Professional and Practice-based Learning

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Reshaping Vocational Education and Training in Aotearoa New Zealand

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Professional and Practice-based Learning

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Professional and practice-based learning brings together international research on the individual development of professionals and the organisation of professional life and educational experiences. It complements the Springer journal *Vocations and Learning: Studies in vocational and professional education*.

Professional learning, and the practice-based processes that often support it, are the subject of increased interest and attention in the fields of educational, psychological, sociological, and business management research, and also by governments, employer organisations and unions. This professional learning goes beyond, what is often termed professional education, as it includes learning processes and experiences outside of educational institutions in both the initial and ongoing learning for the professional practice. Changes in these workplaces requirements usually manifest themselves in the everyday work tasks, professional development provisions in educational institution decrease in their salience, and learning and development during professional activities increase in their salience.

There are a range of scientific challenges and important focuses within the field of professional learning. These include:

- understanding and making explicit the complex and massive knowledge that is required for professional practice and identifying ways in which this knowledge can best be initially learnt and developed further throughout professional life.
- analytical explications of those processes that support learning at an individual and an organisational level.
- understanding how learning experiences and educational processes might best be aligned or integrated to support professional learning.

The series integrates research from different disciplines: education, sociology, psychology, amongst others. The series is comprehensive in scope as it not only focuses on professional learning of teachers and those in schools, colleges and universities, but all professional development within organisations.

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Series Editors' Foreword

The goal of the Professional and Practice-based Learning book series is to contribute to discussions about and processes for improving the enactment of occupational capacities through practice-based learning experiences for both the initial learning of those capacities and their ongoing development. A related goal is associated with understanding how particular cultural and social circumstances shape these forms of development. We know that conceptions and practices associated with occupations differ across social and cultural contexts and, of course, history. Equally, the institutional arrangements that come to support initial and ongoing development of occupational capacities also differ across nation states because of these factors. Hence, understanding more about the particular shaping of occupations and educational systems that support them provides a vehicle for elaborating two sets of cultural practices. These are, firstly, how occupations become constituted in a specific social and cultural setting, such as a nation state. Arising from history, cultural practices and societal needs, occupations stand as exemplars of culturally derived practices. Yet, and secondly, the same is true for the institutional arrangements that arise and are enacted to support the initial and ongoing learning of these occupations.

In this way, elaborating these two processes within a specific national context provides a way of understanding the distinctiveness of these cultural practices. New Zealand, as it is commonly known across the world, is transforming its national identity through a process of renaming to Aotearoa New Zealand. This change of name characterises significant societal changes to become more bicultural in many aspects of national life, the nature of its communities and institutions. Yet, this very change process is set amongst other challenges and changes. No nation state is immune from global factors and forces that are impacting upon its economy, concerns about natural environment and increasing societal inclusivity. It is this complex of factors that is represented within the contributions to this edited volume.

These contributions include an account of the historical development of vocational education and training set within a British colonial context amid its manifestations within a Pacific nation whose natural environment was subject to exploitation in the name of economic development. Like other countries, the form and reshaping of the vocational education system was a product of history and

responses to emerging challenges, which continue to this day. Central to the second section of this volume is the responsiveness to engaging Maori talent and being inclusive of Pacific People as well as being more gender inclusive. These changes mark distinctions in the evolution of this vocational education system and how the complex of cultural and societal concerns is manifested within changes to the evolution of this system. Those changes seem as much about justice and restoration as equity. Part of the manifestations of the Aotearoa NZ vocational education system are how the focus of and provision of vocational education is enacted to meet the specific needs of these communities, again indicating its distinctiveness. This includes the intermingling of vocational and higher education into the basis of a unified tertiary education provision, which again offers a hybrid approach. Yet, despite the distinct context, issues faced by vocational education systems globally, such as the engagement with online educational provisions and preparation of teachers, feature in the final section of this volume. Yet, all of these are set within the particular issues being addressed, institutional context and national sentiments associated with biculturalism. In this way, the editors make the point that vocational education is giving carriage to the social and cultural evolution of Aotearoa New Zealand at times of significant change.

To date, the volumes in this series have contributed a range of perspectives, approaches and outcomes to these discussions. This volume continues that tradition through its focus on how a vocational education system is evolving in a country at the time of significant social, cultural and economic transformations. In these ways, the volume makes a particular contribution to the field of professional and practice-based learning through exploring the intermingling of institutional mechanisms, practices and evolving national sentiments in this country. In this way, the volume stands as a detailed case study of the manifestation of these practices in a particular national context.

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In this time of change, we would like to acknowledge the contribution of two organisations to vocational research. Firstly, the Industry Training Federation (ITF) which throughout its existence was a strong advocate for research into all aspects of vocational education and training (VET). In particular, the establishment of the annual NZ VET Research Forum was invaluable for providing the sector with a space to network, collaborate, share findings, and develop a sense of community.

Secondly, we thank Ako Aoteoara, the National Centre for Tertiary Teaching Excellence, for their support of VET research and practice. Through their national and regional project funding, Ako Aotearoa has made a major contribution towards the building of VET research capability and increased the visibility and reach of VET research through their support of many of the projects described in this volume.

Dedication

We dedicate this book to the people who together comprise Aotearoa New Zealand's vocational learning system: our educators, our workplaces, our developers, our researchers, and our apprentices, students, and other tauira.

