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PRINCIPLES FOR EDUCATIONAL INNOVATION – A DEVELOPMENTAL EVALUATION PERSPECTIVE

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INTRODUCTION

In times of change, there are many calls for educational innovation. Often these calls go beyond the specifics of a particular industry need (à la "we need graduates with a diploma in network engineering") to calls for broader transformational and societal goals. Te Pūkenga is posing such transformational goals:

> Right now, we have a once-in-a-generation opportunity to redesign how we deliver education and training across Aotearoa … [and] if we are truly to put our learners at the centre, a full transformational programme development may be required to unify programmes. (Te Pūkenga, n.d.)

Clearly, the development of new or transformed educational programmes needs to take innovative approaches, but it is not clear how one should go about developing such potentially transformative programmes. Educational development tools such as curriculum alignment (Anderson, 2002) presume a stable environment of work and tightly definable graduate profile statements that permit entry to an established profession. Such approaches have little room for concepts such as sovereignty or learner self-determination, nor the current environment of dynamic complexities into which graduates will enter. This article aims to contribute insights from our innovation experience to support greater understanding of how one might go about developing a transformative educational programme. It was an emergent approach, not a predetermined pathway, but also not a "work around" which suggests avoiding challenges; rather, we saw those challenges as opportunities.

METHOD

This article takes an autoethnographic approach. A case study forms the basis for the narrative: the early development of the Bachelor of Leadership for Change (BLfC). (See Mann et al., 2017a, 2017b for a more formal description of the qualification.) The narrative is in the first person, reconstructed from the notes of the first author. We then use a Developmental Evaluation mindset (Patton, 2010) as a framework to highlight some key insights from the narrative.

The Bachelor of Leadership for Change was formally developed in early 2017, with approval to teach coming in late 2017. To focus on the precursors – the conditions for innovation – we start the story in 2016.

Handwritten figures are provided directly from the notes of the first author. The intention of including these is not to provide specifics, but to give a sense of the dynamic, evolving and collaborative nature of the development. We make no claims in this section as to novelty, rather we aim to provide a summarised narrative of the development as it happened. Unless otherwise indicated, all quotes are from notes.

INNOVATION AS USUAL

In 2016, I had just moved from the School of Information Technology where I ran the capstone projects and had led, in 2014, the national redevelopment of all sub-degree national computing programmes within tight external constraints including industry specification of restrictive job-roles for every qualification. I had been involved in the development of the Doctor of Professional Practice (DPP) since about 2012. The DPP would complement the Master of Professional Practice (MPP) and our undergraduate programmes – which have since become known as the Independent Learning Pathways (ILP) within Capable NZ. We always intended that there would be a Bachelor of Professional Practice but had been defeated by the major stumbling block of a belief that you could not learn about professional practice until you had a profession in which to practice – so would be unsuitable for school leavers.

In February 2016, we developed the Capable NZ Value Set based on heutagogical principles (Mann et al., 2017a, Figure 1). We were visited by the Productivity Commission who were researching a report on the future of work and education. They challenged us with the questions of "if we could develop our own success measures, what would they be?" and "given a free hand to develop new models, what would we do?" These thought-experiments were matched by the challenge of developing an ICT Graduate School: a collaboration of five tertiary institutions where the mission for development was to transform the IT industry through new approaches to IT graduate education but within constrained parameters – we could not change the funding model for instance. At the same time, Otago Polytechnic revisited its commitment to sustainable practice, reaffirming the commitment that "every graduate may think and act as a sustainable practitioner" (Mann, 2011) and eventually expanding this to a vision of "our people make a better world." On a teaching front, I was mentoring Glenys Ker's doctorate (Ker, 2017) that highlighted the role of engagement, empowerment and transformation potential in learners engaged in sense-making around their professional practice. I was also mentoring Master's learners, including two who described their work as "innovation as usual."

All these things came together in a goal of repositioning Capable NZ as a "Transformation Hub." The vision was groups of people coming together to solve wicked problems. The focus was on making a difference foremost, regardless of existing educational level or experience. For that, we needed a full suite of programmes, and the development opportunity was a new degree suitable for school leavers. In this we were emboldened. The draft future of work report "New Models of Tertiary Education" (New Zealand Productivity Commission, 2016), came out and then the New Zealand Qualifications Authority (NZQA) visited, both reaffirming that we needed to focus on skills for "jobs not yet invented." Other notes I made explored "imagining the future", collapsed informatics, steampunk (future the way it used to be), Liberating Voices cards 'places to be radical' and 'education as design fiction' (Schuler, 2009), and Geoff Scott's visit to talk about the role of dilemmas of professional practice and authentic assessment

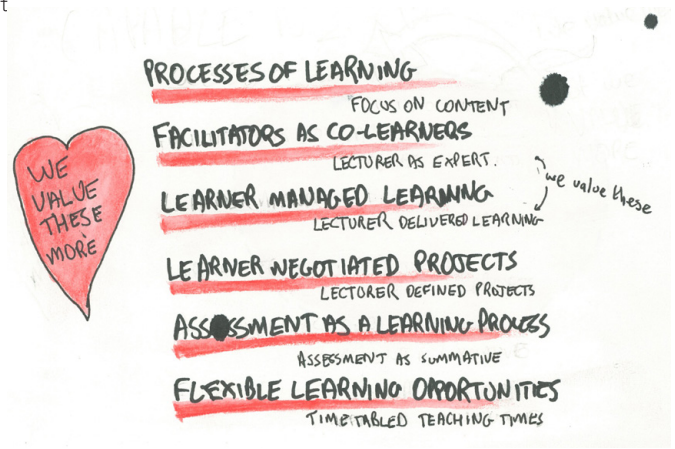


Figure 1. Capable Value Set based on heutagogical principles.

