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**A Whakapapa of Technical,
Trade and Vocational
Education in Aotearoa,
New Zealand: Origins of a
hybrid VET System**

Lisa Maurice-Takerei

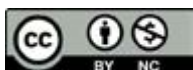
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A Whakapapa of Technical, Trade and Vocational Education in Aotearoa, New Zealand: Origins of a Hybrid VET System

By Lisa Maurice-Takerei



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Contents

Introduction **2**

Background **4**

Current Context

Identity and Belonging

The Origins of a Hybrid VET System **7**

Tributary 1 – Apprenticeships

Tributary 2 – Technical Education

Tributary 3 – Apprenticeship Commissioners and Committees

Tributary 4 – Certification Boards and the Council for Technical Education

Tributary 5 – The Vocational Training Council

Tributary 6 – Advanced Vocational Awards

Tributary 7 – Industry Training

Tributary 8 – Primary and Secondary Schools

Tributary 9 – Technical High Schools

Tributary 10 – Polytechnics and Technical Institutes

Tributary 11 – Neo-liberal Reforms

A Hybridised System **35**

The Need for a Research Agenda

Final Words **37**

Appendix **41**

A Whakapapa of Technical, Trade and Vocational Education in Aotearoa, New Zealand:

Origins of a hybrid VET System

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Abstract

This monograph provides a short history that discusses some of the changes, transformations and tensions from which TVET and in particular trade-related education in New Zealand has arisen. The monograph is part of a broader doctoral thesis, which explores the work of trade tutors in New Zealand polytechnics. The chapter from which the monograph has arisen stems from a desire to better understand the often-opaque environment in which TVET operates in New Zealand.



Figure 1: "More Work for Apprentices". New Zealand Freelance, Vol VIII, Issue 368, 20 July 1907 / Credit: National Library of New Zealand

Introduction

The development and management of Technical and Vocational Education and Training (TVET) systems is high on the agenda globally and locally as countries seek mechanisms to increase knowledge and skills and thus develop labour markets and the economy. In a recent UNESCO-UNEVOC report 'Unleashing the Potential – Transforming TVET' (2016), the authors call for an 'integrated' approach to TVET that takes into consideration such factors as "economic growth, social equity and issues related to sustainability". The requirement for vocational education and training to be responsive and flexible is not new. The New Zealand VET sector is described as one undergoing significant and frequent policy change through "radical reform agendas" (McLaughlin, 2003) and is portrayed as one of the most ambitious in the OECD in terms

of tertiary education reform (McLaughlin, 2003). A survey of the history of TVET in New Zealand suggests that the only constant is ongoing change. Such change is our legacy carried through to the present.

In terms of a 'whakapapa' the TVET system in New Zealand has burgeoned from industry and workforce need, economic, social and labour force requirements and goals, and through varying apprenticeship, schooling and education, social development and industry systems and structures. Sometimes these systems and goals were in conflict and sometimes they worked in co-operation. It is a complex genealogy.

While this monograph is not intended to be an all-encompassing history of apprenticeship, schooling, industry, trade and technical training it is hoped that discussion of these tributaries does provide some comment on early and interesting developments in the New Zealand vocational education and training sector as they relate to trade education. It is not to suggest that this is the only story. It is rather a backdrop which provides a starting point to reflect on a contentious past in a desire for a less contentious future – for what is the point of providing a history if we cannot learn the lessons embedded in it?

Background

The background to vocational, trade and technical education in New Zealand is interwoven with other New Zealand histories: the labour movement, industrial relations, trade unions, immigration and education. Employers', workers' and educator interests, combined with the historical, political, social, cultural and economic contexts and the role and control of the state, have often resulted in tensions. The establishment and disestablishment of many and various versions and systems for VET or its predecessors has resulted in an unsettled environment over many years.

The lines or 'genealogy' traced in this monograph are apprenticeships, industry training, schooling and technical institutes. Each of these lines has had its tensions and contests over time. While each of these lines developed somewhat separately, they have also come together at different times as the shape of VET has changed to reflect imperatives of the period. These areas collectively provide the setting and background for the current system for trade and technical education in New Zealand. Broadly speaking, the monograph is arranged using these lines, and chronologically. As an appendix I have provided a timeline that brings together the key events from each of the three sections that have had an impact on trade and technical education and educators.

Current Context

Researchers note that Vocational Education and Training (VET) globally is experiencing pressure and continuing to undergo change (Adams & Gamage, 2008; Bathmaker & Avis, 2007; Hillier, 2009). As governments seek to develop a skilled and knowledgeable workforce for the knowledge-based society, and to manage social and economic policies for employment and business, as industries respond to skills shortages, and educational institutions attempt to manage funding imperatives, structures for VET keep shifting and reorganising.

In New Zealand there is a recent heightened policy focus on VET and trade training. This is in contrast to a preceding thirty-year hiatus in trade-related and technical training. The demise of the former apprenticeship system under which most current trade tutors learnt their trade, the rise of education and training as a marketable commodity, the lack of vocational or trade-related education in the core curriculum in schools, the adoption of 'technology education' in schools, and the end to training in large state-owned enterprises as a result of neo-liberal policies have combined to create a situation where trade-related education and training has been dismantled and left to occur on the fringes of reorganised systems in a relatively haphazard and disorganised way.

Vocational education in New Zealand has traditionally been seen as an 'alternative' to academic schooling or education, or a place where young people are directed when they are not sure what to do, or have disengaged from regular educational environments. In New Zealand, as in the United Kingdom, and critiqued by Allen and Ainley (2013), vocational education has been seen as a suitable space to 'fix' literacy and numeracy and the problem of low educational achievement.

Part of the problem for VET is that it has been, and in some cases continues to be, seen as inferior to academic education (European Centre for the Development of Vocational Training, 2011) and despite the clear economic and social advantages the benefits of VET "appear to be undervalued" (p.4).

Identity and Belonging

It is and has not always been clear where trade-based and vocational education belongs. There are a number of contributing factors for this lack of clear and identified 'fit' including perceptions of a class-based system, the demise of technical training overall, privatisation of state owned enterprises, the change from manual or technical courses in schools to technology, and our long history of importing trained workers from overseas rather than engaging in home-grown training.

Historically, responsibility for technical, trade and vocational education has moved between private interests, industry-based organisations and state-run and -funded institutions. While producing highly trained, skilled and employed workers appears to be the goal, responsibility for who will bear the cost leaves many stakeholders shy. The vexing question of "Who pays?" has resulted in a shifting between 'homes', depending on need and opportunity.

A contributing barrier to the development of a strong vocational education identity and system in New Zealand was the class-based structure under which schooling developed. The schooling system emerged from a class-based system from late nineteenth and early twentieth century Britain. Within this system, curriculum – developed as a social construct – was perceived along class-based lines. Here there was a polar view of curriculum as either academic or non-academic and the idea of higher order and lower order 'mentalities' (Goodson, 1992). These 'mentalities' were seen as abstract vs concrete, intellectual vs sensual and active vs passive, and became a "self-confirming circle" (p.74) for different social groups. Education systems which developed along these lines over approximately 80-100 years provided schooling for the working classes, seen as better suited to the 'lower order' mentalities and to the gentry or upper classes, to whom were provided 'higher order' opportunities.

Despite the fact that educational structures and traditions have undergone radical reform since then and concepts such as 'mentalities' seem somewhat antiquated and irrelevant, there is still active in New Zealand (although less delineated) a constructed social order in the schooling system where the idea of manual vs academic subjects, and therefore manual vs academic students, is still present. Technical high schools, referred to later in this monograph, met their demise due to the public outcry relating to what became, although wasn't originally envisaged, a class-based system. Students deemed 'academic' continue to be encouraged to match the experiences and evolution of their university trained 'academic' teachers, and those deemed 'non-academic' encouraged into technical training.

The disappearance of technical schools, and the demise of manual courses, has sometimes meant that students deemed non-academic were simply encouraged out of mainstream academic schooling to find 'something else'. In general 'something else' has more recently been a job, or a technical, trade or vocationally based course.

A general de-emphasis on technical training (Ross & Bamber, 2000) over the last twenty to thirty years and the consequent lack of technical-skill-based focus has resulted in the demise of skills and trade knowledge. While a heightened awareness of the 'skills gap' or 'skills crisis' has spurred attempts to encourage more young people and employers into trade training, the results of the long neglect have become apparent. This has been highlighted by the call for trade skills following the 2011 Christchurch earthquake and the subsequent ongoing rebuild, where concern about the need for 'imported' skills and labour emphasises the lack of local, home-grown tradespeople. We seem to know very little about what constitutes successful trade training. Certainly the traditional approach to apprenticeship training has radically changed and

the structure of apprenticeships has altered considerably, taking on a number of guises since the 1980s.

A wide range of training options is provided, with multiple pathways but with seemingly little policy-based attempt to address wider mechanisms for high-quality trade training. The question that the trade-training sector might be asking is: "How do we train highly skilled people for the future in a way that serves both industry and individuals?" Instead, the policy question that seems to have been asked is: "How do we get the greatest number of tradespeople fast and for the least cost?" or "How do we reduce the number of NEETs [young people 'Not in Education, Employment or Training'] or unemployed?" Trade training has become a solution looking for a question – a way to fill gaps.

The increased 'privatisation' of education in an attempt to 'open up' training options means that the governance activities of institutions, once largely the domains of the state, are now contestable, complex and moveable. The state, having continued to withdraw its influence from the vocational and trade education sector, has largely left the environment to 'market forces' (Strathdee, 2003). Ownership of trade qualification standards has been with 'industry' and training continues to be undertaken by a wide array of providers who have entered the market. This has had a destabilising effect on vocational and trade education. The role of the state has devolved to one largely of regulation, where it seeks to regulate and manage educational quality, as well as provide a place for education within social demands and as part of a national strategy.

During the 1980s much trade-related education and training in New Zealand disappeared along with the government departments that provided the training (Abbott & Doucouliagos, 2004). Training was bound up with the state through enterprises such as the Ministry of Works, the Electricity Department, the Forest Service, Railways and the Post Office, where the training of apprentices to be technicians, carpenters, engineers, plumbers, mechanics and electricians took place. Trade training and cadetships in a broad range of industries effectively ceased when big state enterprises were further broken up and sold off. New Zealand now finds itself in a much discussed, as expressed by media, 'skills crisis' in terms of a skilled, trained, home grown workforce.

Employers, while keen to employ a skilled and trained workforce, have historically shown reluctance to contribute to training. There is still wide variation in the support employers are prepared to give to employees who engage in training and skill development. Many expect that a young graduate will arrive completely ready to undertake the demands of work as a fully experienced worker.

New Zealand is part of a global employment market. While it may make economic sense to import a skilled workforce rather than train one, there is more than economics at stake in the employment of locally trained people. In addition to providing a skilled and trained workforce for industry, education and training within the Vocational Education System contributes to national identity, is included in social policy and plays a critical part in goals for equity and social development (Robertson et al., 2002, p. 494).

As seen in this monograph, discussions and debates in this sector and between stakeholders are not new. Such topics as the educational, economic and social role of trade education and training, the mismatch between the expectations of employers and educators, the importing of skills, the fluctuations in the perceived quality of training, and debates about where such training should take place have been part of the history of trade education in New Zealand.



Figure 2: “What we may expect to happen when the Masters and Apprentices Bill becomes law. New Zealand Observer, Volume XV, Issue 813, 28 July 1894 / Credit: National Library of New Zealand.

The Origins of a Hybrid VET System

Twenty-first century tertiary vocational education in New Zealand is shaped by global factors of changing labour markets, shifting workplaces and economies, and changing values around work, knowledge and skills. The shape, role and goals of vocational education and training in New Zealand are often in flux, influenced by global, national and local conditions. This has resulted in an ongoing hybridised system, which shifts and changes to respond to the time in which it is nested. The hybrid system does have some strong genealogical ties though, and these are outlined in the following sections. However, the role and control of the state and the incumbent tensions and expectations for education in the vocational arena have changed often and, so too, has the shape and structure of training arrangements.