'Ehara taku toa i te toa takitahi, ēngari he toa takitini'
My success is not due to me alone, but due to the strength of many.

Christchurch, New Zealand — Selena Chan

Wellington, New Zealand — Nicholas Huntington
May 2022

Contents

Acronyms

ACE	Adult and Community Education
CoVE	Centre of Vocational Excellence
EFTS	Equivalent Full-Time Student – for funding students enrolled in ITP programmes
ICT	Information and Communications Technology
ITF	Industry Training Federation
ITO	Industry Training Organisation
ITP	Institute of Technology or Polytechnic
MBIE	Ministry of Business, Innovation and Enterprise
MIT	Manukau Institute of Technology
MoE	Ministry of Education
NCEA	National Certificate in Educational Attainment
NZQA	NZ Qualifications Authority
NZQF	NZ Qualifications Framework
PTE	Private Training Establishment
RSLG	Regional Skills Leadership Groups
RoVE	Reform of Vocational Education
STM	Standard Training Measures – for funding ITOs
TEC	Tertiary Education Commission
TES	Tertiary Education Strategy
TITO	Transitional Industry Training Organisation
TOPNZ	The Open Polytechnic of NZ
UNZ	Universities NZ Te Pōkai Tara
WDC	Workforce Development Councils

Part I
Context and History of Aotearoa New Zealand Vocational Education and Training

Chapter 1
Introduction – Reshaping for the Future: Challenges and Innovation

Nicholas Huntington and Selena Chan

Abstract Aotearoa New Zealand (NZ) has a well-established vocational education and training (VET) system that contributes towards the country's economic standing and social outcomes. As in many countries, however, current and imminent challenges have led to a reconsideration and reconfiguration of our system. This chapter provides an overview of successive shifts as economic, political, and social factors have impinged on the connection between education and work.

The chapter presents an overview of VET's development over time and its place in the wider Aotearoa NZ educational framework, including the impacts of socio-political-economic changes across the last 50 years. Additionally, the chapter presents and discusses the rationale for the range of topics and focus of this book. The NZ government's reform of vocational education (RoVE) as part of a wider review of NZ educational systems to meet the challenges posed by 'industry 4.0' on work are proposed as major reasons. The many difficulties RoVE seeks to ameliorate are not unique to Aotearoa NZ. As such, Aotearoa responses are likely to be of interest to many other countries seeking to ensure their VET systems provide for equitable and sustainable measures to meet the demands wrought by contemporary and future global and local issues. The chapter closes with brief overviews of the chapters in this volume.

Keywords Vocational education · New Zealand · Apprenticeships · Tertiary education · Workplace education · Reform of vocational education

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Introduction

> The world around us is changing rapidly and our education system needs to keep up … Our proposals aim to ensure that the system is easier to navigate and provides the skills that employers and employees need. What we are proposing is ambitious, but it needs to be. We cannot continue to tweak the system knowing that the model is fundamentally broken, and isn't delivering our workforce the skills that they need to thrive. (Minister of Education, 2019)

On the 13th of February 2019 Aotearoa New Zealand's (NZ) Minister of Education, the Honourable Chris Hipkins, announced a wholesale restructure of the country's vocational education and training (VET) system. These changes, known as the Reform of Vocational Education (RoVE) programme, involve the disestablishment of sectors, the weakening of formal distinctions between 'on job' and 'off job' learning, new strategic bodies to steer the system, and the promise of new funding methods that will better reflect industry needs and social priorities. Collectively, the RoVE programme represents the most significant structural change to vocational learning in this country for thirty years.

As the excerpt from the Minister that opens this chapter illustrates, the RoVE programme has been framed as a response to both internal and external challenges. While many would disagree with the claim that VET in Aotearoa NZ has been "fundamentally broken", complaints about the system have been common. These include that VET provision is inconsistent across the country, that organisations compete rather than cooperate, that policy incentives reward perverse behaviours rather than meeting the needs of learners, employers, and society, and that the pre-reform system was financially unsustainable (see for example Minister of Education, 2018; Ministry of Education, 2018).

Beyond addressing these issues, however, the reforms are also positioned as a response to wider trends and pressures, many of which confront educational systems worldwide. As a small and outward-facing country, Aotearoa NZ has always been strongly affected by changing global trends. Current major international shifts in the nature of how people live and work are no exception as we face the same types of highly complex challenges as other countries. Aotearoa NZ is firmly in a period of 'demographic disruption' in terms of ethnic diversity, age structure, and fertility, as well as the ongoing concentration of population and economic growth in a small number of regions – most notable the 'golden triangle' of the upper North Island (Kiernan, 2018; Spoonley, 2020). At the same time, the country has begun to more directly and explicitly grapple with the legacy of colonisation and address the negative consequences of economic reforms in the 1980s and 1990s.

Economic and industrial transformation is likewise creating pressure for change. Much has been written on the challenges posed by rapid technological transformation, shifting global markets and trade patterns, and the disruptions caused by pandemics and climate change (see for example, Acemoglu & Autor, 2011; Autor, 2015; CEDEFOP, 2020; Chakroun, 2015; Sakamoto & Sung, 2018; World Bank, 2019). These issues are as relevant to Aotearoa NZ as elsewhere, as we face the need to ensure both economic and social prosperity by addressing the implications of

these changes for how we live and work (Business NZ and CTU, 2021; NZ Government, 2019; NZ Productivity Commission, 2020).