In late October 2016, I met with a graduate of the Bachelor of Information (BIT), Rimu Boddy. Rimu was a fisherman who had an idea to transform the fishing industry and saw a BIT as the way to achieve that. He was in Auckland running a rapidly expanding company and we met to discuss the potential for him taking on international IT students for their capstone project. In conversation we chatted about the Transformation Hub and how it might work for his business. In doing so we talked about his own pathway and discussed how he had realised that the BIT was not what he needed, rather a bit of international relations, marketing, business management, design, and enough IT to talk with the coders, and to do it all using the example of his own entrepreneurial innovation. Lamenting that there was not a suitable programme we joked, "Rimu didn't need a BIT, what he needed was a Bachelor of Rimu."

Two days later my notes show the first meeting titled "Bachelor of Making a Difference" (BMaD). The "B.Rimu" was the motivating example and we quickly moved on to identifying other "Rimus" – Nicky, Oliver, and Joe. During November, we talked to anyone we could find who either was a "Rimu" or knew of one – and seemingly everyone knew someone with a similarly unique story – so by the end of November we had eight personas characterising people who might benefit from designing their own degree. These personas became fundamental to our development process, our inspiration and our crash test dummies. While the real people the personas represented had all moved beyond the stage where they might need a BMaD, we were developing for the very real need they represented. We were taking the demand for change and making it real.

On 31 October 2016, my notes pose a question that became fundamental to the development: "how to design a course that deliberately stays on left of the innovation/hype cycle? (Figure 2).

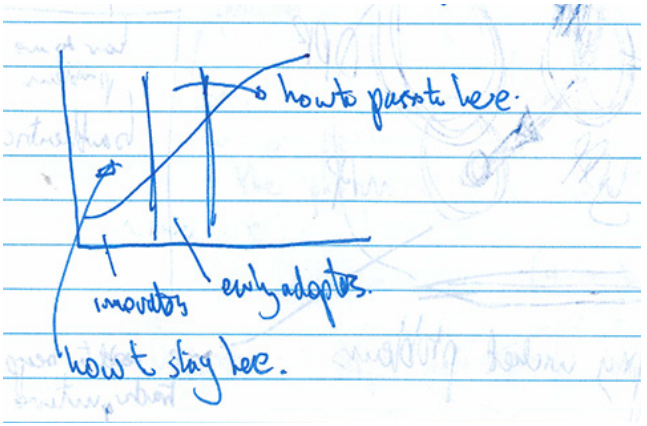


Figure 2. Purposefully designed to stay on the left of the hype curve.

During November, we had pulled together many of the drivers that we had been exploring for several months; we knew the degree had to be deeply experiential, have a strong theme of identity (including starting with who am I, whakapapa, and what do I believe?), be directly applied to practice (both the learners' own change goal and an internship or placement), have a strong element of transferable capability, and it had to be clearly stamped with "we make a difference."

We revisited the discarded Bachelor of Professional Practice and realised that the BMaD was professional practice, the difference being that we are providing a platform for emergent professional practice. We came to see the degree as having a different concept of practice, that the degree would develop a desired practice pathway (rather than the predetermined pathway of taught programmes or the established practice pathway of ILP).

We also recognised that that while desired pathways could be emergent pathways – and possibly post-discipline – they should also cater for small disciplines (for example, museum curators). Further, learners might have a strong idea of what they wanted to address (for example, homelessness) but little idea of the mechanisms available (for example, social entrepreneurship) or vice versa. This led to an individually curated set of experiences for each learner from which to harvest learning as they worked out their own path.

