate a Senior Persons Health course, which meant this specialist area of nursing was removed from Year 1 where the learners have not had the learning, experiences or time to develop the necessary skills to engage in this complex area of practice. It was also an opportunity to strengthen the Pharmacology course in Year 1, by increasing the credits for this course and aligning the learning outcomes with other Year 1 theory and clinical courses for consistency. The input from our Learning and Teaching Development CRT member was crucial to the success of this stage. Her ability to examine across courses and provide feedback with a critical eye ensured consistency of wording, phrasing and taxonomy across Level 5, 6 and 7 courses.

The resulting changes were incorporated into a document, and with the input of the Quality Enhancement Centre (QEC) prepared for presentation to Academic Board for approval. Part of this process was the need for NCNZ to provide approval of changes. These were summarised and approval sought and received prior to external review with NZQA and TEC.

Context
Nursing | Global Nursing

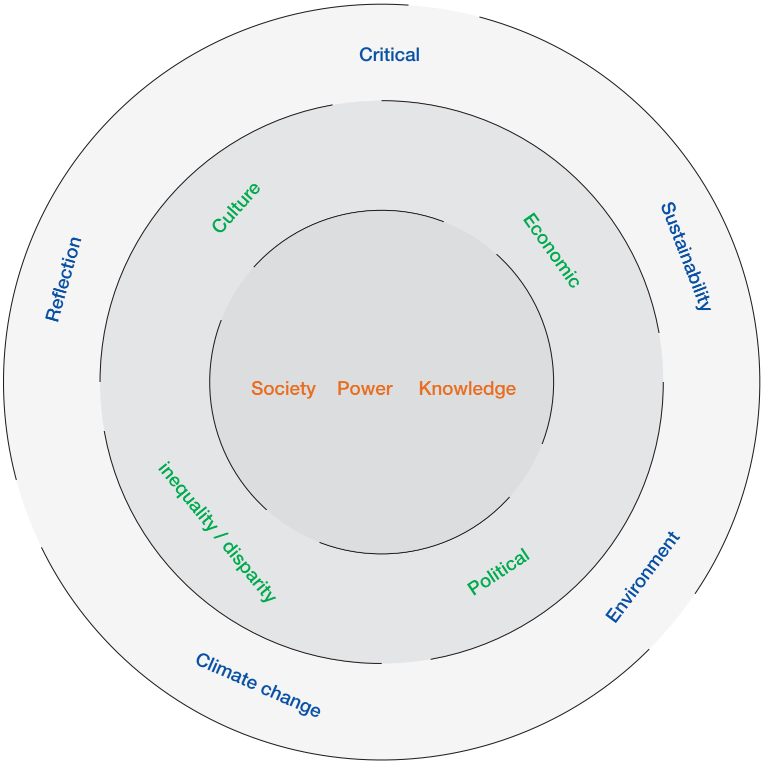


Figure 6. Final Otago Polytechnic School of Nursingframework for practice.

## DISCUSSION

A curriculum philosophy represents a belief system within the discipline (Mackintosh-Franklin, 2017; Elliott, Rees, Shackell, & Walker, 2017; M. Mansor, R. Mansor, Jusoh, & Chin Choon, 2018) and context of nursing at OP. It enables the articulation of the roles of the nurse, beliefs about health and wellbeing, and the underlying theories that ensure that individuals, families, and communities can be confident in the competence, professionalism and safety of graduates. "A well written philosophy will guide what is taught and how it will be taught" (McCoy & Anema, 2018, p24).

One of the key outcomes of this review was the realisation of the complexity that surrounds critical social theory, which has been well documented in the literature (How, 2017; Weaver & Olson, 2006). The standing description had been in the curriculum for around 20 years and was lengthy, hard to understand for most of the SoN team, and difficult to articulate to each other and our learners. The resulting round table discussions about a potential philosophical change were focussed on generating outcomes rather than doing what we have always done. To challenge the long-standing backbone of the curriculum meant having some courageous conversations, being prepared to answer questions, rationalising the need for change, and contemporising our philosophical position.

All nursing curricula in New Zealand are approved by NCNZ and all must show evidence of how learners are supported and staircased into being able to meet the competencies for Registered Nurses (RNs) by the end of their degree. Bridging the theory to practice gap was discussed in depth during this review, and this is where it became evident that the inclusion of clinical judgement (Lasater, 2007) and clinical reasoning (Levett-Jones et al., 2010) theories being embedded throughout the degree were crucial to our ongoing success. These theories provided an excellent template for enhanced learning and meaningful outcomes. Adapted versions of the competencies became the learning outcomes for clinical courses and these enable the learner to demonstrate growth in their clinical competence as they proceed through their degree. The introduction of clinical judgement and clinical reasoning into all courses would ensure a seamless transition into clinical practice where these theories are applied and measured.

The measurement of learner progress throughout both theory and clinical courses can be achieved very successfully with the inclusion of the Tanner (2006, 2010) clinical judgement rubric (Figure 7) and Levett-Jones et al. (2010) clinical reasoning cycle (Figure 8). Both tools allow for individuals to develop their practice from whatever their starting point. Individual life experiences, previous healthcare encounters, personal perspectives and the cultural lens of our learners all provide an individualised canvas on which they develop their core knowledge, skill acquisition and competence in relation to nursing practice.

This is illustrated when the Tanner (2006, 2010) rubric (Figure 7), is applied to the learner journey throughout the nursing degree. Some learners are able to practise at a more advanced level than their peers from the outset. It is essential to provide learners the ability to articulate and integrate knowledge and to demonstrate growth at their own pace and level throughout the BN programme. This reduces the need to compare themselves against others as it is an individual personal and professional journey. Integrating both the clinical judgement (Lasater, 2007) and clinical reasoning (Levett-Jones et al, 2010; Pitt, Levett-Jones, & Hunter, 2015) theories across the three year BN programme allows learners to demonstrate their developing competence, and therefore these theories became the ultimate outcome of the revised curriculum.

| **Dimension** | **Exemplary** | **Accomplished** | **Developing** | **Beginning** |
|---|---|---|---|---|
| *Effective noticing involves:* | | | | |
| Focused observation | Focuses observation appropriately; regularly observes and monitors a wide variety of objective and subjective data to uncover any useful information | Regularly observes and monitors a variety of data, including both subjective and objective; most useful information is noticed; may miss the most subtle signs | Attempts to monitor a variety of subjective and objective data but is overwhelmed by the array of data; focuses on the most obvious data, missing some important information | Confused by the clinical situation and the amount and kind of data; observation is not organized and important data are missed, and/or assessment errors are made |
| Recognizing deviations from expected patterns | Recognizes subtle patterns and deviations from expected patterns in data and uses these to guide the assessment | Recognizes most obvious patterns and deviations in data and uses these to continually assess | Identifies obvious patterns and deviations, missing some important information; unsure how to continue the assessment | Focuses on one thing at a time and misses most patterns and deviations from expectations; misses opportunities to refine the assessment |
| Information seeking | Assertively seeks information to plan intervention: carefully collects useful subjective data from observing and interacting with the patient and family | Actively seeks subjective information about the patient's situation from the patient and family to support planning interventions; occasionally does not pursue important leads. | Makes limited efforts to seek additional information from the patient and family; often seems not to know what information to seed and/or pursues unrelated information | Is ineffective in seeking information; relies mostly on objective data; has difficulty interacting with the patient and family and fails to collect important subjective data |
| *Effective interpreting involves:* | | | | |
| Prioritizing data | Focuses on the most relevant and important data useful for explaining the patient's condition | Generally focuses on the most important data and seeks further relevant information but also may try to attend to less pertinent data | Makes an effort to prioritize data and focus on the most important, but also attends to less relevant or useful data | Has difficulty focusing and appears not to know which data are most important to the diagnosis; attempts to attend to all available data |
| Making sense of data | Even when facing complex, conflicting, or confusing data, is able to (a) note and make sense of patterns in the patient's data, (b) compare these with known patterns (from the nursing knowledge base, research, personal experience, and intuition), and (c) develop plans for interventions that can be justified in terms of their likelihood | In most situations, interprets the patient's data patterns and compares with known patterns to develop an intervention plan and accompanying rationale; the exceptions are rare or in complicated cases where it is appropriate to seek the guidance of a specialist or a more experience nurse | In simple, common, or familiar situations, is able to compare the patient's data patterns with those know and to develop or explain intervention plans; has difficulty, however, with even moderately difficult data or situations that are within the expectations of students; inappropriately requires advice or assistance | Even in simple, common, or familiar situations, has difficulty interpreting or making sense of data; has trouble distinguishing among competing explanations and appropriate interventions, requiring assistance both in diagnosing the problem and developing in intervention. |
| *Effective responding involves:* | | | | |
| Calm, confident manner | Assumes responsibility; delegates team assignments; assesses patients and reassures the and their families. | Generally displays leadership and confidence and is able to control or calm most situations; may show stress in particularly difficult or complex situations | Is tentative in the leader role; reassures patients and families in routine and relatively simple situations, but becomes stressed and disorganized easily | Except in simple and routine situations, is stressed and disorganized, lacks control, makes patients and families anxious or less able to cooperate |

| | | | | |
|---|---|---|---|---|
| Clear communication | Communicates effectively; explains interventions; calms and reassures patients and families; directs and involves team members, explaining and giving directions for understanding | Generally communicates well; explains carefully to patients; gives clear directions to team; could be more effective in establishing rapport | Shows some communication ability (e.g., giving directions); communication with patients families, and team members is only partly successful; displays caring but not competence | Has difficulty communicating; explanations are confusing; directions are unclear or contradictory' patients and families are made confused or anxious and are not reassured |
| Well-planned intervention/flexibility | Interventions are tailored for the individual patient; monitors patient progress closely and is able to adjust treatment as indicated by patient response | Develops interventions on the basis of relevant patient data; monitors progress regularly but does not expect to have to change treatments | Develops interventions on the basis of the most obvious data; monitors progress but is unable to make adjustments as indicated by the patient's response | Focuses on developing a single intervention, addressing a likely solution, but it may be vague, confusing, and/or incomplete; some monitoring may occur |
| Being skilful | Shows mastery of necessary nursing skills | Displays proficiency in the use of most nursing skills; could improve speed or accuracy | Is hesitant or ineffective in using nursing skills | Is unable to select and/or perform nursing skills |
| *Effective reflecting involves:* | | | | |
| Evaluation/self-analysis | Independently evaluates and analyzes personal clinical performance, noting decision points, elaborating alternatives, and accurately evaluation choices against alternatives | Evaluates and analyzes personal clinical performance with minimal prompting, primarily about major events or decisions; key decision points are identified, and alternatives are considered | Even when prompted, briefly verbalizes the most obvious evaluations; has difficulty imagining alternative choices; is self-protective in evaluating person choices | Even prompted evaluations are brief, cursory, and not used to improve performance; justifies personal decisions and choices without evaluating them |
| Commitment to improvement | Demonstrates commitment to ongoing improvement; reflects on and critically evaluates nursing experiences; accurately identifies strengths and weaknesses and develops specific plans to eliminate weaknesses | Demonstrates a desire to improve nursing performance; reflects on and evaluates experiences; identifies strengths and weaknesses; could be more systematic in evaluating weaknesses | Demonstrates awareness of the need for ongoing improvement and makes some effort to learn from experience and improve performance but tends to state the obvious and needs external evaluation | Appears uninterested in improving performance or is unable to do so; rarely reflects; is uncritical of himself or herself or overly critical (given level of development); is unable to see flaws or need for improvement |

Figure 7. Clinical Judgement Rubric, (Lasater, 2007).