In this context, the government's reform programme is an ambitious response to the types of challenges that many countries are facing. It represents an attempt to reshape the national VET system in a way that reflects the future of employment, learning, and society. This involves not only adapting approaches to VET to reflect these changes, but also enabling it to better contribute toward building the capabilities that Aotearoa NZ will need to prosper now and into the future. The reform programme therefore presents not only a case of dramatically restructuring a national VET system, but also one of a government implementing a model that is specifically intended to reflect the early Twenty-First Century environment. As it progresses, RoVE will inevitably involve a combination of successes and failures, and these will generate clear lessons for other jurisdictions seeking to reform their VET systems.

Rationale for This Book

The chapters in this book present a picture of VET in Aotearoa NZ on the cusp of change. Over recent decades the diversity and relative autonomy of providers, alongside the flexibility of the qualifications regime, has provided an environment in which different approaches to pedagogy, support for learners, curriculum, and delivery structures have been enabled to flourish. While it may have grown from an English seed, our approach to vocational learning has developed distinct characteristics and produced innovative, creative, and in some cases world-leading practices.

One of the most visible and dramatic outcomes of RoVE will be the merger of various sectors that provide or manage VET into a single large public entity: Te Pūkenga (the NZ Institute of Skills and Technology or NZIST). The 16 Institutes of Technology and Polytechnics (ITPs) have been incorporated directly into this new institution; as of the first of April, 2020 they have been operating as subsidiary entities of Te Pūkenga, and by the end of 2022 they will be completely absorbed into its structure. Industry Training Organisations (ITOs) are being disestablished, with many of the trainees they manage being expected to transition into Te Pūkenga over a similar timeframe. At the end of this process, Te Pūkenga will dominate VET provision in the country and in terms of student numbers will become the thirty-fifth largest tertiary institute in the world (Te Pūkenga, 2020).

Given this, it is an opportune moment to collect and collate the many ways VET has been enacted across the system. Rather than looking across the entire spectrum of provision, however, our focus in compiling this book has been on the 27 organisations that will effectively cease to exist once the reforms have been fully enacted. Private Training Establishments (PTEs) and Māori-led wānanga will continue – although the reforms will affect both those sectors and the way individual providers operate. For ITOs and ITPs, however, fully implementing the reforms will mean the end of systems that have been in place for decades.

As detailed in later chapters (see Chaps. 2 and 3), these sectors have rich histories. Their aims, visions and purposes have been honed over the years through their deep associations with the people, iwi, industries, employers, and regions they serve. Through meeting their obligations to stakeholders, each has developed systems and approaches most effective for their circumstances. Much innovation has been undertaken across all organisations, leading to positive outcomes for their learners. The Industry Training system, for example, has been recognised internationally for its responsiveness to industry/employer needs (Sung et al., 2006).

This volume seeks to record some of these innovations, processes, and initiatives, providing a means to archive these for future reference and enabling these practices to be made visible and shared across Te Pūkenga and other providers. The range of topics across this volume, provide a 'snapshot' of how vocational learning is enacted across both the workplace-led and provider-led sectors.

Setting the Stage: Historical Context

Aotearoa NZ's approach to VET is intertwined with its broader social and economic development. Internationally, we are often perceived as a young country. Settlement first began with fleets of waka arriving from the Pacific in approximately the fourteenth century CE, making this the last major landmass to be settled by humanity. Māori civilisation then expanded to span the full extent of the country, reaching as far as the remote Rēkohu/Chatham Islands. Although the very first European contact with Māori occurred in the seventeenth century, it was not until after the arrival of James Cook in 1769 that non-Māori – mainly sealers and whalers – began visiting the country.

The 1840 Treaty of Waitangi/Te Tiriti o Waitangi between the British Crown and most iwi (tribes) represents the foundation of Aotearoa NZ as a state. Following its signing, further immigration soon followed and this rapid settlement and accompanying desire for land – actively aided in many cases by the colonial government – brought conflict between the Crown and Māori. The combination of rapid settlement, expulsion, and other effects of colonisation embedded deep structural inequities in Aoteaora NZ. Within decades Māori had become marginalised in their own country, with the population falling as low as 42,000 (6% of the national population at the time). Māori were encouraged to assimilate into Pākehā culture and society, and the country developed as one designed for the majority-Pākehā settlers. The multigenerational scarring effects caused by colonisation – both direct and indirect – can be clearly seen today. In almost every social, economic, and health-related indicator Māori continue to experience poorer outcomes than non-Māori (Marriott & Sim, 2015; Poata-Smith, 2018; Stephens et al., 2020).

As Maurice-Takerei's (2016) comprehensive whakapapa of vocational education and training notes, the first glimmerings of a VET system stretch back to these first decades of the country's existence. As early as 1865 the Masters and Apprentices

Act regulated aspects of apprenticeship relationships, albeit arguably with little force until it was combined with later labour market legislation. In general, however, vocational education in this period was informal and left to the devices of individual workplaces. Lacking a significant manufacturing base and able to rely on an ongoing supply of skilled migrants, there was little pressure for Aoteaora NZ to develop a more regulated system (Abbott, 2000).