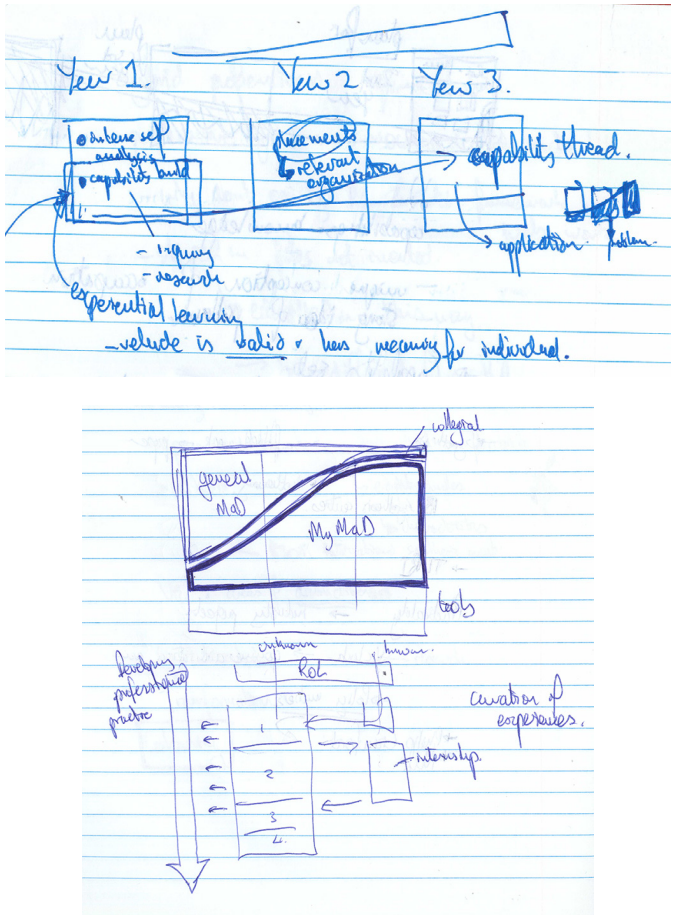


Figure 3. Two of the first diagrams of a three-year degree.

The first diagrams of a coherent programme emerged (Figure 3) in late November. But rather than progressing from here to finer-scale structure, we deliberately did not do that. Instead, we focussed on the principles, both how we were doing the development and principles for the degree: self-determined, learning from unexpected places, and transformational. This has remained the point of difference for the degree; it is more about the processes of learning than about content and structure.

Not having a single industry to satisfy, or disciplinary accreditation rules to follow, a feature of this development was discussions with a very wide range of people, mostly opportunistic. And the fingerprints of these people can be seen in the degree: Robert Costanza talked about societal therapy and the positive transformation needed for wicked problems; Bob Huish talked of the imperative for "activist education" and Birgit Penzenstadler the

activist positioning of disciplines; Dominique Hes introduced regeneration; Jo Thompson the transformative steps between caring and action; and Ray Maher communication systems for environmental innovation and social transitions. We saw a commonality with this otherwise disparate group in that they all talked about frameworks for living with complexity. The importance of frameworks aligned with concurrent work we were doing in developing resources for the DPP – a practitioner canvas provided a vehicle for exploring professional frameworks of practice, and Geoff Scott visited again to talk about incorporating competency and capability frameworks. Geoff also talked about powerful assessments (Scott, 2016) and we adopted a design goal of "no pointless essays." The significance of all these discussions is not the particular people – they were mostly opportunistic conversations tagged onto other discussions – nor the particular observations. What matters here is that we had wide ranging discussions with a diverse group and we were alert to insights.

Notes from a January 2017 meeting with the Otago Polytechnic Chief Executive Phil Ker have several statements that we needed to test: "For us, knowledge is enabler, not objective"; "Learner provides knowledge construct, we focus on capability (cf. knowledge focus in degree regulations)." He also described an "axis flip to interdisciplinary degrees": these three statements were useful for us in framing our approach and communication.

In response to one of our colleagues describing the emerging degree as a "weapon of mass disruption," we made a deliberate decision to disrupt from within the system – a system that is predisposed to teacher-led classroom instruction of predetermined content towards predefined disciplines. We wanted to be as different as possible but not to require system changes that could become insurmountable barriers thwarting development. We took the approach that quite often questions are asked in a way that presupposed an answer: "how are you planning to achieve this educational outcome, a or b?" Our answers were more often than not, neither "a" nor "b", but "c" or "k" or "seven" or "orange" but always prefaced with the original question: "we will achieve this educational outcome by… ." This became vital as we realised the consequences of taking a complexity approach to the design. Rather than seeing a programme as a staircase of building blocks with predefined content, we saw a system of interrelationships, perspectives, boundaries and processes, particularly personal growth (Figure 4). While we knew we would eventually be required to have those conventional elements – people need courses to enrol in – during the development we steadfastly focussed on systems approaches. An analogy from software development was useful here – that of the Agile Manifesto (Beck et al., 2001) – this transformed software development in moving the emphasis from structured documentation to relationships, user stories and embracing change. Importantly, agile is no less rigorous, just that rigour takes a different form – the axis flip from structure to process – and we used that analogy repeatedly in communications.

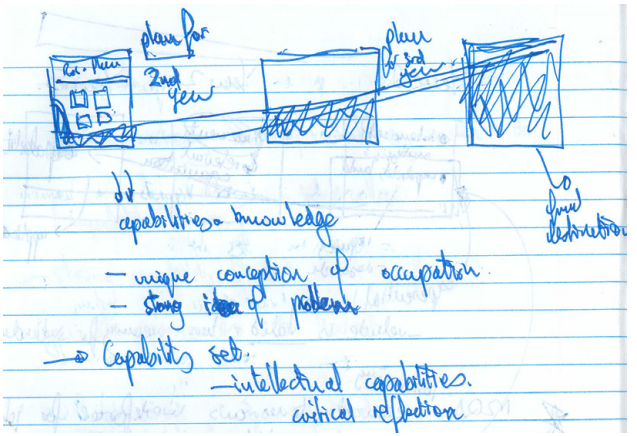


Figure 4. Early diagram of the degree as a journey. Includes review of learning at the start, a selection of experiences, increasing independence, and the importance of planning for each learner's next stage, and a "final destination" (eventually called "exit strategy").