This sector of education, which sits more closely than any other to a nexus of state, market, community and household (Robertson et al., 2002), was affected by the neo-liberal retreat of the state, beginning in the 1980s and following the Picot Report of 1988. These events, which decentralised much educational administration in schools, had a “major impact on all that followed” (Mutch, 2001, p. 76).

Legislative shifts which responded to altering economic and technological conditions, and the resulting labour market variations, impacted on vocational trade and technical education and training in New Zealand for more than a hundred years. As conditions fluctuated, employer-based requirements of a reliable, ready-made and inexpensive workforce that needed minimal employer input, and the counter-requirement of a highly skilled and well-trained workforce with transferable skills commanding a competitive salary, have continued to be contested and contestable. Successive legislation has attempted to balance the competing demands between employers and workers while seeking to manage vocational and trade education for a skilled economy.

As an example of this contestability in the area of trade training and education, a cartoon from *The Observer*, New Zealand (1894), is pictured below (Figure 1). The cartoon entitled “What we may expect to happen when the Masters and Apprentices Bill becomes Law” shows a ‘disheartened’ employer being threatened with court for a variety of offences including not sending apprentices to church or neglecting to adequately teach an apprentice the trade. The cartoon plays on the fear of employers that apprentices will have an advantage over them in terms of financial gain, holidays, recreational activities and the ability to seek court action should the employer not co-operate with apprentice demands. An employer is pictured fleeing “the responsibilities cast upon him by the Apprentices Act” and another is seen in ‘gaol’ for the ‘crime’ of not adequately teaching an apprentice his trade. An image of an overwrought employer holding a copy of the Master and Apprentices Act in one hand and a gun in the other states “the employer has the choice of two evils” with the words of the employer: “Seems to me I either have to go to gaol or blow my bloomin’ brains out.” One image shows a “Model master and model apprentices” as “a comedy in seven Acts” suggesting that the Act is a joke.

This Act was never passed, staying at the Bill stage possibly as a result of an ongoing campaign by employers against it as outlined below. The 1894 cartoon, as a legacy of the Bill, illustrates the tensions and difficulties associated with legislative changes over employment and the philosophical clash between business interests and the upskilling of workers.

Tributary 1 – Apprenticeships

The key issues and concerns relating to the development of the apprenticeship system in New Zealand has been documented in the master’s thesis, *A History of Apprenticeship in New Zealand* (Murray, 2001). It is not the intention of this monograph to repeat that work; however, a tracking of key legislative changes provides a sound overview to the concerns and debates that have continued to plague the ‘apprenticeship problem’ and demonstrates the ongoing contestation. This provides some explanation and context for the current picture of industry training, apprenticeships and the demands for training.

As demonstrated in the previous section, government attempts to either restrain or enable competing interests in this area have often been unpopular. Some voices have been particularly loud in their opposition to change, and legislative changes have not always resulted in changes to activities or behaviours. In some cases, Acts have required re-enactment or further legislation in order to ensure conformity to arrangements.

1865 - The Masters and Apprentices Act

Some themes emerge in this tributary as unchanging in New Zealand’s quest for a skilled workforce. There is a history of relying on immigrant skills, the problem of who will bear the costs of training, the contestability of the mix of generic and specialist skills provided in training, apprenticeship quotas and wages, and where training should best take place. Issues such as a perceived lack of esteem for trade, employers’ lack of interest in training apprentices, the quality of training and the type of training have all required navigation through actual and perceived skill shortages, technological changes and increases in demand for higher skill levels, through economic upturns and downturns, war and immigration.

The growing New Zealand colony of the early years relied on the immigrant population and Māori labour. Overall there was little emphasis on training. Employers showed “little interest in promoting the instruction of their workers and...preferred to free ride on the training efforts of others by recruiting workers who were already trained” (Abbott, 2000, p. 93). In addition there was little demand for technical skills since “there

was no great concentration of manufacturing” (p. 93). This tendency built in an attitude that sanctioned the idea of importing skills from other countries. Immigration New Zealand had an active policy in the 1960s and 1970s that provided a portion of the nation’s skilled workers through immigration (Kappert, 1997) and this is a position echoed in the current practice of the employment of skilled tradespeople for the Christchurch rebuild through the Immigration New Zealand Canterbury Skill Shortage List.

1877 - Education Act The traditional British apprenticeship system of trainees working alongside skilled tradespeople was in operation in New Zealand from the very early colonial years. However, there were few laws controlling how apprentices were employed or engaged or how, or whether, they learned their trade. This situation was to be addressed in one of the first pieces of New Zealand labour legislation, The Master and Apprentice Act 1865.

This Act outlined minimum requirements for employers who were involved in the indenture of any child over the age of 12 years. The Act required provision of food, clothing and bedding for apprentices, and made reference to attending church and instruction in morals. The Act however, made no provision for the prescription of terms and conditions or the supervision of apprenticeship contracts (Graham, 2009). It worked to benefit the employer who was thus more easily able to indenture destitute children (Graham, 2009) and did little to manage the child labour that occurred in some workplaces.

The lack of formal control of apprenticeships and indenture eventually led to concerns that some children were being used as unskilled labour, were poorly paid or not paid at all while they learned their trade, and could be dismissed as soon as they completed their term. Graham (2009) suggests the system was “widely abused” (p. 65), that apprentices were often overworked and underpaid and did not have adequate opportunities to sufficiently learn their trade, a view that is supported by newspapers of the time.

Newspaper items from the 1880s point to the need to check the excessive employment of ‘boy labour’ that lead to reduced positions and wages for adults and the ‘dishonourable’ practice of casting boys adrift once they had reached the level of a journeyman, (for example, “Injustice to apprentices”, 1885). The

1894 - The Masters and Apprentices Bill industry was an ongoing topic of discussion for unions and employers of the period (Franks, 2001) and was addressed in numerous union resolutions and strikes, such as the bootmakers’ strike of 1886.

1894 - Industrial Conciliation and Arbitration Act

The Masters and Apprentices Bill of 1894, introduced by Premier Richard Seddon, was designed to bring in changes to the 1865 Act to provide better protection for apprentices. This established minimum wages

1895 - The Manual and Technical Elementary Instruction Act as a percentage of the wages of adult workers. It also sought to limit the number of apprentices to one for every four adult workmen (Graham, 2009). Clauses to ensure adequate instruction in the trade were included. However, opposition to this Bill was strong. In “Master and Apprentices Bill” (1894), The Press provided a summary of the bill and predicted strong opposition. The Press was correct and despite a number of attempts to have the Bill passed, resistance from employers was overwhelming and it was eventually withdrawn.

The most influential piece of labour legislation, the Industrial Conciliation and Arbitration Act of 1894, gave legal recognition to unions. This had a strong and direct impact on apprenticeship conditions. Ap-

apprentices' conditions became a significant part of negotiations and bargaining between employers and unions and were therefore regulated on an award-by-award basis. Details included whether and how apprentices learnt their trade, their hours of work and minimum wages. The Act enabled the legal enforcement of negotiated outcomes relating to hours of work and wages. Essentially, this Act was responsible for reforms to the apprenticeship system, providing an improvement in conditions and training for apprentices.

However, James Holt (1980), an authority on the Industrial Conciliation and Arbitration Act, suggested that, other than wages and hours of work, negotiations relating to apprentices tended to be focused on "whether and to what extent the number of apprentices in the skilled trades should be limited" (p. 185).

That balance between the over- and under-supply of the labour market was an issue affecting both qualified trades-

1900 & 1902 - Manual and Technical Instruction Act

people and employers. Qualified tradespeople were concerned to ensure their skills continued to be recognised and in demand, and employers were concerned to ensure wages for the skills they required were not driven up by a lack of supply of trained people. The quality of workmanship by skilled tradesmen had to be balanced by the cost of labour. This delicate balance in terms of quotas, labour market skill supply and quality of skills continued through the century and is still a factor today.

Unions and employers, of course, had differing opinions about the value of apprenticeships. Some industries were fully in favour of apprenticeships while others were not.

1903 - Secondary Schools Act

In some cases employers, such as those in the sawmilling industry, were reported as not favouring apprenticeship, and seeing it as "being quite useless" ("Is there any utility in apprenticeship?" 1901). Unions, in contrast, were in favour of a five-year apprenticeship. However, some apprenticeships such as those in the area of sawmilling fell into disfavour and "could not be revived" ("Is there any utility?" 1901).

The 1865 Master and Apprentice Act was finally re-enacted in 1908, but was made subject to conditions under the 1894 Industrial Conciliation and Arbitration Act (IC&A). The IC&A had brought the employment of apprentices and the term of an apprenticeship under the control of the Department of Labour (Wareham, 2011) and, until 1923, the apprenticeship system was governed through the conjoint use of the Acts – "one to establish and safeguard the contract; the other to prescribe the conditions to be fulfilled within the contract" (Baker 2016)

The next wave of legislative change to training and apprenticeships in New Zealand came in the 1920s. Changes to manufacturing processes and technological advancement required different and more complex skill sets. New trades emerged while others disappeared (Murray, 2001). Labour market requirements dramatically altered; electricity use surged. New and recent innovations like cinema, radio and automobiles were evident, and new industrial conditions meant new and increased skill levels were required by most industries. Added to this was the dramatic halt in 1921 to the post-war economic boom. Unemployment increased as agricultural prices fell and the labour market further plummeted due to the economic effects on Britain, New Zealand's major trading partner, of the American stock market collapse in 1929.

The concern about the lack of apprentices and the perception that work in the trades was less desirable than more 'genteel' professions is highlighted in a 1923 article in the Wellington-based Hawera and Normanby Star entitled, "Boys' employment. Crafts or dead-end? An official warning." The point is made in the article that "dead-end" employment in more immediately well-paying jobs was more attractive to

young people. This was seen as detrimental to the development of the Dominion, which was experiencing a “serious shortage of skilled workers” (“Boys’ employment,” 1923) and is another ongoing theme in the history of apprenticeships in New Zealand.

Changes to production meant that there was a need to ensure higher standards of training to ensure capability in new methods and techniques. There was however, a disinclination by employers to engage in technical education programmes (Abbott, 2000). In many cases apprentices

1908 - Education Act es were unable to finance their own higher training and both employers and unions sought government funding to meet

1908 - The Master and Apprentice Act re-enacted the higher training needs. Following a conference between representatives of employers,

1908 - Education Act unions and the Departments of Labour and Education, specialist apprenticeship legislation was passed. The Apprentices Act of 1923 provided for nationally

approved standards of training, and formalised apprenticeship and training. This, like earlier forms, was designed to ensure an adequate supply of workers with the appropriate skills (Kappert, 1997). The 1923 Act also gave impetus to structural changes in the technical schools that had been set up by Hogben in the 1910s (see later in this monograph), which were now given a formal role.

Tributary 2 – Technical Education

The formal entry of two other parties to the training regime began: technical institutes, where apprentices were to gain part of their training in recognition of the increased technological skill requirement; and voluntary district apprenticeship committees for each industry to oversee apprenticeships. The Arbitration Court continued to play a part in the governance of apprenticeships and was empowered to make orders regarding wages, hours and conditions, the proportions of apprentices to journeymen, the period of apprenticeship and the minimum age of apprenticeship in any industry. However, the apprenticeship committees took over much of the everyday function of managing apprenticeships. These local committees could “watch the progress” of apprentices to ensure they adequately learnt their trade (“Boys’ employment,” 1923). They controlled the wages, conditions and hours of work and the period of apprenticeship, which was usually three to five years (Murray, 2001).

Employers however, were not entirely happy with the changes in the Apprentices Act of 1923. They were concerned that the Act weighed too much in favour of apprentices and disadvantaged employers. In particular they objected to the requirement to allow apprentices to study during work hours (Murray, 2001). Many resisted the requirement to allow for daylight training. There were calls for the government to repeal the Act.