The provision of institutional VET commenced at the turn of the nineteenth century with the establishment of technical classes in schools. This was followed by the formal creation of separate Technical High Schools through the 1908 and 1914 Education Acts. These evolved due to concerns that secondary schools of the time were designed as elite pathways to university and concentrated on academic subjects over technical learning; Technical High Schools effectively bridged the gap between the end of primary school and entering employment (Maurice-Takerei, 2016). However, they also suffered from a lack of social esteem and investment and embedded class differences (Openshaw et al., 1993; McKenzie, 1992). Technical Schools were associated with what would now be termed 'poor career pathways' as their narrowed curriculum effectively closed off options for people from working class backgrounds (Reid, 2000). As Guscott (2000, cited in Maurice-Takerei, 2016) puts it, they were a vehicle for social control that "taught students … to stay in the working class and come out into a working-class job" (p. 60).

The country's first true apprenticeship system arrived in 1923, with legislation formalising how such relationships should function. This included creating apprenticeship committees, setting national training standards, and establishing entitlements to wages and conditions for apprentices – entitlements that were strongly opposed by employers at the time as an inappropriate intrusion on their business models and employment relationships (Murray, 2001). At this point, with the Technical High Schools firmly established and the Apprentices Act 1923 in place to regulate initial in-work training, Aotearoa NZ's VET system had moved from a juvenile to a more mature position.

The country's post-World War Two prosperity and near-full employment saw a surge in VET, but technological shifts and trends such as automation also created significant demand for more advanced skills than the system was seen to be delivering (Maurice-Takerei, 2016). Meanwhile, post-war labour shortages led to measures intended to encourage the attractiveness of skilled trades and reduce reliance on immigration, including further regulation of apprenticeships through the Apprentices Act 1948. Targeted Māori Trade Training schemes were established both to address labour force issues and promote the assimilation of Māori into urban society. By 1957, the country had one of the highest rates of apprenticeship amongst school leavers in the world (Murray, 2001).

These trends led to the abolition of Technical High Schools in the early 1960s. That secondary schools should provide a broad-based education irrespective of class or career now dominated views on education policy (Reid, 2000), and VET was seen as more appropriately provided by a dedicated class of post-secondary providers. The existing urban Technical Schools were divided into a secondary

institution and a new class of technical institutes (or polytechnics).[1] Regional Community Colleges emerged in the 1970s and quickly developed a vocational focus; these were later to form the regional core of the Polytechnic network. At this point, vocational education largely left the schooling system. Technology and applied classes were still part of the school curriculum, but education connected to work was seen as the role of apprenticeships or the programmes offered by technical institutes (Dougherty, 1999).

The general stability of post-war Aotearoa NZ society was dramatically shaken in the 1970s and 1980s. The country's infrastructure and economy had developed to support its role as a supplier of agricultural products to 'the motherland', and much of the country's social structures and aspirations were tied to those of the UK (or England at least). The UK's entry to what was then the European Economic Community (EEC), saw the end of an effectively guaranteed market for the country's core exports, and unemployment began rising. Social changes exposed significant ethnic fault lines in the country. A strong Māori-led movement demanding that the government honour the principles of Te Tiriti emerged, involving marches, land occupations, and the renewed celebration of Māori culture (sometimes referred to as the 'Māori renaissance'). Conversely, while migration from Pacific countries had been encouraged while the economy was strong, the economic downturn led to the National government moving to deport large numbers of migrants from these communities. Such tensions reached a flashpoint in 1983, when a tour by the national rugby team of apartheid South Africa became the source of mass division within the country.

In this environment, the election of the fourth Labour government in 1984 marked one of the most significant periods of disruption in the country's history. Despite the party's centre-left origins, the David Lange-led government immediately embarked on a massive programme of market-based reform, altering almost every aspect of Aotearoa NZ's economic and social infrastructure. As one of the most prominent and extreme examples of the 'neoliberal wave' that crashed across many countries in the 1980s, the government pursued a policy programme involving mass deregulation, reduced public support for people and industries, and an emphasis on the virtues of open competition. These reforms were accelerated under the right-wing National government elected in 1990, which introduced further dramatic cutbacks to government support, privatisation and corporatisation of public services, measures to encourage de-unionisation, and market-oriented policy reforms.

Participation in apprenticeships fell significantly over the 1980s, although varying explanations have been provided for this. Some point to the government's overall reforms as prompting the decline in apprenticeships due to the breakup of large state agencies that invested in training, deregulation of the labour market, and the elimination of direct support for firms that trained (see for example Abbott &

[1] The former Wellington Technical School, for example, was divided into Wellington High School and Wellington Polytechnical School.

Doucouliagos, 2004; de Bruin et al., 2006). On the other hand, employers at the time had also come to see the apprenticeship system as cumbersome, inflexible, and increasingly poor at reflecting industry needs (Department of Labour, 1989; Green et al., 2003; Ministry of Education, n.d.). Murray (2004) also points out that the late-80s economic downturn meant that in simple terms, far fewer employers were able to support apprenticeship training.