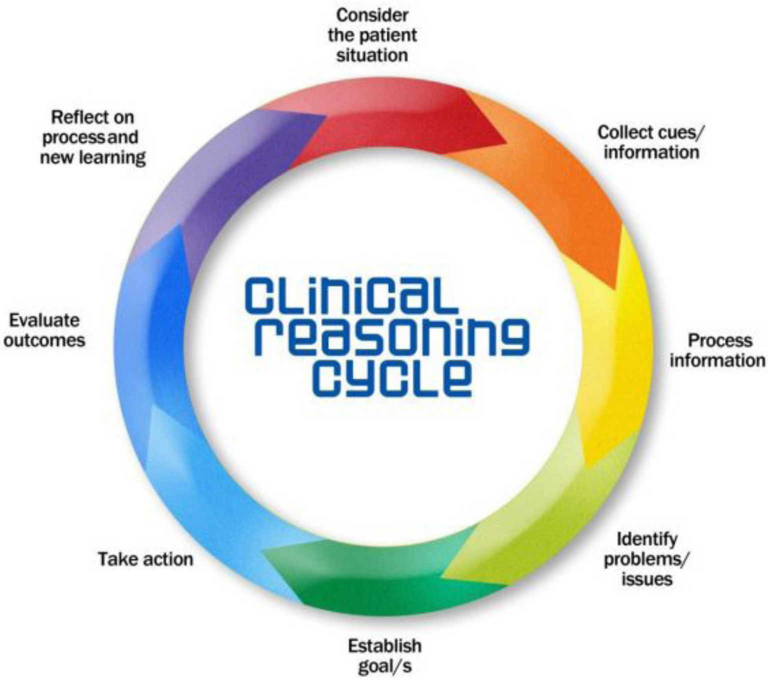


Figure 8. Clinical Reasoning Cycle, (Levett-Jones et al., 2010).

Nursing requires the development of essential core knowledge, skills and professional understanding (van Graan, Williams, & Koen, 2016). The C. Tanner (2006) and Lasater (2007) tools enable academics to assess a learner's progress accurately and provide further opportunities for developing and learning. Combined with the clinical reasoning cycle (Levett-Jones et al., 2010, Levett-Jones, 2015) which guides the learner to make clinical decisions that are informed and are evidence based, it will overall improve patient outcomes (Birks, Bagley, Park, Burkot, & Mills, 2017). Areas of concern can be addressed early with gaps in knowledge identified. The complexity of the learning and the thinking and judgement required can be staircased, ensuring that by the end of their degree, learners meet the competencies for RNs (NCNZ, 2012).

Over previous iterations of the BN curriculum, we have been very proactive in ensuring that Te Tiriti o Waitangi, sustainability, health & safety, the rural perspective and the New Zealand context are fully integrated into all courses. We are satisfied that with the changes to the curriculum that these key themes will be further strengthened and that learners will be able to articulate their knowledge of these with greater clarity and understanding.

Furthermore, the WHO has identified that working inter-professionally in the healthcare team is the most effective pathway to improving patient care and outcomes (World Health Organisation, 2010). This is an area of our curriculum that has been further enhanced recently, through a collaboration with our University of Otago inter-professional colleagues which provides several opportunities for our learners at OP to engage in interprofessional learning opportunities throughout their BN programme. We have also developed a formalised clinical coaching model for our third-year nursing students to regularly engage in the learner journey of their junior peers, as it is a NCNZ competency for a registered nurse to be able to direct and delegate others.

Our nursing curriculum philosophy is closely aligned with NCNZ competencies for RNs, UN sustainable development goals, the WHO targets, NZQA and TEC, and OP's mission statement, values and goals. This is an essential aspect of a philosophy as it ensures that the BN programme fits within the broader organisational context supporting stakeholders' needs.

We are confident that the curriculum we have developed is robust enough to be able to flex and change. This has been evidenced this year as COVID-19 brought about a time of uncertainty and complexity. Our new curriculum and our team were able to respond in a way that has ensured that our learners are even more prepared, that they have the knowledge and skills, and have experienced a whole new way of learning and engaging. We believe that this demonstrates resilience and adaptability, which are essential qualities for every nurse.

## SUMMARY

Our team has learned some valuable lessons from this curriculum review. The development of a CRT proved highly effective. The mix of experienced academics who have been through the process in previous curriculum iterations and novice academics who have most recently been in clinical practice meant that there was a breadth of experiences that added richness to the discussions and resulting outcomes. The workload was distributed evenly across all members whilst providing a learning environment which ensured that future reviews have a team on whose knowledge they can draw upon.

Staff engagement in this process and resulting discussions forged enhanced collegial connections across the SoN and assisted staff to focus our collective efforts on both the learning and teaching experience whilst helping to prepare work-ready nursing graduates. The evolution of a curriculum philosophy was much easier when there was agreement and the rationale was explained to SoN academics who have worked under a long-standing philosophy and curriculum for many years.

Otago Polytechnic nursing graduates are sought after around the country. As per OP graduate outcomes, SoN Destination Survey and NCNZ data, we have proven longstanding success in our degree programme with greater than 90 percent retention rates of learners, consistent success in NCNZ state final examination outcomes (greater than 97 percent for the past five years) and high employment rates (100 percent for the past five years). We know that our graduates make a difference to people in all communities, and for that we are extremely proud. We want to ensure that we maintain and enhance this pathway with a modern, dynamic, flexible curriculum that develops nurses who are critical thinkers with excellent clinical judgement.

**Karole Hogarth** is an Associate Professor and the Head of Nursing in the School of Nursing | Te Kura Tapuhi at Otago Polytechnic Te Kura Matatini ki Otago. Clinically she has worked nationally and internationally in a range of settings, mainly in Burn Units and Intensive Care Units. Karole has 15 years' experience as a nurse academic mainly teaching the sciences in health courses. Her research focus is on inter-professional education, science in the health professions, and improving outcomes for Māori learners.

https://orcid.org/0000-0002-5764-6289

**Donna Burkett** is a Registered Nurse and Senior Lecturer at the Otago Polytechnic | Te Kura Matatini ki Otago. Donna has practised predominantly in child and youth health care contexts both in New Zealand and internationally over her career and she joined the School of Nursing | Te Kura Tapuhi academic team in 2017. As a proud Otago Polytechnic nursing graduate herself, her teaching role allows her to give back to the nursing community by helping promote learner centredness, learner experience with resulting learner outcomes that help prepare work ready nursing graduates that truly make a difference.

https://orcid.org/0000-0003-3122-9804

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# JOTTINGS IN THE MARGINS – USING DIGITAL ANNOTATION TO SUPPORT 21ST CENTURY LEARNING

Simonne Wood

## INTRODUCTION

In this review, I evaluate Hypothes.is (https://web.hypothes.is/), a digital tool which enables users to highlight and annotate any text-based content on the internet. I will first give an overview of the pedagogical basis for using text annotation as a learning strategy and then explore the additional benefits – and risks – of online annotation. Against this background, I then evaluate the specific capabilities of Hypothes.is as a tool for teachers and learners. For this, I draw on my own experience of seeing Hypothes.is in action in courses run by the OERu (www.oeru.org), and two academic articles reviewing the authors' experience of using Hypothes.is with their tertiary students.

## WHY ANNOTATE?

The highlighting of words and writing notes in margins are long-established techniques for learners working with printed text. Annotation is recommended as a personal study strategy by universities such as Eastern Washington University, which advises learners that it "enhance[s] the reader's understanding of, recall of, and reaction to the text" (Writers' Center, Eastern Washington University, n.d.). Annotation is recognised as having a particular role in improving literacy, as it "promotes active reading behaviours, such as asking questions, evaluating information, identifying key words and ideas, synthesising and summarising" (National Centre of Literacy & Numeracy for Adults, University of Waikato, n.d., p. 2).

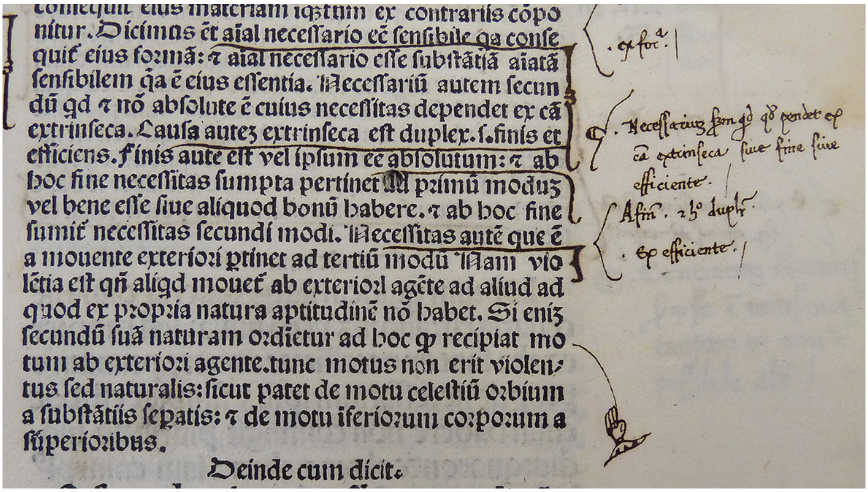

Figure 1. Manicule. Source: Provenance Online Project, University of Pennsylvania, on Flickr.com.

Going beyond its use in self-directed study, teachers can design annotation-based learning activities to support desired learning objectives. Cognitive processes that can be prompted by annotation exercises include criticism, evaluation, analysis, classification, and making sense of unfamiliar words or concepts.

Brown and Croft (2020) present a useful summary of the literature evidencing the benefits of annotation, while also noting that its impact on learners' critical thinking is a contested area. Unsurprisingly, they argue that the *design* of learning activities using annotation is key to its success or failure.

## GOING DIGITAL

As learners increasingly rely on online resources, it is clearly practical, and less wasteful of paper, to use tools that allow digital note-making. However, online annotation brings additional affordances and challenges for teaching and learning.

While online annotation can be a purely personal activity, one benefit is the ease with which learners can work together, either amongst their own classmates or with internet users across the world. Brown and Croft (2020) describe this 'social annotation' as "the use of collaborative technologies to help students draw meaningful connections to texts in-line alongside their peers." With well-designed learning activities involving annotation, learners can conduct joint research projects, support each other's learning, and develop new understandings and concepts together. Research has shown that the ability to work collaboratively is one of the capabilities most highly valued by New Zealand employers (Otago Polytechnic, 2019).

Another benefit is the opportunity to extend learners' digital skills and digital literacy, both widely recognised as essential attributes of twenty-first century 'digital citizens.' Using the Netsafe definition of successful digital citizenship (Netsafe, 2015), we can see, for example, that through positive experiences of using an online annotation tool, learners can become more "confident and capable users of ICT", will "use ICT to relate to others in positive, meaningful ways", will develop literacy "in the language, symbols, and texts of digital technologies", and "respect the concepts of privacy and freedom of speech in a digital world." Specific examples of some of these aspects in the context of an English literature course are discussed by Kennedy (2016).

In addition, teachers themselves can be more actively involved in the annotation process if it is online. For instance, a teacher can annotate a web page with questions or comments before the learners read it, or they can respond to learners' annotations afterwards. Reviewing learners' notes can also alert a teacher to aspects of a reading that need clarification in a tutorial.