This unrest, in part, led to an Apprenticeship Conference in 1929, attended by employers, workers, the Education Department and Labour Department that was convened to rework details in the 1923 Act. At the forefront of the proceedings the chairperson expressed the importance of the work of the conference to ensure good quality training through both “the method and extent” as of the “utmost importance” (Murray, 2001, p. 2) along with ensuring the adequate supply of skilled persons. Attendance at the conference by members of apprenticeship committees and those appointed by apprenticeship committees, as well as the Director of Education and the Secretary of Labour, was identified by Minister of Labour W. A. Veitch as “a national responsibility”, “for the common good of all people and the general advancement of the whole Dominion” (p. 2).



Figure 2: Members of Staff, Council Members and Students of the Waihi School of Mines, opened in 1897. Picture taken in 1902 / Credit: Ohinemuri Regional History Journal 7, May 1967.

Of the many items discussed at the conference there were continuing issues of training to meet skill requirements, the necessity and value of teaching theory and practical components in any given trade as well as how each of those components is best delivered – issues of concern still raised today.

The membership of technical school boards and apprenticeship committees was a point of contention at the conference, while the role of apprenticeship committees and payment for committees' expenses were discussed. The Apprenticeship Conference minutes made note of discussion on the amount of time apprentices should spend at technical schools, correspondence classes for country

1914 - Education Act

apprentices, the issue of the unequal salaries of technical instructors with degrees and manual instructors with trade qualifications, apprentice quotas and unemployment concerns. There was considerable discussion about the responsibilities of the state and the employer for funding and training. This centred on payments of fees for apprentice training in technical schools. Whether, and by how much, "Apprenticeships should be the whole function of the State" was discussed. Finally, forty-seven proposals were discussed to improve the "Apprenticeship Problem" (Murray, 2001, p. 18).

Amendments to the 1923 Act had occurred in 1927 but by the early 1930s there were still demands for change. Concerns about a lack of skilled labour in New Zealand continued to appear in newspapers throughout the early 1930s. Apprenticeship problems were highlighted in the *Ellesmere Guardian* (28

1923 - The Apprentices Act

August, 1934), which raised concerns about the breadth of training, the question of technical schools and the importance of trade vacancies being filled by young New Zealanders. Employer petitions were presented to the government at the end of 1934. In "Urgent problem. Training of youths. Work of skilled trades. Few apprentices" (1934), concerns were raised at the lack of apprentices. Employers stated that the length of the apprenticeship term (five years) was too long and that apprentices should be apprenticed to the trade rather than the employer. Similarly, in "Work for youth – Government censured" (1935), the government was criticised for having made it impossible for employers to keep apprentices.

An improvement in the economy in the mid-1930s, together with the election of a Labour government in 1935, provided for an increase in the numbers of apprentices. In a newspaper report "Training for trade" (1936) concern was raised that "conference after conference has warned the people of New Zealand that there would be a shortage of skilled labour and that would mean importation of skilled labour", and in, "Lack of apprentices" (1938) the new Minister of Labour was reported to be anxious to find a solution to the lack of skilled labour that satisfied both the "Labour" people and the employers is outlined. The call for "more elasticity" in the apprenticeship terms as well as a scheme for apprentices to attend technical

training centres ("To meet industry's need," 1938) was made. Free tuition was provided for apprentices at the technical schools, while the government paid a subsidy to employers (Murray, 2001). Adult apprenticeships were encouraged, assistance was provided to purchase tools, and apprentice numbers improved. Despite the upsurge in apprentice numbers however, skill requirements were largely unfulfilled and a scheme to import tradespeople from Australia was instigated. This ended with the outbreak of war in 1939.

Tensions between employers and technical schools nevertheless continued to be evident. The Evening Post (1935, p. 17) reported that the Director of the Wellington Technical College, in a prize-giving ceremony speech, recognised the importance of the co-operation between the "industrialist" and the "educationalist"

yet made particular reference to the "laissez-faire" attitudes of employers,

1925 - Report on the New Zealand Education System

which prevented good training. His speech continued to say that the importance of the technical colleges was to fill the technological gaps in training.

However, The New Education Fellowship, an international group promoting educational improvement and pedagogical reform, had an influential membership active in New Zealand in the 1930s and 1940s. A significant conference held in 1937, supported by the Labour Government and set up by Peter Fraser

(as Deputy Prime Minister and Minister of Education)

1927 - The Apprentices Amendment Act

brought to New Zealand a range of overseas educationalists and reformers to stimulate debate in the

educational field. Although this far-reaching conference laid the basis for the shape of the later education sector, vocational education is noted more for its absence than anything else. There were only four references, in total, to vocational education throughout the conference, despite the presence of papers relating to "educational democracy" and "equality" (Abbiss, 1998).

1930 - The Atmore Report

The Evening Post ("Important issue. Apprenticeship case," 1944) highlighted the confusion relating to apprenticeship orders in the early

1940s, and made particular reference to apprenticeship orders and contracts, specifically who had entitlement under the law to appeal, or the power to rule on, contracts.

With the end of World War Two, the shortage of skills intensified. The Apprentices Amendment Act of 1946 and the Apprentices Act of 1948 had resulted from a 1944 Commission of Inquiry into Apprenticeships (Te Ara, 1966). Servicemen returning from the war compounded concerns relating to changes of apprenticeship orders and the consequent confusion around apprenticeship details. Some had joined the war effort part-way through an apprenticeship and had returned with decreased interest in it or in the accompanying low wage.

Tributary 3 – Apprenticeship Commissioners and Committees

The lapsing of apprenticeships and a general lack of focus on ensuring those who had remained in apprenticeships achieved their qualifications during the war years were the main issues of concern (Murray, 2001) during this time. The commission report recommended the appointment of an Apprenticeship Commissioner and four Deputy Apprenticeship Commissioners based in the four main centres to co-ordinate apprenticeships. These recommendations resulted in national apprenticeship committees, made up of union and industry representatives, which replaced the voluntary and local committees set up in the 1923

Act.

While skills were in high demand, unskilled work still paid well and many apprentices were increasingly unhappy with apprentice wages. Skilled tradesmen returning from war commanded high wages to keep them in the trades. A Commissioner of Apprentices was appointed in 1948. This signalled a new order, with New Zealand apprenticeship committees set up in 12 industries, extending to 22 in 1949 (Murray, 2001). Apprenticeship wages were still set as a proportion of journeymen's rates, but compulsory training in technical schools was introduced (Abbott, 2000).

Previously, night courses in technical institutes had often failed to get adequate numbers of apprentices; and employers were still not generally in favour of daylight training given that wages had

1944 - The Thomas Report

1944- omission of Inquiry into Apprenticeships and Related Matters

to be paid for the 'unproductive time' spent at a

1944 - Free Secondary Education

technical institute. The unions made a case for daylight training, arguing for the importance of high-level skills. By 1951, seven industries had a combination of block courses and night courses for apprentices and during the 1950s, 40 percent of all apprentices attended daylight training or courses (Murray, 2001).

A scan of newspaper articles from the period 1949-1950 indicates that there were a number of concerns that continued to be debated in the public arena. Quotas for apprenticeships, apprentice wages, the availability of daylight technical training, unemployment and youth vs adult apprenticeships were all items of discussion. Trade standards and the quality and provision of training were issues that were regularly debated and reported, especially in the Evening Post and the Auckland Star (see Papers Past website). Comparisons were made between the New Zealand, American and British systems of apprenticeship and training as possible solutions for the ongoing problem of skilled workers; the need for high-quality workmanship was debated. Employers, tradespeople, unions, technical institutes and the Department of Labour continued to discuss costs, courses and wages. Notwithstanding, the numbers of apprentices continued to fluctuate.

1946 - Apprentices Amendment Act

Despite the changes to apprenticeships and the introduction of the New Zealand Apprenticeship Committees, the voluntary local apprenticeship committees continued to undertake a large amount of the administration of the system. An

1947 - The Adult Education Act

employer required the prior consent of the committee before

1948 - The Apprentices Act

he or she was permitted to take on an apprentice. However, national apprenticeship orders eventually replaced often out-dated local orders,

1949 - The Trade Certification Act

while the setting of apprentices' wages at a proportion of journeymen's rates became the standard (Murray, 2001).

Tributary 4 - Certification Boards and the Council for Technical Education

A significant tributary in the continuing flow of trade training initiatives during this period was the New Zealand Trades Certification Board (NZTCB) created by an Act of Parliament in 1949. The Board provided, for the first time, "a system of general provision for trade examinations in New Zealand" (Kappert, 1997, p. 51). The NZTCB had responsibility for moving each apprentice through a series of qualifications

as well as to make provision for the examinations of those practising, or intending to practise, any trade. It set theoretical and practical standards that an efficient apprentice or tradesperson should reach, issued certificates, provided incentives for tradespeople and apprentices to improve their knowledge and skill in their trade, and established appropriate courses of study for the various trades (Kappert, 1997).

In effect Trades Certification Boards took on the functions that in Britain were under the British Craft Guilds, regulating the supply of training. It was the responsibility of the NZTCB to certify institutions as suitable for the delivery of curriculum leading to examinations. It was intended that the NZTCB would be as autonomous as possible. With its own secretariat, it reported directly to the Minister of Education rather than the Minister of Labour.

Membership of the controlling board of the NZTCB included the Commissioner of Apprenticeship, representatives of workers and employers, technical schoolteachers through the Technical Education Association, the Post-primary Teachers' Association, the Department of Education, the Plumbers' Board, the Motor Trade Certification Board, the Electrical Wiremen's Registration Board and a chairman appointed by the Minister

1958 - Establishment of the New Zealand Council for Technical Education of Education (Te Ara, 1966). The

first examinations from the new Board took place in 1949 and by 1960 their examinations covered 31 trades (Kappert, 1997). Theoretical examinations set by the Board were undertaken in various teaching institutions. Apprentices were encouraged, but were not required, to undertake these exams. They were however, required to undertake the learning prescribed by the Board.

The two decades following the Second World War were stable and marked by a "general settlement regarding apprenticeship training" (Murray, 2001, p. 100). A booming economy, strong employment and strong economic growth along with the scarcity of skilled labour contributed to a peak period for apprenticeship in New Zealand.

The early 1950s to the mid-1960s marked an increase in technical education. A number of elements worked together to gradually shift the focus of trade training and apprenticeships from industry towards technical training institutions. These included two-year residential courses for Māori carpentry apprentices, followed by other trades, which were provided by technical institutes and funded by the government rather than employers; the development of the New Zealand Certificate in Engineering in response to the demand for more technically skilled workers to work alongside engineers, and undertaken in technical institutes; and the establishment of the New Zealand

1960 - Commission on Education in New Zealand Council for Technical Education (NZCTE) in 1959. The main duties of the council were to

advise the Minister of Education on matters relating to training and education for commerce and industry and to foster stronger relationships between technical education, commerce and industry (Murray, 2001).

With the establishment of the NZCTE in 1958 the apprenticeship system and the education system developed even closer links. Industry became more involved in the development of examination prescriptions for trades delivered through educational organisations. However, there continued to be tensions around the off-job, technical education component of apprenticeships, particularly in relation to when it should occur, who it should include and what it should entail. By the 1950s the structure of the apprenticeship system included national apprenticeship committees, the NZTCB, apprenticeship commissioners, technical colleges, industry, employer and worker organisations, as well as the Departments of Education and Labour.

The NZCTE was designed to ensure a close connection between apprenticeship and all other authorities associated with technical education and apprentice examinations. The Commissioner of Apprenticeship had links to both the council and the New Zealand Trades Certification Board. Industry involvement was sought in the development of examination prescriptions while examinations were instituted only at the request of the industry involved. The development of learning content was the result of employer and worker organisations working closely with the technical schools and technical tutors to ensure that the prescriptions were closely related to the needs of the industry (Dunstall, 1993).