Education was deeply affected by the radical changes of this nearly two-decade-long period of reform (Mclaughlin, 2003). At the end of the 1980s, the Picot (1988) Taskforce's *Administering for Excellence* report and the Hawke Report (1988) on Post Compulsory Education and Training each harshly criticised the education system for being unresponsive, over-regulated, and dominated by centralised bureaucracies. In response, tertiary education policies throughout the 1990s emphasised increasing participation by students and competition between education organisations. This included significant changes allowing private education providers access to public funding, the recognition of wānanga as a specific class of tertiary institution, removing caps on the total number of students who could receive publicly subsidised education places, and removing restrictions on who could offer particular types of courses.

An important element of this was the blurring of distinctions between 'higher' and 'vocational' education in favour of a notionally unified tertiary education system that theoretically treated all forms of education equally. Following the passage of the Education Act 1989, polytechnics were no longer confined to 'non-academic' subjects and gained the ability to offer degrees, but in return they faced greater competition for students. Private providers entering the system concentrated on vocational programmes and so directly competed with ITPs, but even more significant was the early 1990s replacement of the apprenticeship system with an 'industry training' system.

This new model was built around non-government Industry Training Organisations (ITOs) who oversaw vocational education for a given industry. These organisations existed as private not-for-profit entities, who applied for ministerial recognition based on demonstrated support from the industry they oversaw. This model was intended to provide industries with greater autonomy and direct control over their training arrangements by enabling them to directly set qualifications and control apprenticeship funding (Green et al., 2003). Through their ITO, an industry could theoretically control the qualifications available for workers in a sector and ensure that they accurately represent the skills needed to work in given roles. Although many expected ITOs to use funding to purchase programmes from polytechnics or private providers (Maurice-Takerei, 2016), a combination of factors – including the significantly lower per-learner funding available for industry training – soon led to ITOs becoming 'pseudo-providers' who directly managed in-work learning relationships.

The Modern VET Landscape: The Backdrop to RoVE

After 1992, Aotearoa NZ's vocational system was effectively split into two: a workplace-led system managed by industry-owned ITOs on the one hand, and a provider- or classroom-led system involving polytechnics (now known as ITPs), private providers, and arguably one wānanga (Te Wānanga o Aotearoa) on the other. At the same time, the notion of VET as a distinct sector of education began to weaken, as government policies focused on the notion of building human capital (Eagle & de Bruin, 2000) and *all* education took on a vocational tinge – though, somewhat ironically, with higher education implicitly or explicitly seen as creating more capital than vocational education. Developing strategies or settings specifically to support VET was subsumed within the strategic development of tertiary education in general.

Industry training maintained a clear identity in this environment given that it was founded on a separate funding system, policy settings, and organisation type. Importantly, it also occurred largely outside the physical boundaries of education organisations; industry training was not only conceptually separated from the world of 'educators' but materially detached as well. For provider-led VET, however, 'vocational' education simply became one strand amongst many, defined solely by its location on the National (later New Zealand) Qualifications Framework (NQF or NZQF). This in turn locked in its status as an inherently less complex and sophisticated form of learning than degree level education, arguably exacerbating the existing disparity of status between academic and non-academic learning (BCITO, 2017). Moreover, changes to the structure of apprenticeships appear to have been poorly communicated at the time, leading to a common public perception that such learning had been abolished.

The reforms of the 1990s were highly successful at increasing participation in post-school study – especially at degree level. However, they also resulted in significant problems, including a proliferation of low-quality courses, enrolments in expensive (both for individuals and the government) programmes with poor outcomes, and organisations directing large amounts of public funding towards competitive activities rather than improving education outcomes. Following the election of Helen Clark's Labour-led Coalition government, this led to the appointment and recommendations of an independent Tertiary Education Advisory Commission (TEAC) in 2000.

The Commission's recommendations, spread over four reports (TEAC, 2000, 2001a, b, c), marked the beginning of a more strategic approach to post-compulsory education. More attention was paid towards aligning tertiary education with economic and social priorities, and funding allocations became determined via investment plans negotiated with education providers (rather than tied directly to enrolments). The concept of a Tertiary Education Strategy (TES) – a ministerial document setting out a five-year strategic direction for the entire post-secondary education system – was introduced, alongside a stronger policy focus on achieving 'good quality outcomes' over simple participation, including raising completion rates, greater progression to higher study, improved employment outcomes and the

like. One of the most significant outcomes of TEAC's proposals was the establishment of a single body to take over responsibility for the funding of almost all post-compulsory education: The Tertiary Education Commission (TEC).

Following the TEAC reforms, changes continued to occur around the edges of the system. The Review of Qualifications process initiated in 2008 altered how sub-degree qualifications were developed and offered, while the 2011 Review of Industry Training by the National government led to a drastic reduction in ITO numbers as organisations were 'encouraged' to merge. But by the early 2000s the contours of the system as it would function for the next 16 years or so were in place. The 'Pre and Post RoVE Vocational Education key structures and key actors' sections on the following two pages set out the major differences.