As with any online environment, however, there are also risks associated with participation. The most basic arise from the need to create a user account; teachers and learners should ensure they are aware of the privacy policy that applies to the specific software they are using (see, for example, https://web.hypothes.is/privacy/.) More complex risks, in the arena of social equity, are perceptively examined by Brown and Croft (2020), who discuss how instructional design needs to mitigate the potential for micro-aggressions and exclusivity in the online classroom, particularly to counteract their impact on already marginalised learners.

## USING HYPOTHES.IS FOR WEB ANNOTATION

Hypothes.is is a free digital tool which can be added to any browser on a laptop or desktop computer in a few simple steps from https://web.hypothes.is/start/. After installing the software and creating an account, users can activate Hypothes.is on any web page, including PDF documents that are opened in a browser.

Hypothes.is cannot currently be added to browser apps on mobile devices; however, users can paste a link into a special box on the Hypothes.is website and then have the same functionality (Hypothes.is, n.d.). This does not give such a smooth user experience and is regrettable given the number of learners who use mobile devices for study.

It can be hard for first-time users to notice the collapsible annotation sidebar at the side of the screen, but, once this has been recognised, use of the tool is very intuitive. As with a printed document, you can highlight and annotate specific text or make more general notes on a whole page. Highlighting is only available in one colour, but this limitation is easily outweighed by the ability to add 'tags', which allow you to search for your chosen key words throughout all your online annotations. Another bonus is the ability to include hyperlinks and images, as well as text, in your annotations.

For each annotation and page note, the creator has three options for its visibility on the web: 'only me', public, or a group (Hypothes.is, n.d.). Any user can set up a group and invite others to join. This means that a teacher can set up a group for their learners, to enable classmates to view and respond to each other's annotations, with the benefits of social annotation discussed above. Teachers will need to tailor their choice of group set-up for their particular teaching context and objectives. For example, will they want to set up a group for a whole class or for small groups of learners? Will they want learners from one cohort to see the notes of previous cohorts or not? Alternatively, are there greater learning opportunities (as well as increased risks) in making the annotations fully public?

Kennedy (2016) and Seatter (2019) have both provided detailed and balanced reviews from a tertiary teacher's perspective of using Hypothes.is (and in Seatter's case, other annotation tools) in their English literature courses. Both are positive about online annotation activities in general and Hypothes.is in particular, but helpfully draw attention to potential pitfalls and barriers to success, such as the risk of learners annotating different websites containing the same text, or inadvertently posting publicly instead of to a group. However, as Kennedy notes, if well-managed by the teacher, all these risks can give opportunities for learners (and teachers) to develop their digital literacy.

## ANNOTATION AS A TOOL FOR VOCATIONAL LEARNERS?

There is clearly significant potential in using social annotation as a learning strategy, provided that it is used in the right context, with careful design and appropriate guidance and safeguards for learners. Hypothes.is, while not perfect, provides an effective, and free, platform that is relatively easy to use for this purpose. It is to be hoped that, as both teachers and learners become more confident with using a range of digital tools, Hypothes.is or similar social annotation software will become another valuable tool in the teaching and learning toolkit.

Hypothes.is' website, and the academic literature, provide many interesting examples of use of the tool in tertiary education, but most come from the humanities and social sciences. I believe that there are many potential uses within vocational education as well. These could include improving general literacy, engaging with applied research and industry-specific websites, inter-professional collaboration, and responding creatively to words through images.

I would welcome feedback from teachers, particularly in the vocational sector, if you have used or are interested in using Hypothes.is, so that we can develop a shared set of examples for using digital annotation in this context.

**Want to see Hypothes.is in action?** The OERu (https://oeru.org/about-oeru/) makes use of Hypothes.is in its free online courses, encouraging learners across the world to contribute ideas and support each other. One example is in the 'mini-challenge' on the Digital skills versus digital literacies (https://course.oeru.org/lida101/learning-pathways/introduction-to-digital-literacies/digital-skills-versus-literacies/) page of *Digital literacies for online learning*. If you install Hypothes.is and visit the article (https://www.literacyworldwide.org/blog/literacy-now/2016/02/03/knowing-the-difference-between-digital-skills-and-digital-literacies-and-teaching-both) referred to in the activity, you can view public comments made by OERu learners.

**Simonne Wood** is a Learning and Teaching Specialist at Otago Polytechnic, with a focus on the use of educational technology. She is also seconded part-time to OERu, an international network of tertiary institutions aiming to widen access to education through provision of free online courses using open educational resources.

https://orcid.org/0000-0002-7123-9479

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Article

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# FROM CONCEPT TO COURSE: CREATING A PATHWAY TO BETTER COMMUNITY HEALTHCARE IN RURAL AOTEAROA NEW ZEALAND

Amy Benians and Emma Collins

## INTRODUCTION

This paper describes the learning design and processes to ensure that a concept developed into a viable and comprehensive online course from the perspectives of the Otago Polytechnic (OP) staff who developed the Certificate in Digital Health. There were many factors to be considered in the design of this course including the remote nature of the learners, their diverse backgrounds, and working in collaboration with the community. A constructivist, learner-centred and culturally-inclusive approach was used to develop the course. This culminated in a 16-week online course using a number of learning modalities to ensure the learners meet the learning outcomes of the course to prepare them to become digital health aides within their communities. In September 2020, the School of Nursing is planning online delivery of the first pilot of this innovative Certificate in Digital Health training scheme.

## BACKGROUND

The concept of delivering digital healthcare assessments in a community setting originally came from Dr Lance O'Sullivan, a medical doctor based in Kaitaia, Northland, who was extremely concerned about the level of untreated yet easily-treatable conditions, particularly in children, in his community. Initial meetings with Phil Ker, Chief Executive of OP, in 2017 culminated in a shared endeavour between OP and the Moko Foundation to develop a course and a micro-credential to create a new role of 'Digital Health Aide' (DHA). A DHA would be a community-based practitioner such as a teacher, teachers' aide, school administrator or pharmacist who would undertake a course in how to use a digital health app, for example, the iMOKOTM App, which also includes content regarding child health and wellbeing. A DHA could then perform healthcare assessments on children and use the app to share this information with a central team of doctors who would make a diagnosis and electronically send a prescription if any medications were required. For people working in this role already, an EduBits micro-credential was developed to validate their existing skills and knowledge. A programme document for a 20-credit Level 4 training scheme (TS), the Certificate in Digital Health, was approved by NZQA in July 2018. Course design was a collaborative process between medical staff at Moko Foundation and paediatric nursing staff at OP's School of Nursing, facilitated by OP's Learning and Teaching Development (LTD) team. Course development was carried out by LTD staff in late 2018-mid 2019.

## LEARNING DESIGN

In August 2018, Amy Benians started working in her current role as a Learning and Teaching Specialist in the LTD team at OP. Due to her background in pharmacology, she was asked to continue the development of a training scheme in collaboration with staff at the Moko Foundation, whose iMOKOTM  digital health app was already in use in parts of Northland. The brief was to create a fully-online, 16-week, Level 4 TS to enable trainees to perform in the role of a DHA by providing professional and confidential healthcare assessments in a community-based context such as an early childcare centre, school or pharmacy. A subject matter expert, Emma Collins, a nurse and Learning and Teaching Specialist also, was already onboard the project.

## LEARNER PROFILE

By taking a learner-centred approach, we designed the TS for a typical learner who is 18 to 65 years old, most likely female, lives in rural parts of Aotearoa New Zealand and may be engaged in formal or informal work within her community. Our typical learner has a genuine concern about the health outcomes of children in her community and wishes to upskill to make a contribution. Her community is most likely to be culturally diverse with a large population of Māori and Pasifika peoples, an example being rural Northland. Some, but not all, may already be a trained teacher, teaching assistant or early childhood educator. These learners are likely to be motivated to gain training and a qualification in digital health for altruistic reasons, such as improving health outcomes in their communities. Other learners may be motivated by economic factors, for example, to secure better future career prospects. Foundational training as a DHA will give these learners knowledge of how to practise safely, professionally and ethically in a healthcare environment. They may be encouraged to progress to other health-related programmes of study at the equivalent or higher level. As there are no prerequisites for this TS, the learner may have a minimum of a school-leaving certificate and there may be challenges around digital skills, literacy and numeracy.

## COURSE AIMS AND CONTENT

Digital health is an emerging field of healthcare in Aotearoa New Zealand (Ministry of Health, 2020) which – it is hoped – will enable easier access to healthcare and improved health outcomes for children and their families in rural Aotearoa. The Certificate in Digital Health is intended for individuals who currently, or who may in the near future, work as DHAs in a community-based context such as an early childhood education (ECE) centre or school. This course will enable them to gain the appropriate knowledge, skills and theory to perform professional and safe health checks on children in their care and to report these using a digital health application or "app" on an iPad. The curriculum choices were based on the graduate profile, which in turn informed the learning outcomes and learning design or 'blueprint' that was developed in consultation with subject matter experts (SMEs). The SMEs were a paediatric nurse, based at OP's School of Nursing, and a registered nurse and two medical doctors working for the Moko Foundation.

## CREATING A CULTURALLY-INCLUSIVE ONLINE LEARNING ENVIRONMENT FOR THE TS

A learner-centric approach to learning design involves firstly recognising learner diversity: their culture, ways of learning, aspirations and levels of starting knowledge, including literacy, numeracy and digital skills. Secondly, an effective learner-centred design involves ensuring variety in learning activities and assessments to cater for learner diversity (Beetham, 2013, p. 37). This can be achieved by incorporating the principles of universal design for learning (Meyer, Rose & Gordon, 2014), which includes offering:

1. Variety in content representation (visual, audio, text, and kinesthetic activities).
2. Variety in ways for learners to demonstrate what they know (as examples, delivery of learning activities via synchronous or asynchronous modes, or use of collaborative learning strategies) but always offering these with guidance such as exemplars, templates, reflective models, provision of feedback, and support in building learners' skills, such as with digital technologies.
3. Variety in means of learner engagement (such as offering choice in tasks to reflect a learner's cultural identity and goals) to encourage, motivate and enhance a learner's feelings of agency and control over their own learning.

Importantly for the learning design, we are aware that our adult learners bring with them abundant knowledge of the tamariki (children) in their care, of their communities, language and culture. They are the people who know how best to work within their communities. Hence we adopted a culturally responsive pedagogy in the Certificate in Digital Health where we moved from a deficit-focused approach to a strengths approach to incorporate inclusive learning and teaching strategies by embracing the learner's culture and prior knowledge (Howard, 2012). In culturally responsive teaching, we hope to harness this "richness of culturally embedded knowledge" (Howard, 2012, p.6) to create openings in which we will engage a learner emotionally and intellectually, and where he or she will explore concepts such as ethical and professional practice, confidentiality, consent, and disclosure. In the third and final module 'Enhanced practice' we introduce the term kawa whakaruruhau meaning 'cultural safety' (Ramsden, 2002, p.120); here the learner explores culturally-safe practice in their future role as a DHA.

Indeed, in the social constructivist view of learning, learning is considered to be a social process in which knowledge is constructed in the context of language and culture (Vygotsky, 1978). When creating a constructivist learning environment, the teacher takes the role of facilitator, and learning then occurs through interactions, from facilitator to learner, learner to learner, and – while somewhat humbling, but gratifying – from learner to facilitator. This resonates with the kaupapa Māori concept of ako, implying a two-way learning process in the learner/teacher relationship (Berryman et al., 2002, p. 143).