The economic shifts in the late 1960s, along with increased automation and the introduction of new industries during this period, increased the demand for more skills and higher skill levels. This was set alongside

1964 - Education Act

the now familiar tension of high demand, low apprenticeship numbers and low apprenticeship completions. There was an ongoing need for increased and more advanced technical and vocational education, and this continued to be discussed through education conferences and inquiries including the Industrial Development Conference of 1960, the Commission on Education in New Zealand, 1960, and at the Commission of Inquiry to Vocational Training, 1965 (Kappert, 1997).

Employers and many politicians saw the apprenticeship system as overly administrative and rigid. Concerns were raised about the future of training and skill levels, and criticisms were levelled at the unresponsiveness of the apprenticeship system to technological and economic changes. By the middle of the 1960s, skilled tradespeople were again in short supply, but unemployment had started to rise. Employment figures were

1965 - Commission of Inquiry into Vocational Training in New Zealand

particularly low among Māori, Pacific Islanders and unskilled workers (Kappert, 1997). Skills training, through trade training schemes, was utilised as a response to unemployment.

The 1965 Commission of Inquiry into Vocational Training was set up. The terms of reference for the commission were to inquire into all vocational training at all levels and in all industries. Chaired by Sir Arthur

1968 - Vocational Training Council Act

Tyndall, an engineer by training and Judge of the Court of Arbitration, the commission also included two union representatives, two employer representatives and one technical education representative. Known as the Tyndall Commission, it was to report on the change required for vocational training in New Zealand based on the growing pace of technological change, economic development and population growth.

The commission's findings suggested that a more systematic approach was required for apprenticeships. The view was that there was a need for more broad-based training within apprenticeships and that trade specialisation could be built upon following completion of the apprenticeship (Kappert, 1997). As a result, the terms of apprenticeships were reduced in many trades and recommendations to improve the formal training components of apprenticeships in response to the growing pace of technological change were heard (Murray, 2001).

The commission commented favourably on the successful functioning of the NZTCB and its co-operative and relationship-building role in linking with industry. The report supported the existing system, where employers certified the practical abilities of apprentices and the requisite theoretical knowledge was gained at technical classes and institutes of technology. Kappert (1997) identified that this was a "dual system of

vocational education” (p. 310) and suggested that plans for its continued development were undertaken.

Tributary 5 – The Vocational Training Council

As a result of the commission’s recommendations the New Zealand Council for Technical Education was disestablished. Having acted only in an advisory capacity and not having had any full-time staff, it was perceived to have failed to function as an advisory body to the Minister of Education (McLaren, 1974). In its place was established an independent organisation, the Vocational Training Council (VTC), representing industry and education to oversee the planning, co-ordination and development of vocational training courses (McLaren, 1974). The VTC membership included representatives from the Ministry of Education, the Ministry of Labour and various industry representatives. Set up by government statute in 1968, the VTC followed many of the recommendations from the Tyndall Commission and was charged with advising government, industry and business on the improvement of vocational training (Murray, 2001).

The objectives of the VTC were to raise the standards of knowledge, skills and effectiveness in vocational training, to ensure that people as individuals had the opportunity to develop, and to generally encourage the implementation of organised training and development (Murray, 2001). The establishment of VTC and the creation of its 26 training boards required for the first time some systematic co-ordination between the needs of industry and the education provided by the technical institutes.

Following an allowance in the 1971 budget, and encouraged by the VTC, industry training boards were formed. These boards linked with polytechnics and national apprenticeship committees in both advisory

1970 - The Apprenticeship and Related Trade Training Committee and the Vocational Training Council delivers its first report

and consultative functions (Kappert, 1997). The functions of these boards were the same

as the VTC, but were restricted to particular industrial or commercial groupings. Their structure was like the VTC, with representation from employer, employee and appropriate government groups. Industry Training Committees were set up in relation to smaller industries. Technological examinations run by the Department of Education began to be replaced with Trade Certificates and Advanced Trade Certificates run by Industry Training Committees.

The pressure for the reform and modernisation of the apprenticeship system again steadily grew. A skilled labour force was seen as a vital component for the future development of New Zealand and the system, as it was, was seen as too slow to adapt to the increasingly complex technological environment and unable to deliver the theoretical knowledge required for a modern setting. Therefore the VTC recommended to government that the proportion of time spent in formal study should be increased and that general studies should form part of the formal studies component. A continuous review of the requirements for each trade was also called for. Employers expressed concern that they should bear the burden of paying for the general studies component of training, stating that they were only interested in apprentices gaining skills and knowledge relating to their particular industry.

Economic conditions tightened in the 1970s as Britain moved trade allegiances to the European Economic Community. Established in 1970, the Apprenticeship and Related Trade Training (ARTT) Committee for the VTC delivered its first report in the same year. That report highlighted concerns around the low status of trades and the small wage for apprentices. The report argued for the idea of competency, rather than time served, as the criterion for progression in apprenticeship and there was discussion about the appropriate

amount and quality of the education or off-job component of trade training. The question as to whether apprenticeships were controlled by industry or by the state was raised again as it had been in 1945. Taking into account the earlier Tyndall Commission findings, this council recommended an overhaul of the apprenticeship system.

Apprenticeship numbers were small and wage rates for unskilled workers attracted workers away from apprenticeships, where pay was low. Echoing concerns from the 1930s when apprenticeships were under pressure, there was public discussion about the status of trades as a significant reason for a shortage of skilled tradespeople. In a report by the Department of Labour to the VTC's Committee on Apprenticeship in 1972, a number of areas relating to apprenticeships were highlighted. Improvement measures for retention were called for as well as more attention to selection and recruitment processes. Induction processes to ensure new apprentices were well prepared, and more counselling and advice for apprentices during their apprenticeships were recommended. There were suggestions relating to increasing wages for fully skilled people, and the idea of developing a semi-skilled workforce was suggested to improve apprenticeship numbers (Murray, 2001).

1977 - Review of Apprenticeship: Discussion Paper

However, broad-scale changes were yet to come. The early 1970s saw changes that Murray (2001) describes as "pragmatic tinkering" and "piecemeal reforms" (2001, p. 124) rather than any wholesale effort to improve the outcomes of apprenticeships in New Zealand. Despite minor changes to the Apprenticeship Act the system remained essentially the same. Individual apprenticeship committees developed solutions to combat shortages in their own industries and short-term local schemes were put in place in an attempt to resolve skill shortages.

1979 - Vocational Awards Act

A number of seminars and conferences during 1977 discussed the apprenticeship system (Kappert, 1997; Murray, 2001). These included the Employers Federation Conference and that of the Technical Institute Association. It was considered that the skills problem for employers and the inability of young people to find apprenticeships were due to economic uncertainty (Murray, 2001). The criticisms raised over this period about apprenticeships included the educational component, the restrictive administrative processes and the complexity of the system. The National Government of the time, under Prime Minister Robert Muldoon, ran a strongly regulated economy and was intent on increasing apprentice numbers. It thus provided cash incentives to employers who took on new or more apprentices.

The key trend of the 1970s was that a much greater proportion of training for apprenticeships started being carried out in technical institutes (Abbott, 2000; Kappert, 1997). Apprenticeships continued to include an off-job component, undertaken at polytechnics and along with an on-job component, generally under a time-served model although there was an increased shift to valuing competency above time served.

However, while there was a prevalent view that the educational component of apprenticeships should remain compulsory, there was ongoing and increased dissatisfaction with the theoretical aspects of apprenticeships delivered in technical institutes. As had been raised in previous years, employers were particularly concerned to eliminate any time 'wasted' on learning that was not directly trade related. Hence the ongoing conflict between what is deemed training and what is seen as education.

The VTC prepared a paper in 1977, "Review of Apprenticeship: Discussion Paper". The paper reflected industry's concern with the apprenticeship system (Kappert, 1997, p. 66) and was circulated widely for comment. There were concerns about the imbalance between supply and demand of trade skills and the

The VTC prepared a paper in 1977, "Review of Apprenticeship: Discussion Paper". The paper reflected industry's concern with the apprenticeship system (Kappert, 1997, p. 66) and was circulated widely for comment. There were concerns about the imbalance between supply and demand of trade skills and the

quality and organisation of on-job and off-job training. A key concern outlined in the paper was the level of skill and the paradox of increased technical requirements in some areas and the deskilling of other occupations. There was some discussion about aligning allied trades.

The VTC proposed a revised trade system. This included a recommendation that Industry Training Boards link with the Manpower Planning Section of the Department of Labour (Kappert, 1997; Murray, 2001) to ensure that planning for future labour and skill needs were co-ordinated. The council also recommended the improvement of on-job training through training manuals and instructor training for all those involved with the instruction of apprentices, as well as visits from local apprenticeship committees (Kappert, 1997).

1983 - Apprenticeship Act

The idea of a stratified training system was suggested, which included initial transferable skills followed by specialist skills. It was acknowledged that many employers would find it difficult to provide broad-based skill training to their apprentices, given the number of apprentices in small businesses. The council urged that their recommendations be heeded if the skill requirements for New Zealand were to be met into the future.

By the end of the 1970s, with unemployment increasing, pressure was growing for a more thorough overhaul of the apprenticeship system. This continued into the early 1980s. Changing labour market conditions through economic and technological changes during this period and a shift for New Zealand from a protected to an open economy, along with rising inflation, a drop in manufacturing and an economic downturn, put pressure on the apprenticeship system. Rising skill requirements by employers, the disappearance of many jobs formerly undertaken by school-leavers and fewer jobs covered by apprenticeship arrangements were identified in a Department of Labour report of the 1980s as contributing to dwindling apprenticeship numbers (Ministry of Education, 2010).

Calls for a more skilled and adaptable workforce were made and once again dissatisfaction surfaced at a perceived lack of adaptability and flexibility, and inability to respond to changing skills needs. Employers were concerned at the “highly regulated and bureaucratic” system (Ministry of Education, 2010, p. 7) and frustrated at their lack of ability to change training based on industry needs. It was difficult for new industries to enter the apprenticeship system and thus gain the benefits of government incentives, and it was difficult for apprentices to move within and over to new industries.

Change to the system eventually occurred with the Apprenticeship Act 1983. This Act provided for different types of apprenticeship contracts. It aimed at encouraging more young people into apprenticeships,

1988 - The Report on Post Compulsory Education and Training (PCET), the Hawke Report

primarily school leavers. The Act detailed the set-up of the new New Zealand Apprenticeship Committees and, as with earlier apprenticeship Acts, outlined procedures for setting apprentice employment conditions and wages in relation to those of qualified workers. Under the 1983 Act the individual committees were empowered and encouraged to recommend changes to apprentice training. The idea of pre-trade training or pre-apprenticeships funded by the government to prepare young people for work in industry was developed and implemented.

The 1983 Act, however, did little to reform the apprenticeship system. Murray (2001) asserted that the Act contained “more potential than solutions” (p. 150) and Kappert (1997) suggested that, although the apprenticeship system had been subject to sustained criticism, vested interests and complacency meant that no radical changes were made.

However, major change that affected the whole of the education and employment system was to come. Upheavals in government administration began in 1984 and major reform of administration and financing across all sectors of education was approaching. Between 1987 and 1993 the education system experienced unprecedented change. The main thrust of the reforms was to decentralise educational administration, devolve decision-making and more tightly manage funding mechanisms (Perris, 1998). The Report on Post Compulsory Education and Training (The Hawke Report), and The Royal Commission on Social Policy, were both released in 1988 and the Government's response for the post-school sector was "Learning for Life", 1989 (Abbott, 2000).

The Hawke Report (1988) was criticised for its lack of consultation with tertiary institutions and generated much negative reaction (Perris, 1998) for its recommendations. These recommendations included the establishment of a National Qualifications Authority, funding formulas, a requirement for students to contribute to tuition costs by paying a standard fee and the setting up of a student loan scheme (Gobbi, 1998). This had impacts on the apprenticeship system, given the increased amount of training being undertaken in the polytechnic sector.