Our next moment of inspiration was to focus on the user stories as emergent properties from the degree (characterised as the goals of the personas). In a series of conversations (mediated by a survey tool, Figure 5) we asked over 300* stakeholders to imagine futures for the personas (*note: anonymity of some aspects made precise counting impossible). We also asked if they know this "person" and who have we missed (we got seven more, Figure 6). We asked how those 'people' would define success, what might be their dream job, and what capabilities they needed for that success. The graduate profile was developed from a set of capabilities (Figure 7) distilled from those hundreds of responses. We sent the graduate profile back out to make sure our extraction had not lost the richness, robustness and flexibility. Key to the degree is that the graduate profile is an enabler for individuals to describe their own vision of success and plot a path to achieve that.

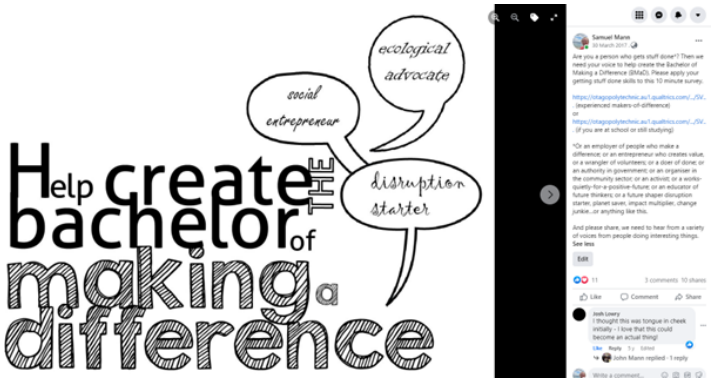


Figure 5. Social media post asking for help in defining the goals of the BMaD.

Figure 6. Final version of personas used in last round of stakeholder design. How might each of these people break the degree?

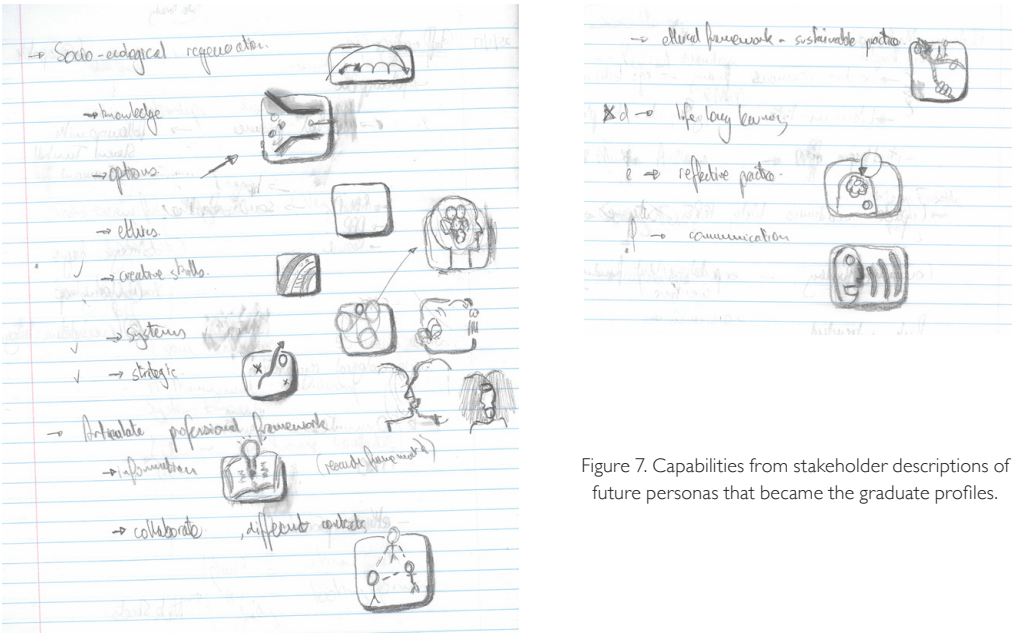
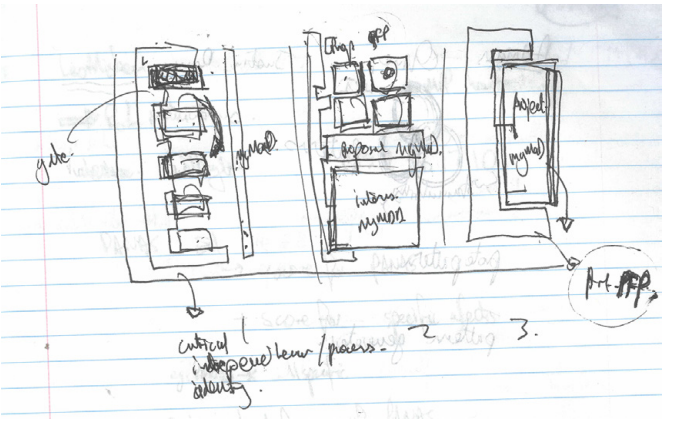
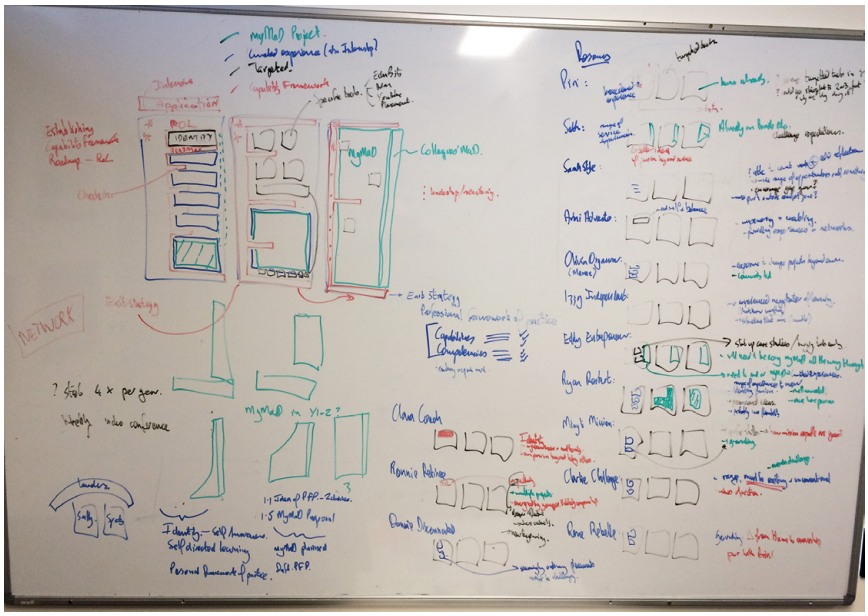