## ONLINE DELIVERY

To create online learning communities, we plan to create groups of learners in Moodle, our learning management system. Guided by an online facilitator in Dunedin, each group will progress through the 16-week course at the same time. This approach should incorporate peer learning through the use of Moodle forums to encourage online learners to construct knowledge and share their ideas in groups. These discussion forums are introduced early on, with a 'low stakes' activity – a compulsory ice-breaker forum – which should encourage all our learners to participate. We give some guidelines around this, especially around maintaining privacy, which is very important when working with children and families, particularly in smaller communities.

> *We don't want you to name the workplace that you work in because that could put some of the children and families that you work with in a compromising situation. New Zealand is a bit of a small village at times and it's not hard to work out who some people are in some communities.* (dialogue from Moodle course)

Establishing how to behave in a professional manner is a key part of this course and a message that students need to be aware of before proceeding. Whilst this course is primarily about preparing people to work as DHAs, at a national level there have been breaches of patients' privacy and confidentiality, particularly through the use of technology to share medical information. At an institutional level, there is a reputational risk if students do not abide by privacy and confidentiality guidelines. On an individual level, students are given the opportunity here to practise professionally, responsibly and ethically in a safe environment and to develop their own capabilities in these areas.

Moodle forums are used thereafter to encourage learner discussion around more involved topics, such as meeting legislative requirements, being professional and ethical in their future practice as a DHA, and working safely with children and their families.

Social constructivism also acknowledges that learning must occur in the zone of proximal development which is close to the learner's current knowledge (Vygotsky, 1978). It is important to help a learner by scaffolding them to develop their knowledge from the starting level to the desired level. A number of activities are included to achieve scaffolding using formative assessment, which is not marked or checked by the facilitator but gives the learner instant feedback whether their answer is correct or incorrect. This 'active learning' approach uses interactive online activities such as videos and quizzes, made using the H5P software plugin in Moodle. An example of an H5P quiz is shown in Figure 1 below. It uses a digital version of flash cards, in which the question introduces the "why?" They may know that they need to weigh a child for a health assessment, but they may not know why. The reason for doing this is to obtain an accurate weight to calculate the amount of drug prescribed to the child. Therefore, it is *extremely* important that an accurate weight is obtained. Understanding the reasons for doing something is often the most powerful motivator for carrying out a procedure correctly.

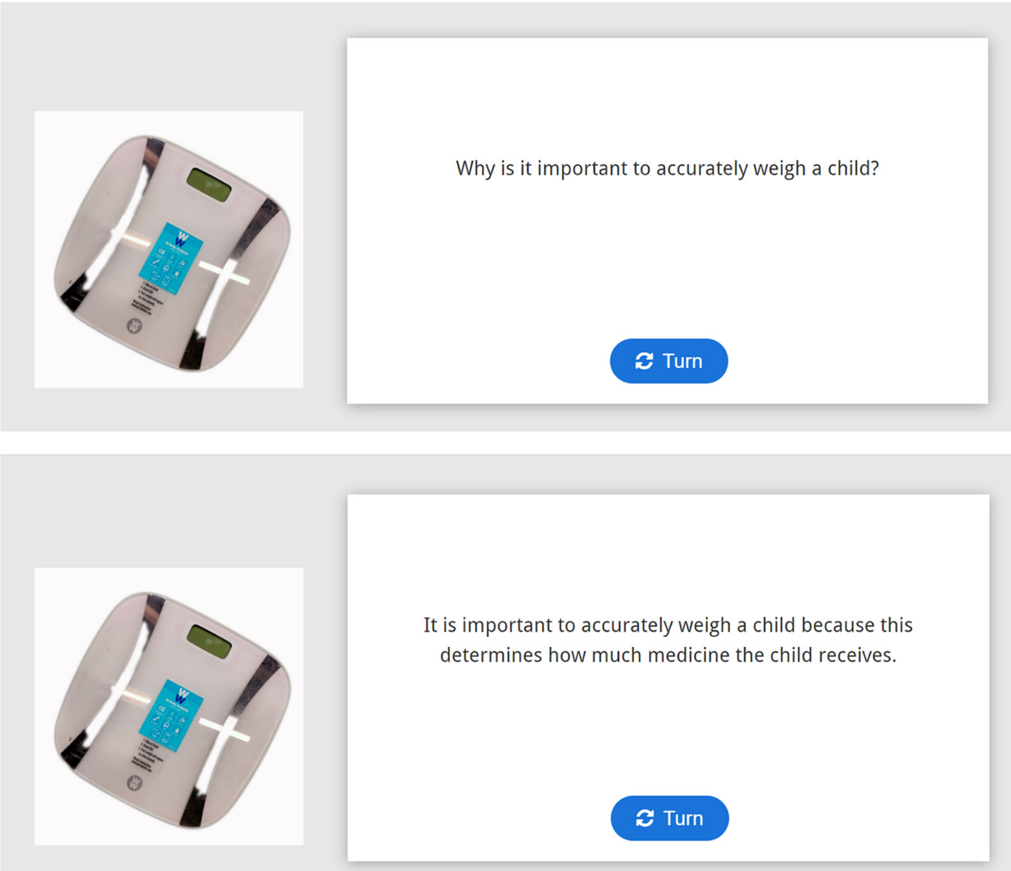


Figure 1. An example of the use of flash cards to introduce a "why?" question.

A second formative activity is shown in Figure 2. Here they are asked to match up each statement stating what the equipment is meant for with an image of the equipment. While this activity may seem basic, it is an entry-level activity to get them started thinking about their role as a DHA. What does the equipment look like? What is the function of each piece? How does that relate to their future role? In terms of literacy, people with low literacy skills will also benefit from the visual interaction between the images and the words. The image is of a thermometer, but it is used for measuring temperature. The two words may appear similar but have different, related meanings.

In Figure 2, the unanswered question is shown (above), with the completed question (below) in which each statement describing what the equipment is meant for is matched with an image of the equipment.


Figure 2. Drag-and-drop activity.

## EMBEDDING LITERACY AND NUMERACY EDUCATION IN THE TS

Part of knowing and recognising diversity in our learners also involves acknowledging that they may have varying abilities in literacy and numeracy. While designing the TS, one of the authors was taking an Open Polytechnic course in Adult Literacy and Numeracy Education. Below is a list of some ways support has been embedded for learners who may need to further develop their literacy and numeracy skills:

4. By providing typed transcripts with video and audio recordings (podcasts), we make content accessible to deaf students and also help students with poor literacy. In one example, a podcast introduces four ethical principles (autonomy, beneficence, non-maleficence and justice). Being able to see the words as they are spoken is important for students with limited literacy skills who are encountering these words for the first time.
5. Māori literacy is acknowledged and developed by the use of te reo Māori words (for example, tamariki for child, and whānau for family or extended family). A Māori label image activity was created to encourage learners to improve their te reo Māori language skills (Figure 3).
6. Numeracy issues are addressed by giving students guidance in the correct ranges for normal values (for example, a normal body temperature is around 37°C) and stating units of measurement (height, weight, and so on). Accurate reporting is a very important part of health assessment, so the link to their future practice should reinforce the importance of developing these numeracy skills.

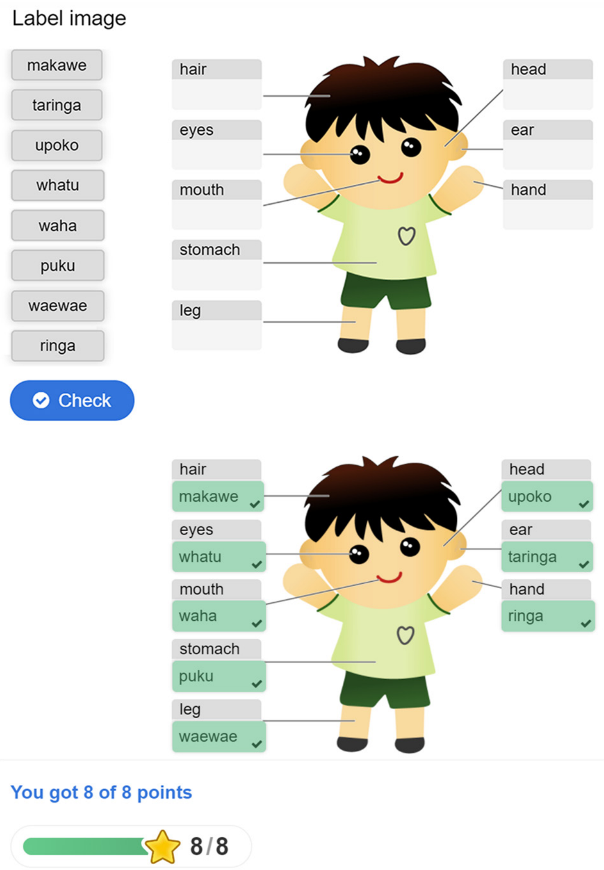


Figure 3: Māori label image activity.

In Figure 3, the label image is introduced with the instruction: "Practise your te reo or learn some new words by completing this activity." To complete the activity, the student needs to get all the answers correct.

## DIGITAL SKILLS AND THE COURSE ASSESSMENT

A focus of the TS is to improve the trainees' digital literacy skills, essential in the role of a DHA, and seen as a vital skill that all New Zealanders should possess, requiring a local as well as national approach (Digital Inclusion Research Group, 2017). Hence, for the TS assessment, learners are required to provide evidence they can do the following:

- install and use a digital health app;
- create a new case with the iMOKOTM app;
- make videos showing core skills (taking a patient's temperature and using a digital weighing scales); and
- present these videos and cases using an ePortfolio.

Schwenger (2016) asserts that use of new digital tools such as ePortfolios for assessments requires explicit instruction and deliberate acts of teaching (p. 74). Due to the range of digital tools used for the TS assessment and digital skills required in the role of a DHA, clear and timely instructions are provided for downloading digital health reports, uploading videos, and submitting these to their learning journal or ePortfolio for assessment. However, we are aware there is a risk that, due to the fully-online delivery of the TS, these instructions around key tasks (for example, how to upload a video) may be missed, particularly by those students with limited digital literacy skills. Evaluation of how easily students access these instructions and cope with the assessment tasks in an online learning environment will be crucial in our first pilot of the TS.

Schwenger also discusses how critical digital information literacy skills, such as making judgements about the reliability of information found on the internet, can be interwoven into blended learning courses. Development of critical digital information literacy was not addressed in the TS for the Certificate in Digital Health at Level 4. However, to develop students' critical digital literacy skills, activities might include:

- In the preparation for a research task, arrange with a library specialist to provide an online session to demonstrate use of library databases and introduce support pages.
- For a smaller research task, demonstrate to students how to make a search on Google Scholar more powerful by using search terms in quotation marks with Boolean operators (linking words such as AND).
- In a PDF or Word document, encourage students to use computer shortcuts to find a word or phrase in the document (Control + F to find a term in a PDF or a webpage).

## COURSE DELIVERY

To determine the effectiveness of using an online approach with such a diverse group of learners, an evaluation is planned when the first pilot is run in September 2020 to determine whether sufficient support has been provided to guide trainees through the activities and assessments. A potential barrier that has been identified is access to learning resources for learners in remote areas. These may include but are not limited to a laptop, iPad and WiFi. A connection has been made with a local tertiary provider who may be able to assist with these issues. This will be a key part of the evaluation of the first delivery to students.