1989 - Department of Labour report on Further Education and Training of the Labour Force, learning for life

Tributary 6 – Advanced Vocational Awards

The large-scale reform to public sector institutions during the 1980s along with a shrinking of the manufacturing sector resulted in a remarkable fall in apprenticeships during the 1980s and 1990s. Large government departments, such as New Zealand Rail, New Zealand Post, the Ministry of Works and electricity power boards, which had formerly trained huge numbers of apprentices, became profit-oriented state-owned enterprises that no longer undertook large-scale training. The problem of managing skill development in a small nation traditionally comprised of many small-to-medium businesses became compounded. Unemployment rose and the lack of skill training went unchecked. A twenty-year hiatus in skill training occurred and little training was picked up from the large enterprises (Kappert, 1997).

The 1989 Department of Labour Report "Further Education and Training of the Labour Force" outlined the continued sharp decline in apprenticeship participation (Department of Labour [DoL], 1989). The report, prepared at a time of considerable debate, detailed a 25 percent decline in apprenticeships in the five years to March 1989 (DoL, 1989). The report also provided an overview of the different functions of those involved in apprenticeships and industry training; trade unions, private tertiary institutions, non-formal training organisations, certification authorities including the Authority for Advanced Vocational Awards (AAVA) and the Trades Certification Board, 35 national apprenticeship committees and approximately 350 local apprenticeship committees as well as over 80 other organisations and registration bodies. The apprenticeship training system had a huge and growing membership and lacked cohesion.

1989 - Education Act

The report noted in its conclusion that trades and technical education "have been supplemented by a range of transition education and labour market training programmes" (Department of Labour [DoL], 1989, p. 21). This, they suggest, has provided a "varied pattern of provision [which] has evolved over time with separate arrangements for funding and certification and different accountability structures for training providers across the PCET (post compulsory education and training) sector" (p. 21). The report notes the greater amount of training undertaken in the polytechnic system marking a blending of skills

training and apprenticeships as occurring across both industry and education. This marked an ideological shift to apprentices being part of the PCET sector.

There was a call for an increase of funding to the PCET sector. Much of the second half of the 1989 report details the costs of training and how the costs can be managed and spread across stakeholders. Here, further education is identified as a “personal investment” (DoL, 1989, p. 29) by individuals, and employers are encouraged to see that “investments in human capital” (p. 30) benefit increased profitmaking. Once again the debate between generalised and specific training is developed to address the distaste of employers for training in skills non-specific to the particular work of the trainee with the suggestion that an employee may undertake training outside of work hours or receive a lower wage during their training period.

In this report the role of government was identified as one of “funding and monitoring the provision of tertiary education” (DoL, 1989, p. 33) with an aim to improve the quality of institutions in receipt of state funds. That tertiary education and training offers wider social benefits and equity is highlighted in the report as a reason for continued government funding. The report suggests that private provision of further education and training will not produce equity or efficiency benefits.

The report signals the direction of major reform of the post compulsory education and training environment, particularly in terms of funding mechanisms and qualifications arrangements. For apprenticeships

1990 - Education Amendment Act in particular, reforms detailed in the report include improvement to the quality of training through “more systematic training and competency-based assessment” (DoL, 1989, p. 39), in line with the earlier Hawke Report’s signal for national qualifications systems. The report also pointed to a review to assist more women into trades.

Technological changes, economic changes, unemployment and transition from school to work issues are identified in the report as being factors in generating demands for ongoing training and a more skilled and adaptable workforce.

Tributary 7 – Industry Training

The Minister of Labour for the newly elected National Government appointed a working party in 1990 to provide advice on apprenticeship and industry-based training. This led to the Industry Training Act of 1992, which removed all of the ideals and constraints of the traditional apprenticeship scheme and markedly changed apprenticeships in New Zealand.

The Act set up Industry Training Organisations (ITOs) as the key organisations to manage apprenticeship training. Any form of a time-served model was replaced by a complex set of unit standards, while trade certificates were replaced with National Certificates set by ITOs. The Act repealed the Apprenticeship Act of 1983 and described the role for ITOs, which became responsible for the setting of nationally recognised skill standards for industry. It became their responsibility to develop arrangements for the delivery of training, to monitor training quality and moderate assessment. ‘Apprentices’ largely became ‘industry trainees’ and several industries that had not been covered under the apprenticeship system joined the industry training system (Murray, 2001). By 2004, ITOs were required to demonstrate that they were representative of employers in their industries.

This was a period of immense change for apprenticeships in New Zealand. The simultaneous introduction of the Employment Contracts Act of 1991 disestablished the Arbitration Commission and moved some of its key functions to the Employment Court. Other functions of the Arbitration Commission, like wage fixing and determining variability and relativity of wages between and within occupations, as well as the issuing of apprenticeship orders, disappeared.

The competency-based education model had developed in the 1990s with the introduction of the National Qualifications Framework and Unit Standards. The Education Training and Support Agency (ETSA), was

1991 - Employment Contracts Act

set up as a Crown agency in 1990, taking on the role of supporting the employment side of the apprenticeship system, there-

1991 - National Government Tertiary Review

by picking up much of the role undertaken by earlier Apprenticeship Committees. ETSA changed its

name in 1998 to Skill New Zealand, moving to

become part of the Tertiary Education Commission (TEC) at the beginning of 2003. Training Agreements replaced apprenticeship contracts between employers and apprentices and the ITO, and wages and conditions were set according to the Employment Contracts Act of 1991.

Industry Training Organisations, set up under the Industry Training Act 1992 as Standard Setting Boards now heralded a new training system based around ITOs as representatives of industry. Their function was to set national standards and qualifications and 'purchase' off-job training on behalf of trainees. They were responsible for administering training and employed registered assessors to assess students/trainees in the workplace. Trade certificates were replaced by National Certificates awarded by NZQA on completion of Unit Standards set and monitored by the ITO and gained in the workplace as well as at tertiary providers.

A 1995 government review of the funding for Industry Training outlined government preferences for industry-based training. This included general rather than specific training, training that was based on the National Qualifications Framework, supportive of under-represented groups and cost efficient. The roles for ITOs were addressed to include more detailed activities relating to information and advice to trainees and employers, arranging for on-job training and assessment, purchasing off-job training and arranging the monitoring of training quality (Green, Hipkins, & Murdoch, 2003). Between 1992 and 2003 the funding system for industry training changed four times (Ministry of Education, 2010).

With a change in government in 1999 there was yet another review of the post-compulsory education system. The review focused on broadening and deepening industry participation, raising foundation and generic skill levels and lifting the participation of under-represented groups (Green, Hipkins, Williams & Murdoch, 2003). Low numbers of young people entering the industry training environment forced the government to reconsider apprenticeships, and a 2001 review of industry training took place. Concerns in relation to workmanship and high-quality trade skills were highlighted and concern was raised about the deregulation of the industry, in particular where certification and training were no longer essential.

The Modern Apprenticeship Act came into force in 2000. This Act was designed to encourage employers to employ more, and younger, people within the scheme. It was also designed to ensure there were systems in place to improve the quality of training. A service where ITOs broker arrangements with industries, employers, trainees and training providers was made available through the programme to reduce the costs to employers employing and training youth.

The 2001 review of industry training found that a proliferation of ITOs caused problems for employers who may need to work across a number of organisations. With 47 ITOs in existence in 2001 there were gaps in coverage across industries and in rural areas. Concern was raised at the ability of ITOs to successfully engage employers in ITO decision-making. The review encouraged amalgamations and alliances between ITOs and changes to the Industry Training Act included a funding focus on performance and the requirement to develop strategic training plans that promoted training to meet the needs of both employers and employees.

Ongoing reviews have identified concerns about the performance of the system: in particular, about low completion rates, and a wide variance of performance between industries (Ministry of Education, 2011).

1992 - Industry Training Act

Changes to funding mechanisms have linked performance with funding eligibility and this includes trainee outcomes and progression, and literacy and numeracy requirements as part of all Level 1 and 2 training. Once again an overhaul of qualification design was called for and is currently under way. More support for trainees has also been called for.

Alarm at youth unemployment, shown in the numbers of people categorised as NEETs and set against the trade-skill shortage, has continued to be at the forefront of policy-making relating to apprenticeships and industry training. The Welfare Working Group (2011) in its Reducing Long-Term Benefit Dependency Recommendations identified trade education as a mechanism to address youth unemployment and reduce disengagement from traditional schooling. Trade academies, trade training and apprenticeships are all identified as mechanisms to engage young people in either schooling or work.

The continuing 'skills panic' during the mid-to-late 2000s repeated a similar pattern of concern in relation to the ability of the New Zealand economy to compete in a global market. Literacy and numeracy concerns highlighted later in this monograph mirror the waves of skills panic that have preceded dramatic reforms since the 1890s. These are an example of the sector's dramatic changes of direction as policy attempts to maintain a skills balance.

Apprenticeship reforms followed an industry training review undertaken in 2011. The 2011 review followed audits of ITOs in 2009 and 2010 and sought wide feedback. Legislative changes to the Industry Training Act 1992 and the Modern Apprenticeship Training Act 2000 are currently under a new Bill (Industry Training and Apprenticeships Amendment Bill, 2013) and were announced in January 2013 (see <http://www.beehive.govt.nz/release/new-zealand-apprenticeships-boost-skills-amp-support-jobs>). Here 'Modern Apprenticeships' become 'New Zealand Apprenticeships', the minimum educational content of apprenticeships is determined, roles and performance expectations for ITOs are identified and allow employers direct access to industry training funding. Most importantly, the role of ITOs has been clarified and their role as skill leaders for industry has been removed. NZQA will have a greater role in the quality assurance process for recognising ITOs and a pilot scheme to enable employers to access industry training funds directly means greater competition for ITOs.

An apprenticeship 're-boot' initiative outlined by Minister of Economic Development and Tertiary Education, Skills and Employment, Steven Joyce ("Apprenticeship reboot extended to 14,000," 2013) was enacted in 2013 and was reported to provide 14,000 places, giving \$2000 to each person who signed on as an apprentice in a priority trade. The idea was suggested as one that could accelerate a recovery in industry training that had experienced a sharp drop in trainees. The revamp also aimed to remove 'phantom trainees' who were not achieving any credits.

The resulting New Zealand Apprenticeships model removed age limits. Clearer expectations for ITOs were provided and employers were able to seek other options if ITOs did not perform. The new system intended to reward both employers and workers by providing one-off early-entry subsidies for trade-related tools and a boost for employers.

1994 - The Todd Task Force

Reducing the number of ITOs and the proliferation of qualifications continues to be high on the agenda in the new policy environment. The goal of the Targeted Review of Qualifications was to reduce the number of qualifications in the Levels 1-6 arena from 4,600 at the beginning of 2008 to 1200-1300 at the end of 2014. Similarly the government aim to have larger and fewer ITOs has resulted in just 11 as opposed to the 39 in existence at the start of 2010.

Absorbing the roles originally undertaken by Trades Certification Boards and Apprenticeship Committees until 1987, ITOs have had an enormously important role as developers of qualifications and assessable standards through NZQA. In a sense, they became the guides and guardians for quality through apprenticeships. The introduction of the qualifications framework, and the systematic increase of a training culture by industry for industry (Kappert, 1997) were designed to ensure a more responsive and flexible system. Industry Training Organisations have operated as corporate bodies to ensure and assure standards, to lead skills development and provide training. However, the concerns relating to the inflexibility and bureaucracy levelled at Trade Certification Boards in the 1960s have quickly become mirrored in this new environment.

1995 - Industry Training Review

In 2013, measures to manage the ITO environment were under way. The identified lack of consultation with stakeholders, a high level of funding with low-level returns, a low level of completions and credit attainment, patchy coverage, phantom trainees (Cabinet Business Committee, 2013). ITOs setting up and operating as PTEs in competition with ITPs, a proliferation of qualifications and lack of stakeholder engagement have damaged the reputation of ITOs.