Figure 7. Capabilities from stakeholder descriptions of future personas that became the graduate profiles.

It is not the intention here to describe the details of the degree. Of note is that the internal structure for the degree did not take shape until late May 2017. This is in stark contrast to any other educational development I have been involved in that have all reached "what courses will we have in first year?" within the first development workshop. Figure 8 shows the framework structure of the degree in what we referred to as the "E" diagram – the E forming the backbone of each year – the reflection on professional practice supporting the curated experiences, the targeted projects, and the final MyMaD project. The "E" also stood for the "Exit Strategy."

When we had more idea of the structure of the degree we sent that back to the stakeholders: "how will this work for each persona?", "what risks might they face?" and then developed to respond to those risks. We imagined the personas as crash test dummies, and this approach continued to be able to provide a safe vehicle for eventual real students to explore.





Figures 8a and 8b. Developing "E" framework structure for the degree and testing that shape with persona experiences.

The second thing we did with the emergent structure was test whether we could communicate it. My notes are full of variations of the "E" diagram as again we explained it to anyone who would listen. Again, we sent this out to the wider stakeholder group with how this would work for each persona (Figure 9) along with learner-centric friendly explanations of each semester (Figure 10) and asked both "how would this enable each persona to fly?" and "how might each break the degree?" About this time, we also started working with people who would eventually undertake the degree: they genuinely wrote their own degree.

Figure 9. How might the personas break the degree? Suggestions from stakeholders.

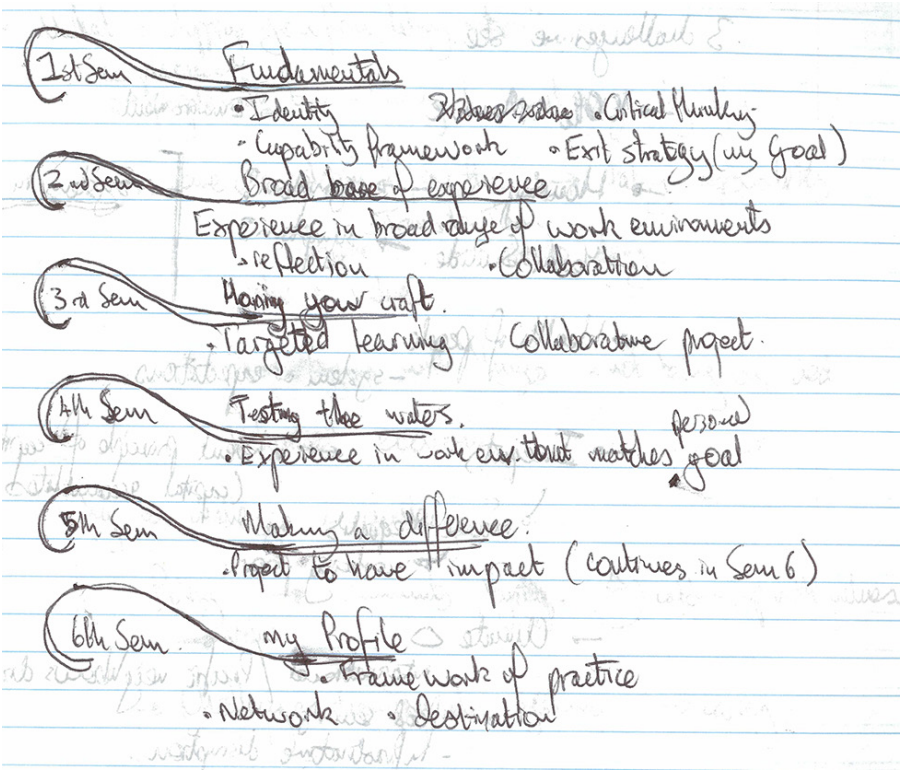


Figure 10. Developing learner-centred descriptions of semesters.