A key theme of policy since the 1990s has been the collective role of tertiary education as a factor in economic – and thus national – productivity. The apex of this was the creation of the portfolio of Tertiary Education, Skills, and Employment in 2010 under prominent National Party figure Honourable Steven Joyce, especially given Joyce was also appointed Minister of Economic Development soon after. Under his oversight, the 2014 to 2019 TES was prepared jointly by the Ministry of Education and the Ministry of Business, Innovation, and Employment (MBIE). Moreover, it defined the first priority of the tertiary education system – not just vocational learning – as being "Delivering Skills for Industry", as well as more broadly stating that Joyce desired policy, regulation, and delivery to

> concentrate on ensuring that the tertiary education system performs well, not just as its own system, but also as a part of the wider New Zealand economy.... addressing changing skill needs so that the skills gained in tertiary education link to employment opportunities in the labour market. (Minister for Tertiary Education, Skills and Employment, 2014, p. 6)

During this period the New Zealand Productivity Commission was also directed to undertake an inquiry into tertiary education, with part of its terms of reference referring to ensuring that the system was able to respond to skill demands (NZ Productivity Commission, 2017). Its eventual report, however, largely focused on deregulating tertiary education to promote market responsiveness. It appears to have had little visible influence on policy work or thinking.

The Labour party had continued its focus on skills while in opposition, with its Future of Work programme and associated report including skills as key areas (New Zealand Labour Party, 2017). However, this work was concentrated primarily on issues of supply rather than demand or utilisation. The Party's interest in skills continued following their accession to power from 2017 and the appointment of Honourable Chris Hipkins as Minister of Education. The most recent Tertiary Education Strategy continues the focus on connections with the world of work, although this is phrased more in the language of social wellbeing and 'serving the learner' than the 'serving industry' framing common under National (Minister of Education, 2020). Reforms to the main secondary schooling qualification proposed in 2018 placed more emphasis on connecting qualifications to career pathways and progressions (Ministerial Advisory Group, 2018). And most visibly, the Reform of Vocational Education programme has an explicit goal of making the system more

responsive to the skill needs of learners, employers, and regions (Ministry of Education, 2019).

Pre-RoVE Vocational Education and Training: Key Structures

The New Zealand Qualifications Framework: A 10-level unified framework on which every formal qualification in New Zealand is listed, from foundation and school qualifications at levels 1 to 3, to Doctorates at Level 10. Degrees sit at level 7 while vocational programmes are generally classified at levels 3 to 6; most apprenticeship qualifications sit at Level 4. Competence-based Assessment Standards (mainly Unit Standards developed by ITOs, but also Achievement Standards based on the national school Curriculum) are also aligned to this Framework.

The Ministry of Education: The core government education agency, with responsibility for monitoring the overall performance of the education system, including its strategic goals and priorities. The Ministry has a direct role in the compulsory sector (paying teaching staff, developing the national curriculum, administering property etc.), but its role in the tertiary sector and VET space is primarily focused on policy advice.

The New Zealand Qualifications Authority: The primary education quality assurance agency, with oversight of qualifications, programmes, and tertiary education organisations other than universities. The Authority administers the process of listing qualifications on the NZQF, which makes associated programmes eligible to receive funding and students eligible for public financial support. It assures organisational quality through an evaluative regime known as Self Assessment and External Evaluation and Review (SA-EER).

The Tertiary Education Commission (TEC): The Commission manages funding of the tertiary system, as well as monitoring the performance of individual tertiary education organisations against the activities it contracts them to provide. It also incorporates the formerly independent Careers NZ service, which provides public advice on career options. The Commission operates at arms-length from the government to prevent ministerial influence over individual funding decisions.

The Ministry of Business, Innovation and Employment (MBIE): Although not part of the education and training system, MBIE undertakes analysis and provides advice to government on issues related to the labour market, firm performance, industry regulation, and similar functions. It also incorporates Immigration New Zealand, which administers the immigration system and advises on migration policies. In these roles it undertakes workforce forecasting, manages skills shortage lists, and similar activities relevant to VET.

Pre-RoVE Vocational Education and Training: Key Actors

Institutes of Technology and Polytechnics (ITPs or 'Polytechs'): Large, multidisciplinary providers offering programmes at sub-degree through Bachelor's level as well as a limited number of specialist postgraduate programmes.* ITPs also supported research, but of a much more applied nature and to a lesser extent than universities. Prior to the RoVE reforms there were 16 ITPs, and in 2019 28% of vocational learners enrolled with these providers.**

Wānanga: Specialist providers of education that is informed by indigenous Māori perspectives and approaches to knowledge and learning. While most learners at wānanga identify as Māori (55% in 2020) they offer education for students of all ethnicities. There are three wānanga, with one of these (Te Wānanga o Aotearoa) having a strong focus on VET programmes; in 2019 4% of VET learners were enrolled here.

Private Training Establishments (PTEs): Privately owned and operated providers that receive public funding. Although most are for-profit businesses, others are trusts or charitable organisations such as providers of religious education, community providers, and some specialist government training organisations. A PTE generally specialises in education for a particular industry, sector, or purpose (in contrast with the multidisciplinary nature of ITPs). In 2019, 13% of VET learners enrolled in this sector.

Industry Training Organisations (ITOs): Industry-based skills bodies similar to the UK's Sector Skills Councils, Canadian Sector Councils, and Australian Industry Skills Councils. Rather than being set up by the government, they were independent bodies – usually charitable entities – established with industry support that then apply for recognition as an ITO.*** Unlike most of their international counterparts, however, as well as developing qualifications, ITOs also organised training at the level of individual trainees and firms. This could include contracting providers to deliver courses, or arranging for training and assessment to happen 'on the job' within a workplace. Prior to the RoVE reforms there were 11 ITOs, and in 2019 these accounted for 57% of VET learners.