Industry training is identified as "government-subsidised workplace training that leads to qualifications targeted at entry-level and low-skilled workers" (Cabinet Business Committee, 2013. p. 3). Introduced in 1992, it is a system of "vocational training, foundation education and continuing vocational education for employees" (p. 3). Further, the paper argues that in order to achieve wider economic results and social goals, including the Better Public Services target of 55 percent of 25-34-year-olds holding a qualification at Level 4 or above, the system must be "educationally sound" (p. 10).

In 2014, apprenticeships and pre-apprenticeship training were delivered in a variety of places through a variety of means: trade academies, youth training schemes, polytechnics, private training establishments and schools, and through Māori and Pasifika Trade Training schemes. These schemes, according to Minister Joyce in a May 2013 press release, are linked to "Government's ambitious goals around raising living standards through a more productive and competitive economy" ("Expansion of Māori and Pasifika trades training", 2013). The problems of quality training and delivery, who controls trade education and training, and how best it is delivered to ensure high quality craftsmanship and highly skilled tradespeople are not considered.

In an industry-led training environment, tutors, trainers and teachers have become invisible. Their techni-

cal expertise and discipline-based teaching know-how is increasingly overlooked. While their role and positioning within the training regime has been perceived as more or less important based on different governments and policy positions, a registering of their expertise in trade learning and teaching has been absent in recent discussions.

In seeking to improve the quality of industry training, the government has increased quality assurance mechanisms through NZQA for organisations that develop qualifications and resources. If the industry training system is to deliver a quality outcome of well-trained individuals and a highly skilled workforce, attention and care given to this role must be considered.

Having had their teaching work marginalised in the compulsory schooling sector, as outlined in the next section, trade tutors work within polytechnics as trade teachers, off-job or pre-trade trainers and educators. Polytechnics are their recent 'home', yet this is a workplace that has shifted over time. The next section of this discussion returns to education and tracks the development and eventual demise of technical schools and the development of technical institutes, polytechnics and technical education.

Tributary 8 – Primary and Secondary Schools

At secondary school level, technical education emerged through an identified gap in traditional schooling: as it was ignored by standard secondary schools, technical schools formed to provide such training and take up generous grants from the government. The government's attempt to encourage traditional schools to provide vocational training resulted in the development of what some have referred to as a two-tiered education system.

Formal technical training and education in New Zealand has a history of individual or small group attempts to provide required skills and training related to employment. Early private and local community attempts to establish vocational education and training in New Zealand on a permanent basis proved unsuccessful (Abbott, 2000, p. 93). Over the decades, government intervention has been required to establish firm and reliable technical training opportunities.

Technical education, as it was called, had been offered in the main cities since the 1890s, but its provision was fairly random. Some secondary schools had provided some semi-vocational subjects and there were a few 'continuation' classes conducted in a "sporadic fashion" (Abbott, 2000, p. 93). However, other than in the Mechanics Institutes and in the School of Mines in the South Island (Abbott, 2000) and the Waihi School of Mines in the North Island there was no formal provision of technical education. In general, groups or individuals who had a professional or personal interest started schools for technical training. Students mostly paid their own fees and classes were run in the evenings. These classes were often temporary, filling an immediate need. There was a general reluctance and disinclination by both employers and secondary schools to deliver technical education or manual training.

As early as 1884 there was a call for increased attention to vocational subjects in schooling. In 1885 the Secretary of the Department of Education, addressing secondary school boards, advocated the inclusion of "subjects that have a direct bearing upon the technical arts of modern life" (Secondary Education, 1885, p. 3) Schools were urged to include more vocational and practical lessons, and drawing (Nicol, 1940).

In the 1890s government intervened. Parliament passed legislation in 1895 that provided for education

boards and others to establish government-funded classes for technical instruction as part of the Liberal Government's education reforms through the Manual and Technical Elementary Instruction Act, 1895 (Thompson, 1945). Drawing, as a compulsory subject for a 'standard pass' in primary schools, was emphasised to form the craft part of a general, liberal education.

Secondary schools were not amenable to changes to their syllabus. Less than ten percent of New Zealand's eligible secondary school age population attended secondary school by 1900, and attendance was largely by those who planned to attend university and enter the professions. Schools were administered by boards of governors and modelled on English grammar schools. Students were predominantly fee paying and boards were reluctant to institute manual or technical education.

2000 - Modern Apprenticeship Training Act

While the Manual and Technical Instruction Act in 1900 increased the development of manual training in primary schools and allowed for the development of technical schools, secondary schools continued to have "...Greek and Latin authors read, and the number of Euclidean theorems...." There was "scarcely any attempt at scientific or technical teaching" to relieve "the dull grind of the traditional English 'public school' curriculum" (Butchers, 1932, p. 131).

Concern at the inadequate level of skill to meet changes in the requirements of the New Zealand workforce was expressed. Despite the 1895 Act George Hogben, (1853-1920) as Inspector General of Schools and Secretary for Education, noted in 1901 that:

The secondary school programmes are framed to a large extent so as to lead up to the matriculation and junior scholarship examinations of the University – and yet not one boy or girl in twenty does or can go to the University. I leave the corollary to be deduced (Butchers, 1932, p. 132).

The reform of the syllabus proved difficult. Secondary school boards had refused the liberal grants offered under the Manual and Technical Instruction Acts of 1900 and 1902 and did not take up the opportunity to liberalise (Butchers, 1932, p. 135) their curriculum to include technical subjects – their view of a secondary curriculum as wholly academic and linked to university education reflected teacher views of technical education and training.

The Acts opened up the opportunity for technical classes to be conducted by an education board. University college councils, secondary school boards, municipal councils or any other educational or local authority or association could open and provide technical schooling. Such councils, authorities or associations were to be conducted by an incorporated Board of Managers, elected according to regulations in the Act.

District education boards and some of the voluntary associations in some main centres established technical classes under the control of managers (Butchers, 1932, p. 125). Technical classes were thus established in schools and were well received. Attendance increased and schools developed to offer, as well as practical classes for which they were originally established, courses and subjects taught in traditional secondary schools.

Tributary 9 – Technical High Schools

It was not the intention of the Education Department to establish separate technical schools, but to encourage secondary schools to teach technical subjects, thus creating the core of a comprehensive system. However, Wellington Technical College was established in 1905, Christchurch Technical College in the same year and in 1913 the Auckland Technical School was redesignated as Seddon Memorial Technical College. Schools that had once been technical evening colleges became day schools, taking up the generous grants to provide technical and manual training in the space left open by the reluctance of the secondary schools to engage with these areas (Thompson, 1945).

These day technical classes were well received and attendance increased so much that, by 1907, Hogben, as Secretary of Education, suggested that a different form of secondary school in the form of a day technical school be established. The 1908 Education Act provided for the establishment of such schools and broadened the 'free place' qualification that had been imposed on secondary schools in the Secondary Schools Act of 1903.

The initial government desire was to limit technical high schools to the four main centres. The underlying goal was for the adaptation of such courses to the secondary schools and district high schools and to thereby avoid an overlap. But again schools did not sufficiently adapt their courses and in 1912 technical schools outside the four main centres were sanctioned.

2001 - Review of Industry Training

The final step was for the schools known as technical high schools to be organised as a separate branch of the education system under their own boards of managers and this was provided for in the Education Act, 1914. Evening continuation classes for which the schools had been originally developed remained, and were conducted in association with the day schools. Payments made to the boards were calculated on a pupil-hour basis rather than a teacher-hour basis as for ordinary secondary schools.

2002 - Industry Training Amendment Act

Interestingly, it was not until 1914 that the Education Department had any authority to prescribe the secondary school curriculum. The 1914 Act provided funding for secondary schools and advanced departmental and administrative level control. It was, however, the demands of industry and students that influenced the kinds of courses delivered.

In short, technical high schools were set up to undertake the work that academic high schools refused to do (Nicol, 1940). The schools were designed to cater for the needs of young people who had completed primary school but were too young to enter industry. They provided a more practical curriculum than the traditional grammar schools. Technical schools, originally meant as a preparation for evening school technical training and practical classes, developed to offer courses and subjects taught in traditional secondary schools.

W. S. La Trobe (1870-1943), the first Superintendent of Technical Education in New Zealand and former Wellington Technical College director (1903-1919), is widely recognised as establishing the New Zealand technical high school system. During his tenure as superintendent, La Trobe suggested four years' free training at technical schools paid for by the state.

La Trobe suggested that technical high schools could fulfil 'liberal education' goals. He worked towards a balance between the humanities, and specialised trades- and science-related work and had in mind both vocational and citizenship skills. La Trobe believed that technical schools could:

- Equip students for intelligent apprenticeship and citizenship
- Provide preliminary training for evening students
- Furnish some students as a means to enter University or the specialised mining school with a view to higher work on the same lines (Nicol, 1940, p. 76).

Technical high schools initially had a difficult time for a number of years. They had grown in a haphazard manner and had developed in the gap opened up by the refusal of secondary schools to include more technical and manual subjects within their curricula. Many technical high schools struggled with inadequate equipment and accommodation. Admission to the schools had a lower educational requirement. The status of such schools was lower than that of secondary schools and they came to be seen as being more suitable for students who were unable or unfit to undertake academic courses (Guscott, 2000).

Entrance exams instigated by secondary schools relegated many students to technical high schools for technical or pre-vocational education (Reid, 2000). Despite this, technical high schools succeeded in preparing many of their students for mainstream matriculation examinations offered by secondary schools as well as preparing them for their own area of work. They provided all that a secondary school provided.

2003 - Tertiary Education Commission

By 1910 the secondary schooling system resembled the British model where middle class and academic students went to a grammar school and the working classes attended a technical high school (McKenzie, 1992). Secondary schools resisted attempts to liberalise the curriculum and streamed students according to IQ tests, and by the late 1920s technical schools were becoming less popular due to the notion that they were run along class lines. In 1925 a report on the New Zealand Education System commissioned by the Education Department suggested that technical high schools and secondary schools were duplicating their work and could be amalgamated. Technical training however, remained in demand. A 1928 report repeated the need to broaden education and increase the quantity and quality of secondary school provision.

With the support of Harry Atmore, then Minister of Education, the primary schools syllabus had been redesigned, allowing teachers more freedom. A parliamentary report into the education system in 1930 known as the 'Atmore Report' recommended a more egalitarian approach to education and an increase in more practical and less academic subjects. It also advocated less of an emphasis on examinations. This report was seen as a progressive educational charter.

However, concerns about secondary schools' lack of commitment to technical or vocational training continued. In his 1932 history of the New Zealand education system Butchers lamented the lack of response of secondary schools to include technical education and outlined some of the concerns for technical education under secondary school administration. He suggested that the orientation of secondary schools, including their teaching methods and resource selection was still mainly dictated by the "purely academic requirements of the University Entrance Examination, which has, unfortunately, been permitted to usurp the functions of a general secondary school-leaving examination" (Butchers, 1932 p. 140).

Despite the recommendations in the Atmore Report there was a period of retrenchment during the Depression of the 1930s. However, the Thomas Report of 1944 suggested a 'curriculum for all' and focused on a more egalitarian approach in the post-primary school curriculum. This report advocated a 'common core' curriculum for secondary schools and addressed concerns about a narrow academic curriculum. High schools of all types were compelled to offer the same core curriculum. The interest of the report was to provide a curriculum drawn from practical and academic strands and make it compulsory up to the end of form four.

The principal of Seddon Memorial Technical College, the technical college with the largest roll in New Zealand, suggested that technical teachers knew more about technical education than members of trade committees. During a Commission of Inquiry in 1944 he had argued strongly for technical education and that technical schools should provide general pre-vocational and vocational courses because of the diverse nature of local industry. He ensured that the school controlled its curriculum.

2010 - Education Amendment Act

Commentators and secondary school associations expressed some reservations over the ideas in the Thomas Report and were concerned that the compulsory core curriculum would result in a 'levelling down' for academic students. Concerns were outlined that there was too much emphasis placed on craft subjects and that academic subjects would be marginalised. The 1945 Education Act abolished matriculation and replaced it with University Entrance. However, schools still resisted and streamed students according to their own systems.