By the end of May 2017, we had principles, graduate profiles outcomes, and a structure to provide a robust yet flexible pathway. From there it was a reasonably simple curriculum alignment process to specify the learning outcomes for each course. This was not without some twists, for example, the six curated experiences were required to show progression, but we wanted them to be done in any order.

A year after the initial ideas discussed at the start of this narrative, we had enough to write the programme document. The degree was to be not just self-directed but self-determined. It was professional practice that could be undertaken by school-leavers. The coherence was to come from the individual while harnessing the benefits of a community of learners. People could start whenever suited them, forming rolling cohorts, from the model of learning within a family. There being no single industry, we appealed to the government's "future of work" initiatives. We worked out the bones of a weekly delivery plan: a combination of individual mentoring, group planning sessions, and a conversation with a guest speaker. This we took to accreditation. After intense internal academic scrutiny, the degree was accredited with a remarkably little amount of fuss by NZQA although in the process its name changed to Bachelor of Leadership for Change.

We knew that there was still much development to go in making the degree real. The challenge in teaching an individually self-determined qualification is that, by design, you are building the plane while flying it, but that is another story.

DEVELOPMENTAL EVALUATION MINDSET

This article is about the process of innovation rather than the innovation itself. In a separate article in this issue, we explore the ongoing development of the BLfC. Also, following Patton et al. (2015), it is not the intention here to examine the fidelity of the BLfC development process as a Developmental Evaluation or even a Developmental Evaluation Mindset. Rather, we use the principles of Developmental Evaluation as a sense-making device to help illuminate features of the practice of educational innovation.

While Patton (2015) was careful to preface these principles as being a mindset rather than a formula, he describes eight essential principles. Using each of these in turn as a lens, we consider the development of the BLfC.

Developmental purpose

It is worth noting that the development of BLfC did not set out to be a Developmental Evaluation and nor did it have an explicit role as "evaluator." Rather the "innovation and evaluation develop together – interwoven, interdependent, iterative, and co-created – so that the developmental evaluation becomes part of the change process" (Patton et al., 2015, p. viii). In this way, evaluation is tied to development not in terms of accountability but intrinsic to the developmental goal; the innovation is to make something better, and the evaluation makes that something better. Patton also describes types of innovation, in our case a hybrid of a new, original approach to a problem and an adaptive innovation; and while we could see elements of taught programmes, the approaches of the ILP and PP needed to come forward in our development. What makes it innovative is the degree of change compared with the existing situation and the recognition that understanding of the problem is both the first task and never ending: "the effort to tackle a complex problem may generate new/deeper insights about the nature of the challenge being addressed and/or the context" (Patton, 2015, p. 294). Key to innovations is that while there is a commitment to major change – in our case the myriad of challenges and motivations that initiated this development – the nature of that change was yet to be determined and indeed the approach to innovation is also emergent.

Goals at the outset for the development or the process would not have been useful. At the outset we were not setting out to create a new degree, rather a "Transformation Hub" which would render pointless the usual reporting milestones of so many required formal consultation sessions. Our approach was a mindset of inquiry intrinsically linked to an emerging innovation within a context that itself is unfolding.

Evaluation rigour

It might be stating the obvious, but for Patton if there is no data, there is no evaluation. The developmentally inquiring mind must have some rigorous basis. For Patton, evaluation rigour comes from rigorous evaluative thinking: "Ask probing questions, think and engage evaluatively, question assumptions, apply evaluation logic, use appropriate methods and stay empirically grounded" (2015, p. 299). In the BLfC development, this questioning was fundamental, not only to the process but to the innovation (the degree) itself. We generated a lot of questions and a lot of data.

Patton cautions "the problem, it seems to me, is in the focus on methods and procedures as the primary, or even only basis for determining quality and rigour" (p. 296). The rigour lies in "diligent, systemic situation analysis" and "principles-based evaluative thinking." This rigour comes from clarity about the purpose of the innovation and inquiry: what will inspire confidence in findings among those who will use them? In our case, the primary users of this information were ourselves as developers, and later as programme facilitators. We were asking questions we did not know the answers to and so these questions continually evolved as our own understanding deepened. As part of the integrated development and evaluation, we talked to as many people as possible, as

often as possible about the emerging degree, probably 100 or more such conversations, usually over a coffee and always with a back of the envelope. And as each person had a slightly different perspective or framed their questions differently, our own answers evolved and became the data for development.