Secondary Schools: Several dedicated initiatives exist to support VET and/or raise its profile in schools. The Vocational Pathways initiative is an overlay on the main school-leaving qualifications that provides structure and a badging opportunity built around six broad industry groupings. Specific programmes such as Gateway and Trades Academies allow students to experience workplace learning while at school or a vocational provider (usually but not always an ITP). And some ITOs developed specialised offerings for schools to use, such as the BCATS suite of resources, standards, and qualifications for building pathways.

(continued)

*Along with universities and wānanga, ITPs are known as Tertiary Education Institutions (TEIs) or public providers, as the government considers itself to have a level of ownership interest in them. The extent of this interest has historically been the subject of some debate between the government and these organisations.
**Statistics in this section are taken from Education Counts (2020a, b).
***The criteria and grounds on which a Minister could grant recognition as an ITO were set up in the Industry Training Act, 1992, which was repealed as part of RoVE and ultimately replaced with the Education and Training Act, 2020.

Exploring Educational Innovation

This book's title alludes to the concept of innovation as characterising the Aotearoa NZ VET system. Innovations within educational systems may be viewed as changes made to an existing process, system, or approach, to enable it to better meet outcomes for learners and stakeholders. Serdyukov (2017) proposes that increasing the quality and scale of innovations in education may enhance educational experiences and outcomes positively and benefit the whole society. Similarly, innovation does not occur in a vacuum; it is a response to societal, economic and/or political challenges or pressures.

As shown through the preceding parts in this chapter, broader social trends in Aotearoa NZ have affected our VET system, its associated philosophies, and the approaches to learning and teaching that have ensued. Colonisation, relationships to the United Kingdom, social reform, and economic transformations have all shaped how vocational practices have evolved and innovated. The innovations described throughout the chapters in this book reflect the ways various sectors or components of Aotearoa NZ's approach to VET have worked through ongoing socio-historical-political mandates/direction.

Summary of Chapters

The book is organised into five parts. Following are brief overviews of each chapter.

The first part – History and Context – provides a descriptive grounding for the chapters that follow. The first two chapters discuss the two sectors – ITOs and ITPs – that have dominated vocational learning in Aotearoa for the past three decades. Each chapter appraises the role and contributions of each sector with

reference to present challenges and initiatives. Both these chapters have been collated by authors with long associations and relationships with their sectors and adopt an autobiographical approach that foregrounds their lived experiences of these two strands of VET.

In Chap. 2, Josh Williams discusses the ITO sector. The rationale for the formation of ITOs is summarised, and the influence of and innovations made by ITOs in workplace-based training and education over the years are presented. In Chap. 3, Jim Doyle presents a perspective on the role and evolution of ITPs through various policy and educational reforms across the last 40 years. This chapter emphasises how policy leadership and direction has impacted on the way in which ITPs have changed and adapted over time.

Across Chaps. 4 and 5, Nicholas Huntington then provides an overview of the Reform of Vocational Education (RoVE) programme. Chapter 4 focuses on the context and development of the RovE proposals, while Chap. 5 concentrates on the implications and possible outcomes of the reforms. This includes highlighting some key challenges that will face actors in the post-reform landscape.

Part II– Biculturalism and Equity – explores the social dimensions of VET. These chapters convey and detail how the vocational system in Aoteaora NZ has worked towards addressing inequities within the system itself and improving the position of groups within wider society. Kelli Te Maihāroa, Janine Kapa and Eruera Tarena opens the part with Chap. 6's presentation of a collaborative effort between an ITP and Māori to promote access and rebalance inequities in previous education experiences of iwi (tribal) leaders. The initiative they describe supports candidates to complete qualifications through recognition/assessment of prior learning (A/RPL) processes. Mātauranga Māori (Māori knowledge and epistemological frameworks) informs the way in which life experiences are celebrated and codified, thus creating positive outcomes.

In Chap. 7, Nicky Murray and Laloifi Ripley present Pacific workplace learner voices. The various initiatives introduced and developed to support Pacific workplace learners are presented with an emphasis on how these programmes have impacted on the lives of these learners, both within the workplace and beyond into their communities and whānau. The chapter introduces the importance concepts of ako (teaching and learning), mahi (the importance of workplace relationships and connections), and aiga (empowerment) as underpinning supportive workplace learning for all learners in Aotearoa NZ.

The last chapter in this part presents work undertaken to encourage and support women into trades training and occupations. In Chap. 8, Kylie Taffard and Nicky Murray detail the historical evolution and rationale for undertaking initiatives to support the entry and completion of women engaged in trades training. It is only after four decades of government and industry programmes that small increases of women are being seen across many traditional trade occupations. The chapter discusses some reasons for the challenges and provides contemporary details and critique of the present schemes to support women in the trades.

Part III introduces innovations in programmes for foundational learners and 'traditional' VET programmes. Firstly, Chap. 9 by Anne Alkema presents models of learning for supporting workplace learning. Here, models of how ITOs, ITPs, and industry have collaborated on the provision of support to workplace-based learners is presented and discussed. These models represent examples of how these sectors have worked together to enable effective learner experiences. The chapter includes some envisioning of how the collaborative models presented in the chapter may inform the post-RoVE future of VET provision.