As an alternative to full online delivery, different blended delivery models that additionally incorporate the principles of Kaupapa Māori are currently being trialled in Northland. In the whanaungatanga pedagogical approach, the teacher establishes links and connections between learners and encourages a mutually supportive learning environment in which learners behave and respond as members of extended family, or whānau (Bishop, Ladwig, & Berryman, 2014, p. 28). There is a shared responsibility to give and receive support where required. For example, small local groups of learners working towards the Certificate in Digital Health could meet for informal learning sessions to co-construct knowledge and skills together. In addition, a tuakana-teina approach (Ministry of Education, 2009, p.28) could be taken in which a more experienced learner such as an existing DHA takes on the role of tuakana (older sibling) to guide a less experienced teina (younger sibling) through the course work and assessment tasks.

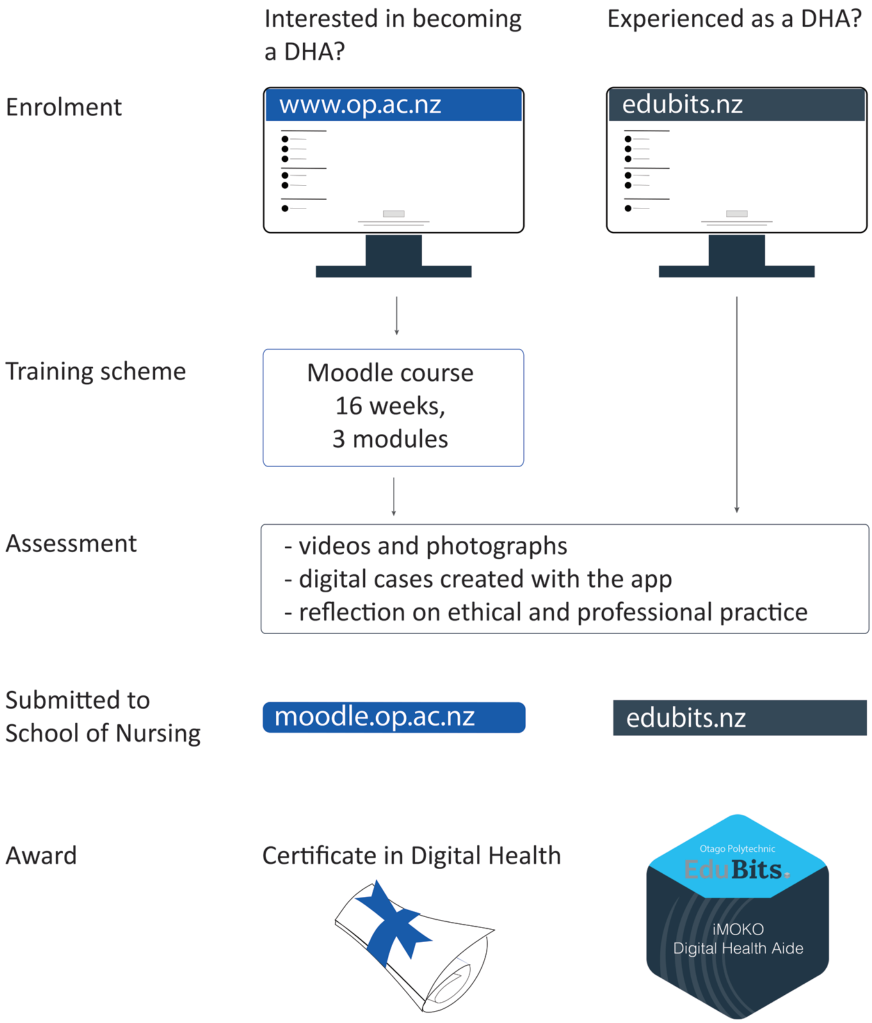


Figure 4. Pathways to becoming a Digital Health Aide (DHA)

## EDUBIT MICRO-CREDENTIAL VERSUS CERTIFICATE IN DIGITAL HEALTH TRAINING SCHEME

As we embark on this next phase, it is useful to reflect on how we arrived at the structure for the design and delivery of the Certificate in Digital Health. The Digital Health Aide EduBit was developed prior to the Certificate in Digital Health training scheme. The assessments are the same but the training scheme for the Certificate has a healthcare focus that is suitable for novice students.

The Level 4, 20 Credit EduBit validates competency and is suitable for anyone with at least 200 hours of experience working as a Digital Health Aide (DHA) in the community. An experienced DHA (for example, one who has been using the iMOKOTM digital health app) could follow easily understood task instructions to gather and submit their evidence, and obtain a digital micro-credential, the Digital Health Aide EduBit. Completing a micro-credential is an excellent way to validate new or existing skills and can be shared on social media platforms like LinkedIn with colleagues or potential employers.

## ASSESSMENT VIA EPORTFOLIO IN ONENOTE'S CLASS NOTEBOOK

While the learners work through the three modules for Certificate in Digital Health on the Moodle platform, they are asked to make notes and answer questions each week in their learning journal (this is in Microsoft's OneNote Class Notebook). When complete, this ePortfolio will be submitted via Moodle for assessment. Marking and moderation will be carried out by staff in the School of Nursing.

## INCORPORATION OF VULNERABLE CHILDREN ACT CONSIDERATIONS IN THE TRAINING SCHEME

In Aotearoa New Zealand, all organisations or workplaces that provide services to children and/or youth must be covered by the Vulnerable Children Act 2014. Therefore, if a learner engages with an organisation and/or activity that is covered by the Vulnerable Children Act 2014, they must successfully meet the safety check requirements. To ensure their suitability for working with children in the community, learners working towards the Certificate in Digital Health will be required to complete a New Zealand Police Consent to Disclosure of Information form and meet the Vulnerable Children Act's safety check requirements. In addition, learners must be at least 18 years old or older. This involved a change to the Entry Requirements for the Certificate, which led to a 'Type 2' change in the programme approval document that required external approval from NZQA and TEC. Approval for the addition of these entry requirements was received in January 2020. This was a necessary step to ensure Otago Polytechnic meets the legislative requirements of the Vulnerable Children Act 2014, a commitment that is already honoured for all other programmes that involve work with children, such as the Bachelor of Nursing (Levels 5-7) and Early Childhood Education Level 3 and Level 4 programmes. This is a commitment reflected in the values of Otago Polytechnic and the aspiration that "our people make a better world".

In conclusion, the Certificate in Digital Health aims to enable people to care for each other in their communities by making healthcare accessible and appropriate. By working through the TS and becoming a digital health aide, learners are able to provide legitimacy to the care they are giving in their communities, develop their own capacity for healthcare delivery, and enhance their digital literacy skills. By delivering healthcare through new and innovative ways we aim to meet the needs of our communities and remove barriers between different institutions that a family may have to progress through to receive the care they need for their tamariki.

## ACKNOWLEDGEMENTS

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**Amy Benians** has a PhD in clinical pharmacology and has worked as a research scientist, lecturer, scientific writer and instructional designer. She chose to pursue her passion for learning design after achieving her Graduate Diploma in Tertiary Education (GDTE) at Otago Polytechnic. In her role as a Learning and Teaching Specialist, she supports staff to design and develop blended and online courses using Moodle and other educational technologies. Her research interests include professional learning and development within communities of practice, blended learning, and literacy and numeracy education for adults.

https://orcid.org/0000-0001-7600-6837

**Emma Collins** is a Principal Lecturer within the School of Nursing and holds a Master of Nursing. Her background is in paediatric nursing and currently she remains working in paediatrics. Her teaching commitments include professional nursing as well as coordination of clinical experiences. Her research interests include nursing informatics, and mixed reality in nursing education using the Microsoft HoloLens.

https://orcid.org/0000-0002-9406-4085


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Article

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# CAN MY THESIS BE A NOVEL? TOWARDS A LEARNER-CENTRED PROCESS FOR DEFINING THE PRACTITIONER THESIS

Samuel Mann and Ron Bull

## INTRODUCTION

Garnett (2007) described how the development of the work-based doctorate means institutions need to develop new structural capital so as to protect the work-based doctorate from being colonised by inappropriate academic perspectives. In this paper, we contribute to that structural capital by exploring the needs and drivers for a negotiated process approach to the form and nature of final assessment in work-based doctorates.

We ask what will happen when a candidate wishes to present a non-conventional practitioner thesis, a play or an interactive documentary. We present a framework for considering the narrative structure and devices used in professional practice and apply this framework using previous non-linear professional practice research as provocations for discussion.

This work may have greater importance as work-based learning, practice-led research, and self-determined learning become more widely adopted. We expect this work will be of interest to others for whom usual assessment norms are becoming the exception rather than the rule.

Assessment is the process of measuring learners' achievement against predefined outcomes within a set of standards. It should be done in a way that is valid, reliable, explicit and equitable. In the case of the work-based doctorate, that means demonstrating 'doctorateness' to the same level as the Doctor of Philosophy (PhD) degree but, as Johnson (2005) has argued, it would be a mistake to simply co-opt the conventional thesis/examination.

The Doctor of Professional Practice at Otago Polytechnic provides a context for this discussion.

### Third Generation Professional Doctorate

The Doctor of Professional Practice (DPP) is a third-generation professional doctorate (Stephenson, Malloch, Cairns, & Costley, 2004; Wildy, Peden, & Chan, 2015; Costly & Lester, 2012). The first generation professional doctorates were developed by specialising within a PhD structure, and the second generation by taking this specialisation to the work-place. The third generation professional doctorates were developed from the ground up – focusing first on practice-led, self-determined development – and then ensuring that the level of qualification is sufficiently doctoral.

It is the intention in this paper to describe the features of the DPP and how they relate to a need for a negotiation process for the form of the "thesis". It is not the intention in this paper to describe all the differences between a PhD and a DPP. We also recognise that there are other forms of doctorate – such as a Doctor of Education degree. We also recognise that some of the features of the DPP are possible under a PhD system, particularly in the social sciences and the humanities. There are, as we will explore later, examples of candidates who argued for alternative formats. Their descriptions are of the tone of "fought for", "battled the system to be allowed to do what was right all along" (see numerous such comments on Twitter #remixthediss hashtag). Our goal is to provide a structure that allows for such flexibility, with rigour but without the antagonism. While some institutions allow a non-conventional thesis alternative, these are usually closely specified: thesis by publications, or artefact/exegesis. The DPP is positioned such that these features are the norm rather than the exception; flexibility is inherent in its philosophy.

There are several principles underpinning the third generation doctorate. The learner is the expert in their own field (hence 'mentors' rather than 'supervisors'), the research is practice-led, and crucially for this discussion, the doctorate is explicitly designed to be self-determined – the candidate manages their own journey (Wildy et al., 2015). The institution sets the level of qualification – the 'doctorateness', according to national and international benchmarks – and it is up to the candidate to develop not just the content of their argument that they have reached that level – but the very form that argument takes.

The Otago Polytechnic DPP curriculum document describes these goals:

> The programme outcomes to be produced by these candidates are real time projects with tangible results that have a useful purpose within a responsible set of values and ethical considerations. It is a work-based doctorate which is a trans-disciplinary, learner-centred research and development programme, offering benefit for both the individual professional development of the practitioner, and their area of practice. Motivationally this group is much less likely to be interested in pursuing research as an end in itself, or contributing to the stock of academic knowledge, than in using an inquiring and innovative approach to practice and producing knowledge that has direct application to their professional endeavours.