At the start of the development (or at least once it was apparent we were developing a new degree) and at the end, we had to comply with external evaluation. At the start, the "permission to develop process" asked the wrong questions, too early, and at the end accreditation to deliver (programme document) asked the right questions but presupposed answers which did not fit our model. Neither of these steps could be considered developmental evaluation, and neither were useful beyond the desired outcome. So, we took a positive and educative approach to both.

Utilisation focus

Patton describes focussing on intended use by intended users from the beginning to end, facilitating the evaluation process to ensure utility and actual use. While Patton's focus is on the use of evaluation, in our case we can see this utilisation focus also applying to the innovation itself. The wide-ranging set of principles and precursors only become one when it coalesced under the "Bachelor of Rimu." However, we knew it was not just Rimu, and we sought input and validation from hundreds of self-described change agents, many of whom said they had once been "Rimu." They described roles that would never have occurred to us, so in terms of utilisation focus, we were explicitly designing a pathway to hundreds of jobs that we had never heard of. We were able to ground this by using the personas as both motivation and "crash test dummies." Before the structure of the degree emerged, we knew that a key thread was working towards each learner's "exit strategy": their framework of practice, their experience, their network, and what was their "plan for Monday." Regular coaching sessions were to be on progress towards this exit strategy; these sessions forming the backbone of the "E." These we tested with the personas using the "how will might they break the degree?" inputs from hundreds of contributors.

We took the somewhat elusive demand for a change to education and working backwards from "how will this be used?" to make it real. The subsequent uptake of the programme by a diverse demographic of learners (who reflected the personas well but included relatively few school leavers) showed how attractive this change to education was for many who had not had their needs met by more traditional education approaches, and how the answers to the "how will this be used?" question continued to expand.

Innovation niche

Patton et al. (2015, p. v) describe the "developmental evaluation niche" as one which:

> … focuses on evaluating innovations in complex dynamic environments because these are the types of environments in which social innovators are working. Innovation as used here is a broad framing that includes creating new approaches to intractable problems, adapting programs to changing conditions, applying effective principles to new contexts (scaling innovation), catalysing systems change, and improvising rapid responses in crisis conditions. Because social innovation unfolds in social systems that are inherently dynamic and complex, and often turbulent, social innovators typically find themselves having to adapt their interventions in the face of these system characteristics.

For the development of the BLfC we started with the wicked problems – jobs that have not yet been invented, engaging people who saw little value in conventional education, and the dynamic nature of the future of work – and we developed in a way that embraced this wickedness. It would have been relatively easy to look at a (all too often updated) list of "ten jobs of the future" and make a degree to anticipate one of these, for example,

a robo-taxi developer. But that would have been restricting, probably wrong (Vitek & Jackson, 2008), and would not have addressed any of the broader challenges about the changing face of education. Patton (2015, p. 302) stresses the difference between innovation and improvement and argues "social innovation approaches wicked problems through engagement, learning and adaptation (of process) rather than imposition of project-like solutions or models." Learning from the development of the BLfC, we can see that this applies to both the process of development and the resultant degree. Indeed, once the resultant degree was underway, there was a parallel process of innovation happening for the learners tackling wicked problems in their change projects, and for the BLfC facilitators navigating the programme processes to support them. As such, the experiential learning around innovation was embedded internally and externally, for learners and staff.

Complexity perspective

Patton's (2015) fifth principle calls for the application of complexity concepts. Here he defines complexity as referring to emergence, non-linearity, uncertainty, dynamics, and co-evolution (distinguishing these from systems thinking focussing on relationships). Recognising this complexity means that at the outset, "developing from rudimentary ideas … you cannot predict what will be the results, or even what you will be doing" (Patton, 2015, p. 305).

This complexity perspective is inherent in the development of the BLfC, again both in the process and the resultant degree. During development, we focussed on developing principles and broad outcomes, and how these might look for many different potential learners. When we did eventually turn to articulating the structure, it was clear that it had to be one that supported learning in ways that met all these characteristics of complexity. This had to work in a general sense, but also recognise and embrace the complex nature of each learner's journey. Complexity not only describes the problem but also the solution, not that the solution is complex, but neither should it impose a narrow solution to tame the complexity. Rather we need to seek elegant educational responses that allow for uncertainty, non-linearity and emergence. Complexity also requires holding inherent tensions between structure and emergence, as the delivery stages of the programme make clear (Malcolm, 2020; see also our article in this issue).

Systems thinking

In writing of Systems Thinking as a principle of a Developmental Evaluation Mindset, Patton describes a means for "conceptualising multi-dimensional influences, interrelationships and interactions as innovative processes and interventions unfold" (2015, p. 306).

Systems thinking was important in the conceptualisation of the degree and the evaluation of it as it emerged. We purposefully focussed on the emergent whole before thinking of the processes and flows to achieve that, the sub-systems, and only last, the components making up the structure. We borrowed from Agile Mindset to describe our focus on relationships, processes, stories and deliverable systems (in our case the evolving statements describing the degree). The axis-flip from structure, knowledge and content to processes, capability and relationship was fundamental in formulating the degree and as a premise to evaluate. The subsequent argument that "knowledge is an enabler, not the objective" was similarly tested, being modified with the emergent approach that there was to be some specific knowledge required – that of frameworks to help learners navigate the complexity. Even then, with few exceptions (te Tiriti o Waitangi for example), the specific frameworks were left to the appropriately guided individual learner to decide.