Chapter 10 represents collaborative work between university-based linguists and ITP-based teachers/tutors to understand better 'the language of the trades'. In this chapter, Jean Parkinson, Averil Coxhead, James MacKay and Emma McLaughlin argue for the need to recognise the literacy and numeracy complexities inherent in trade occupations. The project studied the use of written and spoken language across trades including the building (carpentry), plumbing, engineering (fabrication) and electrical trades. Of particular note is the generation of a corpus of words used in each trade discipline and the beginning of work into translating these into Tongan.

Chapter 11 by Stuart Middleton focuses on transitions through secondary school/tertiary institution-based programmes. These include programmes such as Gateway, Trades Academies, and Vocational Pathways which help connect school students to the world of work and the opportunities offered by VET. The evolution and structure of these 'school and work' VET programmes is rationalised and detailed. Evidence of the impact of these programmes on students is also provisioned and discussed.

Part IV covers innovations made at degree level VET learning. As explained in the above parts and in Chap. 2, ITPs were granted the right to award degrees in 1989; in 2020 about a third of all ITP provision was in degree, graduate certificates/diplomas, honours, masters, and doctoral programmes (Education Counts, 2020b).

Chapter 12, by Selena Chan, Amitrajit Sarkar, Bernadette Muir and Karen Neill provides examples and recommendations for the implementation and support of project-based learning in ITP programmes. The chapter uses a case study methodology to detail how three programmes (Architecture, Broadcasting and Information and Computing Technology (ICT)) have structured courses to provide authentic learning through project-based learning approaches. The commonalities, challenges, and recommendations for developing and supporting project-based learning were derived through case study process tracing.

Chapter 13 by Richard Mitchell and Adrian Woodhouse (with contributions from the teaching team) narrate the evolution and development of the Bachelor in Culinary Arts (BCA). This programme is not premised on traditional curriculum structures of classical cookery training but instead founded on principles of design thinking. The chapter challenges the perceived approaches for preparing learners for employment in various sectors of the food industry. It also details the journey taken by the teaching team, to challenge long standing pedagogical approaches for the teaching and learning of cookery towards the philosophical adoption of a learning-centred curriculum.

In Chap. 14, Roger Birchmore, John Blakeley, Edward Chai, Jonathan Leaver, Wei Loo, Randall McMullan, David Phillips, Lusa Tuleasca, and Hugh Wilson

present the description, rationale and delivery mechanisms of the Bachelor in Applied Engineering (BEngTech) which is a shared qualification and delivery arrangement across six ITPs. The chapter details the drivers and rationale for the development of the BEngTech and presents details on the evolution of the collaborative 'management' and continual review and improvement of the programme.

The last chapter in this part, by James MacKay and Hanna Cadzow, covers the emergence of Degree Apprenticeships in Aotearoa NZ. As in many other countries, these are developed to provide accreditation for specialised occupations which are new or evolving due to changes in technology or industry, and/or occupations which are integrations or specific niches of traditional work roles. The authors detail the consultative and collaborative curriculum development of a degree and report on its pilot iteration and evaluate the pilot's efficacy.

The fifth part – Distance, online and digitally supported VET – includes three chapters focused on digitally-supported learning. To set the scene, in Chap. 16 Mark Nicholls delineates and defines the terms 'distance' and 'online' education. These terms are often confused, and this chapter argues for the adoption and shared understandings of clear definitions, to ensure the potential benefits of both distance and online education are maximised.

Chapter 17 by Tim Thatcher uses a case study to illustrate an 'ecological' approach to the design of learning in practice-based learning. Given the primary emphasis on practice-based learning across many VET programmes, there is a need to better understand how to design programmes of learning, and especially programmes using high levels of digital technology, that can cater to the specialised nature of practice-based learning and the needs of VET learners. The requirement to utilise holistic learning design is introduced and discussed, as a way to ensure the authenticity and effectiveness of learning design's contribution towards such learning.

Chapter 18, by Rea Daellenbach, Mary Kensington, Kathleen Maki, Michelle Prier, and Melanie Welfare summarise details of the networked distributed model of delivery to support midwifery education. The various ways midwifery students develop their skills, knowledge and professional/cultural identity are detailed. The approaches include extensive work-integrated learning supported by online learning and face to face tutorials, which include vertical integration of learner cohorts situated in proximity to their home. The application of Kaupapa Māori and Pasifika values, the deployment of eportfolio, and the introduction of virtual reality (VR) to support the initiation of novices into midwifery practice, are also detailed in this chapter.

The final part – Teacher Education – focuses on the important aspect of VET teacher professional development and education. In Chap. 19, Lisa Maurice-Takerei and Helen Anderson critique the present professional development provisions for VET educators in Aotearoa NZ and propose a way forward. They argue that the VET teaching workforce is key to the quality of learning experienced by VET learners, and requires greater attention as a policy goal. Initial and continual professional development is positioned as of importance, both in terms of the pedagogy of VET practice and regarding vocational teachers' discipline currency.

The book's concluding chapter by the editors Selena Chan and Nicholas Huntington, explores the preceding chapters and considers them with respect to how these innovative practices, models, frameworks, and approaches, may inform Te Pūkenga's development. Of note is consideration of the charter governing Te Pūkenga's aims and objectives, and the various proposed functional elements and 'service concepts' informing its operational model. The chapter matches some of the existing provisions presented through the volume and postulates how these align to Te Pūkenga's goals.

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