The goals of practice-led research are about change, to "transform the world from "what is" to something better...concerned with intervention, innovation, and change – rather than designing research according to what is measurable, publishable" (Scrivener, 2000). Combined with the control lying with the participant (Wildy et al., 2015), and the ethos of practice as research (Costley & Lester 2012), the third generation doctorate is geared specifically to addressing complex organisational and social issues. It is developed specifically for the swampy lowland (Schon, 1983), mess (Ackoff, 1997) and wicked problems (Rittel & Webber, 1973), of real practice situations. All this results in a situation that Stephenson (2004) described as not allowing "intellectual imperialism based on pre-defined contexts or methodologies" – and this includes the methodology of assessment.

## PRACTITIONER THESIS

The Otago Polytechnic curriculum document for the DPP has deliberately left the nature of the 'practitioner thesis' undefined – it is equivalent to 50,000 words but the form is purposefully left open and even has an "or negotiated alternative." It is interesting to note that that this double ambiguity – a lack of definition and permitted alternative – could lead one to ask "alternative to what?" For the sake of argument here, we presume that the default is a written monologue thesis, though as we argue below, we believe that the decision to present a conventional thesis in the DPP should equally go through a process of consideration and approval.

Candidates are already asking difficult questions of their academic mentors:

- Can my thesis be a novel?
- It is inappropriate to reduce this sacred knowledge to text. How will you deal with that?
- Can we do it together?
- Can I do it as a diagram?
- Why should I explain this indigenous knowledge in western-academic terms?
- A conventional thesis doesn't work for my practice, can I do something very different?

The challenge we have, as an institution, is to respect the principle of control in the hands of the candidate while ensuring excellence and rigour.

In this paper we describe the approach we are taking to the process of the 'negotiated alternative' and the questions driving ongoing research to validate this approach.

## Problem Statement

Murphy (2007) argued that requiring applied research but mandating a traditional dissertation "is the most flagrant example of privileging the university over the realities of practice."

The Professional Practice Doctorate is an opportunity for critical exploration of candidates' professional framework of practice, and in keeping with a deeply reflective approach, this process and the evidence it generates may be decidedly personal, creative and transformative.

The practitioner thesis – in the sense of the defensible argument – is represented in a "thesis" or "dissertation" in the sense of an extended piece of scholarly writing. However, there is no general method to integrate the learning aspects of critical reflective narrative with the more technical (or creative) work-based project report. One approach widely used in creative practice fields is the exegesis – essentially a separate document (or sections) containing the critical review of the project. This approach fails to recognise that for many, the project is deeply integrated – the creativity and reflection are in common and the notion of separate sections or documents makes little sense.

We need to come to terms with how a work-based, practice-led or creative work with all its non-linearity, metaphor and ambiguity might form the thesis, not merely be a subject of the thesis. This is already happening in earlier stages of the doctoral process; we have seen a diagram and a novel for reviews of learning, and a Socratic dialogue for a literature review and other forms of experimental writing.

Indigeneity is a significant factor in the practice of our learners, mostly Māori, but also Pasifika and beyond. This kaupapa has implications for their research paradigms and methods, and also reporting and assessment. The educational concepts of heutagogy, or self-determined learning, closely align with tino rangatiratanga. We have people coming through who will be asserting their right not just to present in te reo Māori (well protected by law), but to do so orally (which may challenge our systems) or in quite abstract narrative form. It is a highly colonial act to require written work. It is important, especially in a time where indigenous knowledges are becoming increasingly valued and recognised, that we acknowledge that these ways of knowing are not based on a written tradition and that we provide for other forms of communication.

There is much written on the history of the conventional thesis as a proto-monograph (Dalgleish & Powell, 2015) and how it could be improved. Patton (2013) described it as "broken...but the stubborn relic lingers on" while Sugimoto (2016) described a conventional thesis as anachronistic in the twenty-first century and there "is no longer alignment between the dissertation and contemporary models of knowledge production." Despite all these, however, it is not the purpose of this paper to criticise the conventional thesis. Our scope is restricted here to the DPP, and we fully accept that for some of our learners the conventionally structured written monologue will be appropriate. But, we argue, even for them, the individual learner will benefit from a process of negotiating this form as the best vehicle for their claim of 'doctorateness.' For example, questions such as the role and position (in the thesis) of the literature review could be examined. For Bourner, Bowden, and Laing (2001), conventional research (that is, PhDs) will "start out from what is known", hence the prominence of the literature review, while professional doctorates start from what is not known – perceived problems in professional practice.

Stephenson (2004) observed that the professional doctorate challenges PhD-based orthodoxy in that it is explicitly concerned with practical knowing and doing, and does not set out to license researchers. It therefore suggests a need for conceptualisations that are not defined by academic knowledge generation (Lester, 2004).

It is important to stress that these alternative modes of knowledge generation and academic processes are an "expansion and enrichment of the doctoral landscape, not a watering down" (Stock, 2011). The fundamental shifts, whereby "propositional is replaced with the emergent, where findings may encompass paradox, ambiguity and uncertainty." Note that we recognise similar arguments could be made for grounded theory and other qualitative research approaches – perhaps they too would benefit from a more permissive thesis structure – but that is beyond the bounds of this paper.

These shifts are reflected in the descriptions of assessment in the DPP curriculum document:

> Assessment of the candidate as a self-managing practitioner-researcher will focus on how they make critical judgements in the work context, and reflect the social, cultural and contextual knowledge and skills that they use and develop in the workplace. The primary evidence for that will be their articulation and exposition of their new professional framework of practice.
>
> In the DPP, there is an emphasis on reflecting and enquiring into work activity, and on developing people as reflective, self-managing practitioners (Lester & Costley, 2010). The emphasis on the 'work' is as a purposive activity that gives rise to learning through work based research. In this doctoral qualification, the candidate will be expected to 'problematise' the learning within the context of both an academic community of practice and the workplace setting as part of a broader national and international environment. This reinforces the idea that the work-based nature of the DPP locates the candidate's learning and research in a transdisciplinary field that sits outside of subject frameworks and has its own set of norms and practices (Lester & Costley, 2010).

For Johnson (2005), the problem comes down to a question: if the assessment of the professional practice doctorate is "indistinguishable from PhD... why bother?" They observe that, ironically, the institutions that are "prepared to be creative, nevertheless are conservative when it comes to academic rigour." Further, "all the golden prizes are held by academics with PhDs... so tend to be assessed in ways that are familiar" (see also Loss, 2016).

The New Zealand Qualification Authority's approval for the DPP noted that:

> … the doctoral distinctiveness of the DPP in relation to other doctorates needs to be more apparent. The nature of the 'original and substantive' contribution to knowledge does not lie wholly in the applied practice or research project ('the artefact'), but in the resultant level of understanding and competence that will manifest itself in practice. Communicating this concept of personal/professional transformation as the distinctness of the DPP, as opposed to the artefact-bound PhD or Professional Doctorate, is immensely complex. It is also critical that it be clearly articulated in order that students, mentors, examiners and stakeholders consistent and realistic expectations.

The task at hand, then, is both complex and critical. Costley and Lester (2012, p.15) suggest that:

> … those institutions that want to engage with the work-based Doctorate need to create a distinctive 'space' where it is emphasised … but with a purpose and culture that are distinct from research-focused … This is likely to be characterised by a clear (and clearly articulated) paradigm of work-based learning as a field in its own right … that moves it on from being simply university involvement in workforce and professional development.

To some extent, we have lacked a language for describing what it is we do in the Professional Practice postgraduate qualifications. Our descriptions often resort to concepts and terms developed for research conducted without a learning (qualification) element, such as that for PhD study, or for undergraduate education. In not having a language of our own, we fall back on these earlier models and in doing so, do our learners a great disservice –

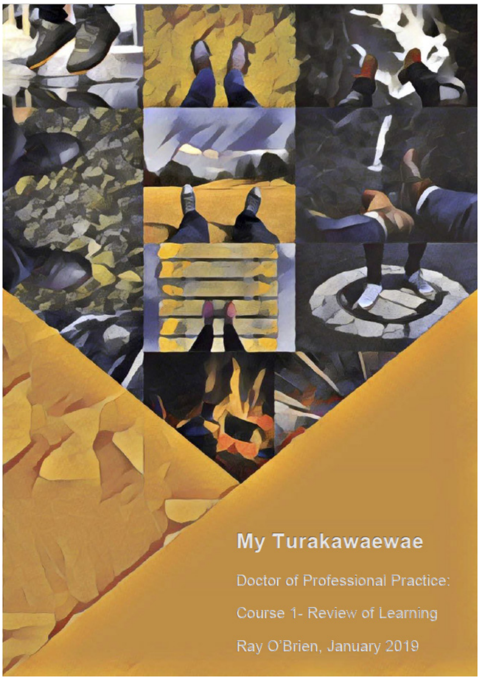
enforcing norms and processes that poorly fit the context. As a third generation professional doctorate, the DPP is a very long way removed from a PhD. Without strong descriptions of what it is, we risk it being considered an unruly or watered-down version of a PhD, instead of a doctorate with its own norms – processes that are different to, but equally as robust as the conventional structures. We urgently need to reinforce our own conventions – a language and processes to describe the shape of our approach (Mann, in press).

Learners (researchers) in professional practice are expected to find their own voice that integrates their personal, professional and academic perspectives (see for example Hall, 1995, for one approach to an integrated voice). The process is inherently reflective and ethnographic (or related methodologies). Combined with the principle of self-determination, it is unsurprising that we see a wide variety in those 'voices' but also the form and structure of work submitted for evidence. While we knew that the 'practitioner thesis' was different from a conventional thesis, we have been surprised by the creativity shown in approaches to the Review of Learning, Learning Agreement and the Practitioner Thesis (Figures 1-3).

We are aware of the tensions that this brings. McAuliffe, Hargreaves, Winter, and Chadwick (2009) questioned whether "guidelines set by certain internal and external stakeholders (would) allow students to have 'control' over what is or isn't assessed." Our responses to date have largely been permissive – "of course, if that's the best way to explain your experience then we'll find a way to assess it", but rigorous investigation is needed here. As more learners move further away from orthodox academic texts, or even from sequential linear narratives, there are critical questions of how we support this process and assess the outcomes.


Figure 1. Mawera Karetai's literature review took the form of a theatrical manuscript where she imagined conversations with the giants of literature. (Note: Figures 1-3 used with permission).

There is an interesting space between the autho-ethnographic basis of Professional Practice research and the creative expression such as those in storytelling of comics and graphic novels or, perhaps staying with words, in narrative devices more commonly seen in literature than academic text. There are further interesting links in the areas of indigenous knowledge frameworks that don't necessarily fit a conventional academic structure but might be better considered creatively – leading to questions such as the representations and ossification of knowledge, and whose responsibility is to encode and decode the messages in forms suitable for assessment. Professional Practice learners are already pushing the boundaries and we have an obligation and opportunity to understand that. To give learners certainty and ensure rigorous processes are in place, we have to get ahead of the questions being posed by learners pushing the boundaries of what is already innovative academic practice.