Co-creation

A crucial part of the BLfC development was engaging deeply with people from all the systems that will interact with the degree and with whom the learners/graduates would interact. This was a very different process from the usual consulting with representatives of employer groups. This was a practical challenge: who should we talk with? It was also a philosophical opportunity: who has the right beyond the learner to validate their design of their professional practice? Our approach was essentially to move this philosophical question to the degree itself; the learner is going through an extended validation of their own design (as it evolves and at the same time as developing themselves to meet it). As the degree itself developed, we needed people to act in the place of these learners, not to validate the specific outcome, but to evaluate the approach. Beyond the many face-to-face conversations we had with people, we engaged approximately 300 people in a series of surveys centred around the journeys of learners as represented by the personas. It is worth asking if this is really co-creation? As Patton (2015, p. 307) describes it:

> The developmental evaluator works collaboratively with social innovators to conceptualize, design, and test new approaches in an ongoing process of adaptation, intentional change, and development. Developmental evaluation is interactive – engaging social innovators, funders, supporters, and other core stakeholders to tailor and align the dynamics of innovation, development, adaptation, and evaluation. This dynamic amounts to the co-creation of both the unfolding innovation and the developmental evaluation design.

We believe it was not just the fact that we worked with people that made it co-design, but that there was meaningful engagement that did not presume answers. We went further as we did not presume questions; the challenges posed by stakeholders in one round formed the basis of developments in the next. Once delivery got underway, the focus for co-creation shifted towards internal stakeholder engagement, especially prioritising the learners' voices along with the staff team in shaping the programme's learning community culture and infrastructure.

Timely feedback

Patton's principle of Timely Feedback concerns evaluative results on an ongoing basis rather than at predetermined times. This suggests a shift to an evaluative mindset where every interaction is an opportunity for feedback, and every premise needs investigating. For us, the personas were key. Stemming from the expansion of "Rimu," these personas provided timely feedback throughout, not as flimsy marketing cut-outs of potential learners, but as deep and rich "people" into which we (and the co-designers) invested. Although we sometimes referred to the personas as our "crash-test dummies," it is worth noting that this was done with a sense of nurturing – we were not trying to *break them.* So we asked our co-designers to think of ways each persona might *"break the degree," for example, getting a different job, losing faith in their religion, realising their career pathway was not for them* and so on, and how we might address that in the learners' favour in the specification of the degree. We had hundreds of these evaluative narratives. This ongoing evaluation approach was far more useful in this development than the formal consultation process. The subsequent delivery focus has been one of constant attention to feedback, observation, reflection and adaptation, nurturing possibility thinking, and trying to remove barriers for learning.

CONCLUSION

In this article, we have presented a narrative of the development of an innovative degree: the Bachelor of Leadership for Change. We then used the lens of Patton's Developmental Evaluation Mindset (2015) to provide a sense-making framework for exploring this narrative. We now distil these findings as a set of principles that may be useful for future educational innovation:

1. Educational innovation must be in and of the systems that will use it.
2. The learner is the expert on their own experience and outcomes. Presume self-determination and be clear about when and why, if this is not possible.
3. Innovation comes from deep connection to context, principles, relationships and purpose. Following this deep connection is more important than applying a formula.
4. Distinguish innovation from improvement, and be prepared for the complexity involved.
5. Start with deep engagement in purpose and principles, especially if that purpose exposes wicked problems and need for societal change.
6. Start. If #5 above leads you to a place where the answers are not obvious, but you have a good sense of values and principles, then this is the right place to be.
7. Be collaborative. Surround yourself with a core of change makers and have a wider network you can pull on. Ask questions you do not know the answers to, and seek questions you have not thought of, or rocks you would rather not look under.
8. Engage a positive, creative, and curious mindset. Be critical but remember that criticality is positive evaluation to make the innovation better not mere negativity.
9. Be integrative. Ideas and evaluations can come from anywhere: asking "what?" "so what?" "now what?" questions can help make ideas and evaluations useful. Take every opportunity possible to communicate and discuss even barely coherent ideas. This is the best form of evaluation and creative development.
10. Have no pre-conceived ideas about how it might work. Allow ambiguity to persist for as long as possible. Experiment with how it might work in various ways and actively seek timely feedback to rapidly learn and adapt.
11. Treat barriers as clues to design.
12. Do not pick winners, instead develop an approach that embraces change (if you find yourself adding a specific piece of required knowledge that might be out of date in 10 years, take it out, and also ask yourself how your model allowed a place for such a detail).
13. Have actual people (or deep personas) in mind and test their multiple narratives. The deeper, richer, and more varied these narratives are, the better. This is a good opportunity to engage diverse stakeholders.

In a separate article we unpack more of learning from the implementation phase of the programme. Developmental evaluation, learning and adaptation continues at every step. We acknowledge all those who contributed to seeding this innovation, particularly Phil Osborne, Ray O'Brien, Steve Henry, Phoebe Eden-Mann, and Phil Ker, and the 31 graduates to date and the current learners on the journey with us.

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