Technical high schools and secondary schools continued to run in parallel but by the 1950s the demand for more skilled technicians and the move to daylight training meant there was pressure on technical schools for post-school technical training. Over this time the view developed that secondary education should provide a broad-based, subject approach to education and there were moves to shift technical education into more tertiary-level institutions.

This highlights a tension between 'secondary' education and 'technical' education not just in New Zealand but also in many western countries. Similar attempts to develop technical secondary schooling in the UK met with similar disappointments, due in large part to the reluctance of parents and industry (McCulloch, 1989, p. 7). A comprehensive school curriculum designed to prepare students for university (McCulloch, 1989) has prevailed and opportunities for curriculum reform have been overlooked. As a result, vocational education has become synonymous with working class education.

In the 1960s an in-depth look at education was undertaken. The Royal Commission on Education published the Report of the Commission on Education in 1962. It became known as the Currie Report (Scott, 1996) after the Chair of the Commission, George Currie. This was the first in-depth look at education since the Thomas Report of 1944 and was the largest and most comprehensive report conducted on the New Zealand education system. It was a major government exercise. The report was intended as wide ranging, however, it largely focused on administrative responsibilities and structures. There was only a small amount of attention to curriculum, which recommended the establishment of a curriculum development unit within the Department of Education devoted to permanent curriculum and planning (Openshaw & Walshaw, 2010).

The Department of Education and the Curriculum Development Unit were disbanded in 1989 and replaced

with the Ministry of Education at the recommendation of the Picot Report, “Administering for Excellence” produced by the Picot task force set up by the government in 1987. This report, designed to address wide concerns about provider capture, gave the minister power to publish national curriculum statements. There was a stipulation that teachers should not carry out curriculum development and the National Curriculum Framework was developed. This was followed by the Education Act in 1989, the Education Amendment Act in 1990 and the Education Amendment Act of 1991, which implemented most of the Picot recommendations (Levin, 2001).

The technical and skills-based curriculum had already changed dramatically in New Zealand starting in the 1980s and was generally more aligned to engineering and sciences than to traditional trade-based technology (Ferguson, 2009). Technology in the New Zealand curriculum is taught at all levels, and seeks to develop and train technologists rather than tradespeople. It is the design workforce (O’Neill, 2004, p. 179) with links to science, graphics and biotechnology, which influences a curriculum concerned with concept analysis, systems, models and products (Ministry of Education, 2007).

2011/2012 - Industry Training Review

The teaching workforce during this time changed dramatically. In order to teach this curriculum, schools became required to employ people with a technological practice background. At the same time, traditional workshop teachers in schools were required to upskill under teacher industrial agreements and by a qualifications bar imposed in 2003 (Ferguson, 2009). This highlighted an industrial dispute that had been brewing, about salaries in relation to qualifications. Teachers who had trained and were employed on the basis of their Advanced Trade Certificate were unable to move to a higher salary band. Some traditional workshop teachers undertook the upskilling and moved into the technology field, some did not. Many left the teaching profession entirely, while some moved into the polytechnic or tertiary environment.

In this way, technical education and training as related to trades and technology came to be undertaken in polytechnics and other TEOs and many schools lost or gave up their technology workshops in favour of computer suites. Those that retained them had difficulty finding appropriately trained workshop teachers or those prepared to engage in teaching under the salary bar.

Certainly the supply and capability of technology teachers and the changed nature of the technology curriculum has meant a separation in terms of what is understood as technology and that which is trade or workshop based. Trade-based workshops within schools had virtually vanished by 2014, but not the requirement for the skills that this kind of learning afforded, hence we have a focus on trade academies as partnerships between polytechnics and secondary schools, where workshops and trade tutors still reside.

Tributary 10 – Polytechnics and Technical Institutes

As outlined above, polytechnics or technical institutes evolved out of New Zealand technical schools and colleges (Abbott & Doucouliagos, 1999) but their intent was different. This kind of education was firmly fixed as post-school education and aimed at those who had completed their compulsory schooling. Polytechnics, as they became known, have had a continuing and further education focus and have sat at the junction between schooling and work.

The Auckland Technical Classes Association started in 1895, the same year as the Manual and Technical Elementary Instruction Act, 1895, although there was little funding available until the Manual and Technical Instruction Act of 1900. The 1900 Act provided a shape for trade-related and technical education for

the early 1900s. Local authorities were added to the list in the Manual Technical Instruction Act 1902 and this Act provided more certain funding for technical education, with payments at every educational level for pupils who received instruction in approved 'crafts'.

Nicol (1940) traces the history of technical institutes from mechanics' institutes and other bodies such as the Dunedin and Timaru Caledonian Societies, and through to the establishment of the schools of art in Otago (1870), Wellington (1885), Auckland (1890), the Technical Classes Association in Dunedin (1889) and a similar establishment in Auckland following a few years later. The Schools of Mines in the 1880s were part of a similar movement. The Manual and Technical Instruction Act, 1900, gave wide scope for those who wanted to further their education as well as those who sought advancement (Thompson, 1945).

The Wellington Technical School, established in 1905, pioneered links with industries, particularly the plumbing and electrical industries. This provided a model for technical training under the Apprentices Act, and according to Nicol (1940) this provided for a noticeable expansion in classes from the building and engineering trades in 1924 and subsequent years (Nicol, 1940). Employers, who in some cases donated the equipment and material necessary for practical training, met some of the cost of training.

2013 - Apprenticeship 'reboot' While it was government interventions and grants that enabled the establishment of technical schools, it was student and industry demands that most influenced what was offered in the colleges. In 1928 the Education Department developed examinations for a number of trades including mechanical engineering, motor mechanics, building construction, carpentry and plumbing. However, many trainees preferred to sit the London City Guilds Institute examinations, as these were widely recognised.

Technical schools continued to offer a number of post-school programmes. In general these were mainly offered in the evenings due to employer reluctance to provide day release for employees. Training was government funded, given the inability of young trainees or apprentices to fund their own training and the lack of interest demonstrated by employers. These part-time courses were attended by both adults and young people and in conjunction with apprenticeships and on-the-job training in the workplace provided adequately for the skill acquisition needs of the time (Thompson, 1945). Facilities for the provision of evening classes were generally attached to those of the day technical schools. However, technical schools and colleges tended to concentrate more on their day school classes than these post-school programmes, since the demand for evening classes was not always high.

By the 1930s there were just over 10,000 people enrolled in technical classes in New Zealand. The numbers undertaking post-school technical education were over twice the numbers enrolled at the University of New Zealand and the two agricultural colleges combined (Abbott, 2000). Many evening students were apprentices studying to gain trade qualifications. Engineering and the building trades had the greatest numbers (Abbott, 2000). In the 1940s commercial subjects gained prominence and students were involved in the areas of bookkeeping, secretarial work, accounting, banking and insurance. These students prepared for sitting government examinations or examinations of voluntary associations such as the Chambers of Commerce (Abbott, 2000), arranged and administered by the technical schools.

After the Second World War and following the Apprentices Act of 1948, apprentices were compelled to attend trade classes taught away from the workplace and during work time. The New Zealand Trades Certification Board was established in 1949 following the Trade Certification Act, 1949. Their work included prescribing courses, setting standards and conducting examinations. However, until the late 1950s

technical colleges were predominantly secondary schools.

The growing interest in technical education and the increase in demand for a higher level of technical training along with the day release to technical colleges for apprentices meant that technical schools began to transform into tertiary, post-school environments. As with the development of technical education, the transformation to post-school environments was less by design than as a result of demand. Calls for a separate environment had been made since the 1930s but in the 1950s it was advocated that technical education should shed its secondary school responsibilities and focus on technical and trade training.

2013 - Industry Training and Apprenticeships Amendment Bill

It was recognised that higher levels of skill were needed,

particularly within the engineering profession where theoretical studies alongside industrial experience were required (Abbott, 2000). In 1955 the New Zealand Certificate in Engineering was established as a 'middle level' engineering course which sat between university and trade-level training, and further certificate courses were soon established for building, draughting, science, land and quantity surveying, laboratory technicians and later, commerce. The establishment and expansion of such courses compelled the division of colleges into secondary- and tertiary-level institutions (Abbott, 2000).

The Currie Commission of 1960-1962, set up to consider the role of secondary education, supported the view that separate tertiary-level technical institutes in the major centres should be established. The concern was to meet the increasing demand to train specialist technical workers, tradespeople and scientists

2013 - Education Amendment Act

for the increasingly industrial economy and to address the skill shortage. In 1960 the first technical institutes were established

and between 1960 and 1965 a number of technical institutes were developed in the main centres. The institutes were formally recognised by the Education Act of 1964. In the smaller areas, technical schools continued to meet the post-secondary trade training needs until 1969 when government approval allowed for the establishment of technical institutes where there was sufficient work to occupy 10 full-time tutors. Community colleges offering traditional technical education began to be established with government approval from 1972.

During the 1980s technical institutes and community colleges were reclassified as polytechnics to reflect the wide range of courses they offered. They were restricted to the delivery of trade training courses, certificate and later diploma courses and a wide range of short courses, and encouraged to respond to demand. They ran courses as long as there was enough demand from students, industry and commerce. While there was some discussion in the 1960s about a 'binary' system where the polytechnics could offer degrees, this was rejected. It was considered that technical institutes were there to support the demand for trade, technical and commercial training.

Technical institutes grew rapidly, mainly due to the demand for their courses. The 1970s and 1980s increased the focus on tertiary level education as a vehicle to "rectify macroeconomic failings in the economy" (Abbott, 2000, p. 100). There were a number of investigations and reviews into the tertiary education system during the 1980s culminating in a report by the Hawke Working Group in 1988. Their report made a number of recommendations, including funding all institutions based on the number of full-time equivalent students and treating the funding of institutions as equitably as possible. It recommended that polytechnics become autonomous institutions with their own governing councils and with degree-granting powers. The Labour government of the time adopted many of the recommendations in the Hawke report.

By 1981 over half of all tertiary-level enrolments in New Zealand were in polytechnics. The majority of students were part time. Two Department of Education reports of the time, *Learning for Life* and *Learning for Life II*, provided the outcomes of the various reports and outlined government decisions on tertiary education during the 1980s and 1990s. These set the direction for the overall reform of the tertiary education sector and all post-school education in New Zealand. It aimed to make tertiary education more accessible and thereby increase participation. Tuition fees for students were increased. A key characteristic of the tertiary reforms in the 1980s was to broaden participation through more competition (McLaughlin, 2003).

The large number of reports and investigations from the mid-1980s to early 2000s are summarised in Maureen McLaughlin's 2003 report on Tertiary Education Policy in New Zealand. McLaughlin notes the significant change in the environment for tertiary education following the 1980s, and a more competitive, market-based model. The report also notes the significant and frequent changes to policy direction and programmes that has occurred since the mid-1980s and states that the ongoing reform is a feature of the New Zealand tertiary environment.

Tributary 11 – Neo-liberal Reforms

Reforms in the 1990s moved the New Zealand tertiary environment into a more competitive market-based environment. Private contributions to education were increased as the emphasis on private returns was highlighted. Institutional autonomy in fee setting was allowed. A student loan system was introduced. Polytechnics moved into many new areas of delivery. The educational 'market' was opened up and new private sector providers came on board. In the early 1990s, the main objectives guiding policy were increasing student participation and limiting government costs. Private Training Establishments (PTEs), defined as establishments other than institutions that provide post-school education or vocational training, burgeoned.

Participation significantly increased, as did student fees and student borrowing. Government costs also increased and a Ministerial Consultative Group was set up to look at the balance between private and public contributions to education and the efficiency of providers. The group became known as the Todd Task Force after the chair Jeff Todd, Senior Partner at Price Waterhouse.