### Banter on the Beach

As I disembark and wander down the old creaky jetty past the hulks of decaying boats, a kayak arrives in the enclosed bay. As it reaches the rocky beach the kayaker, seemingly without thinking, tilts the boat far to one side and curves the hull around landing carefully and gently on the rocks without damage. A small wave scurries away from him niggling the jagged rocks of the beach as it goes. We greet each other, and he seems as surprised as I am to hear how similar our accents are. A west coast Scottish rolling "rrr" is unmistakable. He sits on a rock near his kayak and I dangle my legs from the jetty. I am curious. Who is he? How did he get here? With common ground established, we start a conversation.

"That's a fairly unusual paddle you've got" I say.

"Yes, it's a Greenland-style Paddle." His reply rolls off his tongue, like a well-practiced elevator pitch, He seems to welcome the interest and continues. "It's great for long distances and windy conditions. The Greenlanders use this style partly because they couldn't make fancy carbon blades, but mainly because it was better for hunting with".

"Have you kayaked in Greenland?" I ask.

The kayaker obliges, keen to tell me more of himself. "Yes. I went to compete in the Greenland Kayak Games. It was a really special thing. I've spent most of my adult life sitting in a kayak for work and for play. I work with the military, training leaders through outdoor activities, so get into some fairly challenging situations. That trip was so different. There is such a strong link between kayaks and the Inuit that there was a whole other layer to understand".

"There was also this thing going on in our heads about colonialism. Although it is Denmark governs Greenland, we were there on a Winston Churchill Scholarship. I had to wear a suit and meet two of his Grandchildren for an interview in some posh club in London- it didn't feel very Braveheart!" We both laugh. The irony of how Mel Gibson has become such a non-Scottish Scottish icon, isn't missed on a Scotsman. Perhaps it's the ultimate form of colonisation in its own right.

Having satisfied his need to share what he had done, the kayaker asks what I do for a job. His reciprocation of interest is welcome, but the question he asks betrays the fact that he has not been in New Zealand for very long. Even the least useful of expat websites will tell you that asking that typically British question before getting to know the person shouts in screaming LED lights that you have just stepped off the waka- which he has.

When I share that I am a lecturer at a local Polytechnic".

Ray O'Brien, Course 1- Review of Learning, DPP, 23/1/2019

Figure 2. Ray O'Brien's review of learning included a story of him exploring the landscape and having conversations with people he met, people who were later revealed to be visions of younger versions of himself.

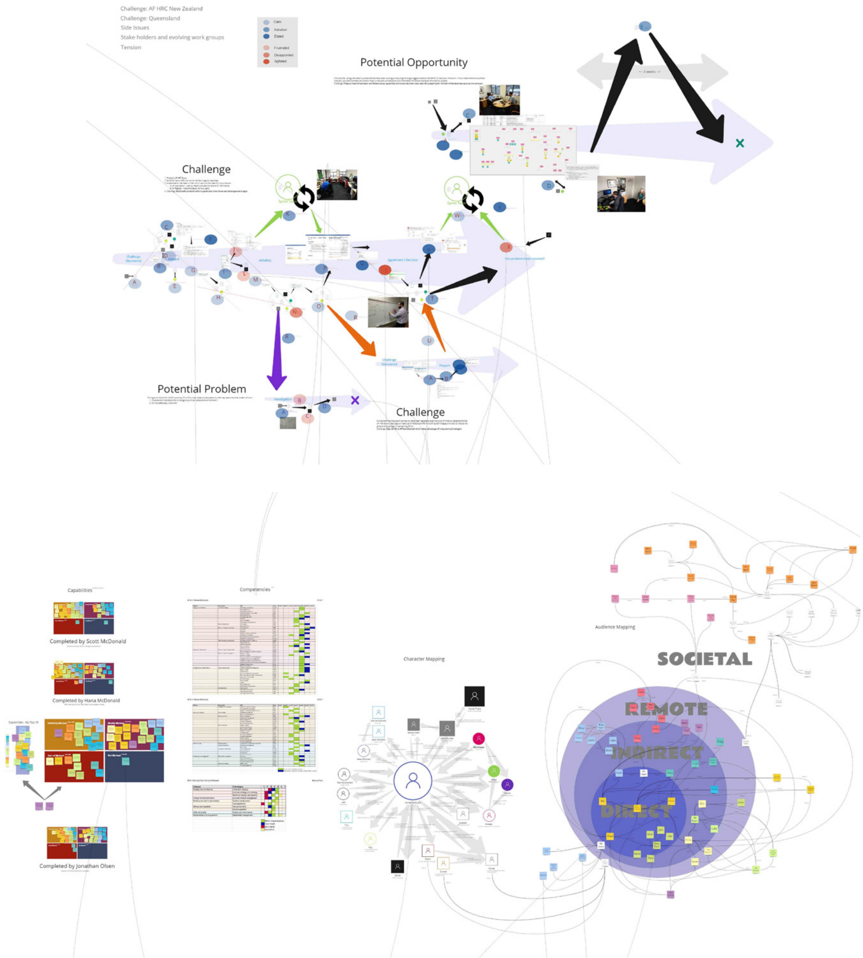



Figure 3. Michael McDonald developed his Review of Learning as an interactive diagram

## Why not just write a list of acceptable formats?

One approach would be to supply a pre-approved list of acceptable formats. We do not favour such an approach.

A primary objection is practical. To presuppose a finite list would be counter to a critical and creative process. We foresee challenges to this list as some proposals will almost certainly fall between the cracks.

Second, and more fundamentally, a list that has only "thesis" or "creative/practice work plus exegesis" presupposes a separation of the work and the commentary. For many of our learners, such a separation would be arbitrary and not in keeping with notions of reflexive practice.

## Functional Approach

Our default structure of a practitioner thesis integrates a practice work and an exegesis containing critical commentary, with varying degrees of integration.

We are questioning whether this model is appropriate for all – in essence, our question is: can the critical commentary be embedded? We know it can if it is text-based – can we extend the principle of integration to less text heavy works? We worry that a separate 'academic' document assumes precedence in status over the creative/ performance which is not the intention.

We know that an embedded model works for the myriad of digital humanities dissertations, and for comic-book theses, for example, Sousanis' Columbia doctorate (published as "Unflattening" 2015) but this is really a monologue in another form. Others have performed a thesis (for example, Carson's 2017 rap thesis Clemson). It becomes more challenging if ephemeral – for us the recorded evidence will probably be needed, but this recording – especially spiritual aspects – may be challenging in different contexts.

## PROPOSED APPROACH

It is not the intention for the institution to be the arbiter of what is a legitimate reason for not wanting to write a conventional thesis (or even write at all). Rather, what we have to do is find a process by which we both empower the learner and mitigate risk for all concerned. For some, a conventional thesis structure might be appropriate, for others a creative work and exegesis. For yet others, the separation of project and learning in the form of an exegesis might be inappropriate. For some, words in the form of a typeset book might work, for others it might be a comic, or a performance or lyrics. For some, the conventional structure of predictable chapters might be sensible, for others the journey might be a creative narrative that is decidedly non-linear.

In short, our premise is that whatever the learner plans to do, they propose (Figure 4) at the Learning Agreement stage how it will deal with the things that might appear worrisome, mostly the complex issues that a conventional thesis struggles with too – collective ways of knowing, collaborative work, primacy of writing and so on. The second part is that they describe how the format will enable them to present the content in a way that that they can make the claim of doctorateness and for that to be scrutinised and challenged. While this will be done at the Learning Agreement stage (one year in), it can be modified for substantive change up until six months before final presentation and by escalating after that to allow for late-emergent understandings.

| Learner describes: |
|---|
| • Likely form of Practitioner Thesis |
| • How Practitioner Thesis allows for complexity of their practice: collective ways of knowing, collaborative work, primacy of writing and so on. |
| • How that format will enable them to make the claim of doctorateness and for that to be scrutinised, challenged, and archived – all in a manner that minimises risk for all parties, particularly the learner. |

Figure 4. Proposed negotiation steps

## STRAWMAN EXAMPLES

We present two "strawman" hypothetical cases to illustrate and test the proposed approach.

### Strawman example 1: Novel as a thesis

Figure 5 and Figure 6 explore different approaches that a hypothetical learner whose practice is written communication might be exploring when she expresses "can I write my thesis as a novel?". Figure 7 provides the basis of the hypothetical answers to questions raised by the proposed negotiation process (Figure 4).

This strawman has highlighted that a negotiated 'format' is not just about the nature of the artefact, but the process of engaging with it. If our writer was to propose a novel with an entirely integrated critical commentary, the institution would have to be satisfied that it could provide assessors who would be comfortable reading the novel as both the practice work and its own critical commentary.

It is also worth noting that if we are to honour the principle of the learner being an expert in their own field, the approval process should not become bogged down in discussions about the artistic merit of a proposed novel as a thesis – it might indeed take considerable skill to accomplish – but that is not a relevant consideration for the institution, only whether it can be assessed.


Figure 5. Novel as a thesis. Conventional approach whereby a thesis provides an analysis and critical commentary on separate artefact.

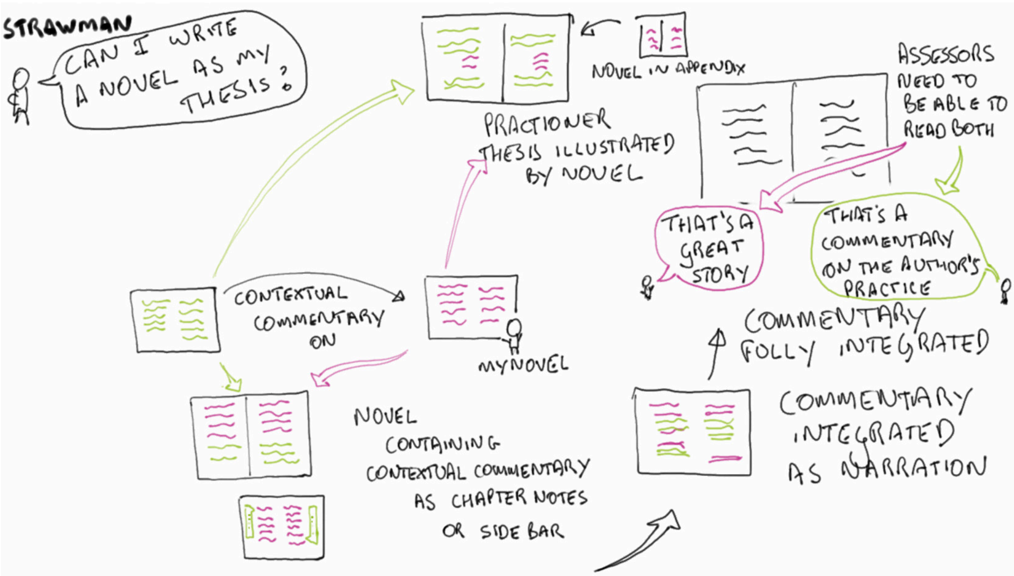



Figure 6. Increasing degrees of integration of the two aspects of the practice/creative work and the exegetical commentary

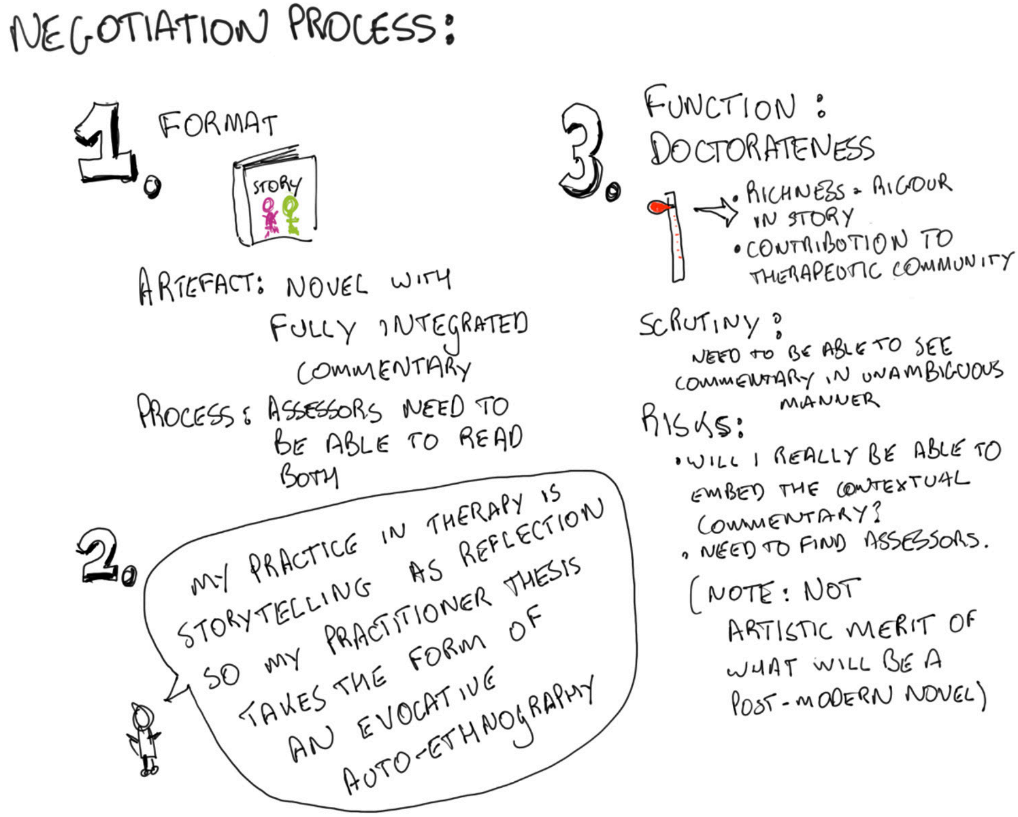



Figure 7. Elements of hypothetical answers to questions raised by the proposed negotiation process (Figure 4).

## Strawman example 2: Partnership Assessment

Figure 8 explores a hypothetical proposal for a Te Ao Māori partnership assessment. In this example 'Pita' worked with his community to develop hapu-based fisheries management processes and wishes to present for his DPP with a professional practice statement to the effect of "I am a kaitiaki in fisheries management." This, for the sake of our argument here is both a technical artefact and embedded indigenous ways of being. It would be inappropriate for this to be assessed away from that cultural context and so a partnership assessment process is proposed involving the doctoral panel and Pita's rūnaka. (Note a more empowering goal would be to have suitably doctorally qualified assessors from the community, but for the sake of the strawman, take that as not possible, and indeed Pita is a major step towards that goal). Figure 9 provides the basis of the hypothetical answers to questions raised by the proposed negotiation process (Figure 4).

This strawman has also highlighted that a negotiated 'format' is not just about the nature of the artefact, but the process of engaging with it. It takes Johnston's (2005) argument that we need to recognise that candidates know more about their field of practice than their assessors and lifts that argument into areas in which that knowledge might even be unknowable to the examiners.

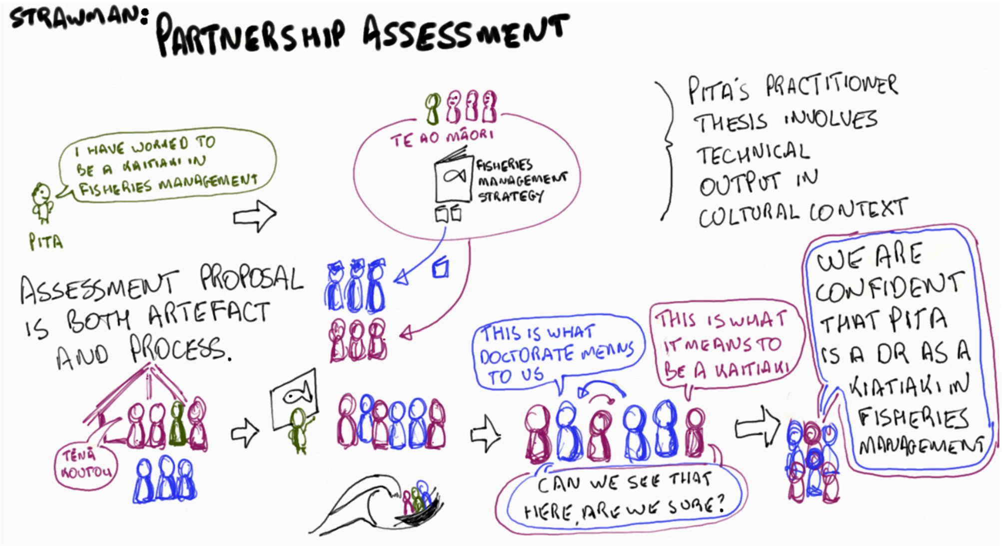



Figure 8. Hypothetical proposal for a Te Ao Māori partnership assessment process.

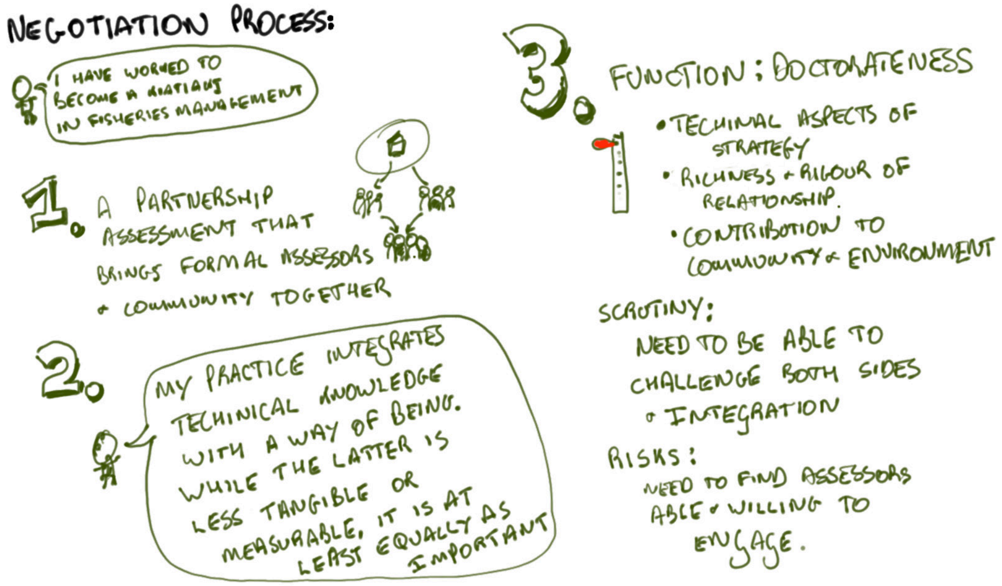



Figure 9 Elements of hypothetical answers to questions raised by the proposed negotiation process (Figure 1).

## CONCLUSION

Sugimoto (2016) argued that reconfiguring the thesis "doesn't mean a lessening of the rigour of doctoral education. In fact it may actively make it more rigorous." Similarly, the Modern Language Association (2014) argued that reimagining the dissertation is an opportunity to "demand excellence in whatever form the dissertation takes." They argued that "standards of excellence are strengthened through creative flexibility rather than strict constructions tied to particular forms." In this paper, we have begun to explore how we can strengthen the DPP through creative flexibility that demands excellence.

This paper has not explored notions of doctorateness in professional practice (see Wellington, 2013).

Anecdotally, there are many learners internationally who have wanted to submit an alternative dissertation (see the hashtag #remixTheDiss). Almost without exception these people describe months and years of fighting the system to be allowed to submit in a way that honours their practice. It would be useful to collect some of these stories, not just as interesting narratives, but to get an insight into what the institutions saw as barriers. These barriers may just be conservatism, but they may also highlight areas that we should consider in the development of our negotiated assessment process procedures.

In purposefully leaving the form and structure of the final artefact – the Practitioner Thesis – undefined, we have put the ball in the learner's court to create the structure that can carry the justification why they should be awarded a doctorate. If we get the next year or so right, we will see innovative DPPs that we can be truly proud of.

**Samuel Mann** (Professor, CapableNZ, Otago Polytechnic). Sam's focus is making a positive difference through professional practice. He developed the role of the sustainable practitioner, the Sustainable Lens and Transformation Mindset. Sam led the development of the Doctor of Professional Practice and the Bachelor of Leadership for Change.
https://orcid.org/0000-0002-1118-7363

**Ron Bull** (Tumuaki Whakaako, Otago Polytechnic). Ron's research explores issues of identity at the intersection of different cultures, and at the intersection of the extraordinary or explicit with the mundane or implicit.
https://orcid.org/0000-0002-2139-9730

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# AN OPEN EDUCATION EXTENDED HAIKU

Oonagh McGirr

## INTRODUCTION

This piece is the product of observation and collaboration. It was completed using a linguistic sampling methodology during the inaugural Centre for Open Education Practice symposium[1], hosted by Otago Polytechnic in Dunedin, December 2019.

We gathered to explore the possibilities of open education, to share ideas about how to meet our mission of democratising access to education for all.

As the host delegate for Otago Polytechnic, and a Director of the Open Education Foundation, I felt it was important to acknowledge our discussions and participation by creating a simple summary artefact to present as a real-time gift (verbally) to the delegates in the closing session.

I compiled the poem by noting the frequency of specific terminology used related to open education, and then organised the terms alphabetically in order of syllabic content. I recited it to the group as the closing act of the event, and it was subsequently shared with our delegates and stakeholders.

The haiku provides a succinct glossary of terms for open education.

Access, academic, attribution

Credentials, creative commons, copyright

Equity, equality, education

Freedom, flexibility, funding

Global, good, gains

Innovation, inspiration, integrated

Learners, learning, learner-centred

Open, OER, OERu

Peer, proprietary, participation

Recognition, research, relevant

Students, savings, social justice

Sustainability.

**Oonagh McGirr**, Deputy Chief Executive of Otago Polytechnic, is the strategic lead for academic development and capability-building. She leads a diverse portfolio of directorates: Learning and Teaching Development, Research and Postgraduate, Global Engagement, Work-based Learning, the Otago Polytechnic Professoriate, Sustainability, and the UNESCO endorsed Open Education Resource universitas. Oonagh has worked in international higher education for three decades in both the public and private sectors. She has established and led academic services units, developed education strategy for regional and national government bodies, devised and delivered staff development and upskilling programmes for higher education practice, and led institutional learning and teaching accreditation and recognition. She has taught on foundation, undergraduate and postgraduate programmes in modern foreign languages, cultural studies, linguistics, teacher education and research in multidisciplinary settings at new and legacy higher education institutes in Europe and the Middle East. Her research interests are higher education leadership practice, teacher identity in practice in higher education, and the development of sustainable continuing professional development frameworks for higher education practitioners. Oonagh is a Fellow of the Royal Society of the Arts.

https://orcid.org/0000-0002-2470-6417

1 *A Better World through Open Education*. https://coep.nz/events/2019-national-symposium/