The National Qualifications Framework (NQF), established in 1990, introduced unit standards as basic building blocks, and qualifications that consisted of various combinations of unit standards. This significantly altered qualifications and learning. It was designed to provide more coherence and portability, flexibility and a 'seamless' process that meant unit standards for a single qualification could be earned in school and continued into tertiary education or on-job training.

Supporters of the NQF suggested that the framework would also provide clarity and transparency and would break the academic/vocational divide of the examinations system (Irwin, 1997, p. 3). The system moved from a norm-referenced system to a criterion-referenced system.

Pressure to broaden the framework built over the early- to mid-1990s and by 1996 it was announced that the NQF would be reviewed. It was acknowledged that some rethinking of the framework needed to occur. Pressure to include provider qualifications not consisting of unit standards, including degrees, and the desire of some secondary schools to retain School Certificate and Bursary and to have such results recognised on the NQF were referred to. Two Green Papers were published by the Government, one concerned with qualifications and the other looking at qualifications in the context of tertiary education.

The NQF “received its warmest welcome from industry” (Smithers, 1997, p. 105). It put industry in the driving seat in terms of qualifications. It was able to treat education institutions more as contractors instead of “as it saw, having to take what it was given” (Smithers, 1997, p. 107).

The New Zealand Qualifications Framework (NZQF) was established in 2010. This replaced the National Qualifications Framework and the New Zealand Register of Quality Assured Qualifications.

The 2000s saw a continuation of the competitive market-based model but with an increasingly centrally-steered system and increased monitoring of individual providers’ performance. Under the Education Act 1989 the Minister for Education, Skills and Employment is required to issue a tertiary education strategy with an annual statement of education priorities.

The most recent Tertiary Education Strategy document (2014-2017) refers to vocational education for the first time as part of the tertiary education landscape. The industry training system and ‘industry’ is referred to 30 times. ITOs are not referred to at all.

Recent developments in structures to encourage apprenticeships continue the up-and-down cycle of demand and the to-and-fro pull between employers and workers for apprenticeships.

A Hybridised System

When surveying the history of trade- and skill-related training in New Zealand a number of questions emerge. Most fundamentally we are drawn to consider what education in this arena might mean in the context of trade training. What is trade education about? Who does it belong to and who benefits? Who should be included in the design and delivery of trade and technical training? What should it entail and where should it be taught? These questions have hounded the environment known as apprenticeships, trade education and industry training since their beginnings in New Zealand.

Apprenticeships, education and training have performed a balancing act between skilling a workforce with the 'right' number of workers, managing employer reluctance to invest in training, and sorting through economic and social imperatives of the day. Trade and technical teaching in polytechnics has grown out of a gap between school and work. The system, as it is, has managed the dichotomy of a schooling system focused on preparing people for the professions and employers seeking a skilled and pre-trained workforce. The teaching and training in technical schools filled the gap left open by schooling that was focused on a grammar school approach and workplaces that did not or could not provide for the high level of skills required. This is and has been a tentative space that is the interface between secondary and tertiary education and between training and the world of work.

Balancing the demands of industry, employers, workers and the economy is an enormous task that has been managed less by design than by whim and opportunity. As the affordances and benefits are made explicit by such organisations as UNESCO and CEDEFOP there is an opportunity to be deliberate in VET planning, to stake out a space, claim it and work carefully to frame a VET strategy that looks to maximise the benefits for a VET future.

The Need for a Research Agenda

While there is a paucity of research in New Zealand in the area of post-school technical and trade-related education and training the research that has focused on VET has provided highly informative and illuminative work, for example Chan (2009 and 2011), Viskovic (1994 and 2006), Dougherty (1999) and Murray (2001). These contributions to the field of VET research are important to the emerging development of a research culture in New Zealand VET.

It is recognised that VET research, in New Zealand as in many other countries, is complex. VET is a research site that is complicated by its interrelationships with other sectors and links to other fields. There are multiple stakeholders. The New Zealand vocational education environment is particularly multi-layered, intricate and, at times, obscure. This is a complicated and time-consuming research site. It is possibly for this reason that much New Zealand research in the post-school VET sector is undertaken in a one-off and singly focused fashion.

Overall, there is a lack of a comprehensive and encompassing research agenda that considers VET in New Zealand. Although the influence of the Performance Based Research Fund (PBRF), in which more polytechnics are engaging, is beginning to change the field, research has tended to be dominated by activity that is industry based and policy driven. Vocational education and the work that occurs within it is not clearly defined in New Zealand and research often fails to incorporate a critical view of the wider social and political environment.

Internationally, this area of education is part of an international research environment that includes matters relating to labour studies, post-school educational reform, occupational development, curriculum development, learning and teaching processes and evaluation, quality and assurance, and economic and social reform.

Technical and Vocational Education (TVET) research is different from other forms of educational research (Rauner & Maclean, 2008) and draws on a number of different research traditions. Indeed, VET research itself has a distinct history. It is embedded in the organisation and development of work as well as in the changes to work within specific disciplines. It is related to adult education and specific theories of learning and socialisation relevant to the teaching and learning of adults (Rauner & Mclean, 2008) and the workplace.

Adding to the complexity is the frequent and ongoing reform environment. Much research in the VET field focuses on neo-liberal reforms and the impact of policy on vocational education in general, for example in Canada (Fisher, Rubenson, Jones, & Shanahan, 2008), the United States (Dow, 2002; Jacobs, 2001) and the United Kingdom (Avis, 2004). This has been referred to as a 'new vocationalism' (Skillbeck, Connell, Lowe, & Tait, 1994).

There are national and international research institutes for TVET in Germany (established 1970), France (established 1970), the USSR (established 1963) and the US (established 1965 and another in 1977). UNESCO set up an international research unit in 2000. The internationalisation of technological and economic development and the growth of transnational labour markets have intensified vocational education and have provided a drive for vocational education research (Rauner & Maclean, 2008). There is an interest in VET practitioners and their work.

The imperative for vocational education research in New Zealand is clear. Concerns at a national level about skill and knowledge levels for industry are frequently highlighted. Similarly the lack of research in and relating to the post-school vocational learning and teaching environment is of some concern. The OECD in its 2008 report identified as a challenge the lack of a research environment in ITPs in New Zealand (OECD, 2008).

Final Words

This monograph reveals a dynamic and complex history nestled between the histories that make up a current system of VET in New Zealand. Despite this contestation, the training of novices in the skills and knowledge of a trade or vocation continues. While the speed and frequency of reforms in the tertiary vocational education sector are unlikely to abate, skilled tradespeople will continue to be in demand. A system that has grown in the gaps has developed, despite setbacks, into a current system that continues to change. Recognition that this is a history long used to contestation does not remove the fact that recognition of the importance of skills development, and education and training is a vital component of nationhood and national identity (Robertson et al., 2002, p. 494).

As we continue to consider answers to the questions of ownership and content we might also note that the way we respond to the current challenges of skill and knowledge development in VET for a changing and changeable world will be a legacy for employers, workers and the economy of the future.

If VET is to meet the demands of economic growth, social equity, and enhancing the sustainability of development as outlined by UNESCO (2015) a transformation that seeks to identify, develop and implement an agenda which focuses on the improvement of sustainable well-being is important. A strong VET system is one that is planned, organised and focused on a future. This will realise the overall affordances; focused less on contest and boundary protection and more on how best to achieve shared benefits for individuals and enterprises, the economy, and society in general. Such a system relies heavily on what we envision now, how we develop that vision and the policies and practices we put into place to realise that vision.

Rather than being a system that has developed through the gaps left over from schools and universities, pushed along in a somewhat haphazard manner, we have the opportunity for a planned and deliberate VET system, well balanced and sure of its place, with confidence to provide a base for a strong, future-focused VET.

Note: The appendix provides a table of the key events relating to trade and technical education in New Zealand.

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Appendix

A table of key events relating to trade and technical education in New Zealand

Date	Event	Summary
1865	The Masters and Apprentices Act	Minimum requirements for employers involved in the indenture children over 12. Basic provisions for food, clothing, bedding and moral instruction.
1877	Education Act	Free, compulsory and secular education for children from 5 to 15 years.
1894	The Masters and Apprentice Bill	Sought better protection for apprentices, minimum wages and to limit the number of apprentices. Adequate instruction of the trade. Strong opposition, and withdrawn.
1894	Industrial Conciliation and Arbitration Act	Legal recognition to unions. Impact on apprenticeship conditions, learning, wages.
1895	The Manual and Technical Elementary Instruction Act	Provided for education boards and others to establish government-funded classes for technical instruction and drawing as compulsory in primary schools.
1900 and 1902	Manual and Technical Instruction Act	Attempt to encourage schools to 'liberalise' their curriculum to include technical subjects. Opened the opportunity for technical 'classes' to be conducted by Education Board, councils or municipal councils or any other local authority.
1903	Secondary Schools Act	An Act that forced a free place system in secondary schools. Provided for the inspection of secondary schools.
1908	Education Act	Provided for the establishment of technical schools.
1908	The Master and Apprentice Act re-enacted	Made subject to the conditions of the IC&A Act.
1908	Education Act	Provided for establishment of day technical schools and broadened 'free places' qualification in the Secondary Schools Act of 1903.
1914	Education Act	Technical schools to be organised as a separate branch of the education system. Provided funding for secondary schools and thus departmental and administrative level control. Prescription of the secondary school curriculum authorised.
1923	The Apprentices Act	Nationally approved standards of training and formalisation of apprenticeship and training. Set up voluntary and local apprenticeship committees. Employers concerned that the act weighted too much in favour of apprentices and disadvantaged employers.
1925	Report on the New Zealand Education System	Commissioned by the Education Department. Suggested that technical high schools and secondary schools were duplicating work and could be amalgamated.
1927	The Apprentices Amendment Act	Cancelled existing Arbitration Court orders fixing proportions of apprentices to journeymen
1930	The Atmore Report	Some concerns at the crossover of secondary schools and technical schools. Recommended more practical and less academic subjects in schools and less of an emphasis on examinations.
1944	The Thomas Report	Promoted a 'curriculum for all' and recommended a 'common core' curriculum drawn from academic and practical strands up to the end of form four.

Date	Event	Summary
1944	Commission of Inquiry into Apprenticeships and Related Matters	Recommended the appointment of an Apprenticeship Commissioner and four Deputy Apprenticeship Commissioners to replace the voluntary and local committees set up in the 1923 Act.
1944	Free Secondary Education Introduced universal free compulsory secondary education	School leaving age raised from 14 to 15.
1946	Apprentices Amendment Act	Sought to manage lapsing apprenticeship orders due to servicemen returning from WWII.
1947	The Adult Education Act	Provision of evening classes of a vocational nature to adults.
1948	The Apprentices Act	Consolidated the findings from 1944 Commission of Inquiry. Provided for a Commissioner of Apprentices to improve and supervise the training and education of apprentices and to foster collaboration between the Department of Education and the schools and the Department of Labour and the trades. New Zealand apprenticeship committees set up.
1949	The Trade Certification Act	Authorised the establishment of a Trades Certification Board chaired by a nominee of the Minister of Education to develop examinations for apprentices. They set theoretical and practical standards. Institutions certified as suitable to deliver that curriculum reported to the Ministry of Education.
1958	Establishment of the New Zealand Council for Technical Education	
1960	Commission on Education in New Zealand	The Currie Commission.
1964	Education Act	Set up the characteristics of different TEO bodies: universities, colleges of education and polytechnics.
1965	Commission of Inquiry into Vocational Training in New Zealand	A report on the change required for vocational training in New Zealand based on technological change, economic development and population growth. A more systematic approach for apprenticeships was recommended. Terms of apprenticeship reduced in many trades.
1968	Vocational Training Council Act	The New Zealand Council for Technical Education disestablished and replaced by the Vocational Training Council. The VTC included reps from the Ministry of Education, the Ministry of Labour and various industry representatives through 26 training boards – providing for the systematic co-ordination between the needs of industry and the education provided by technical institutes.
1970	The Apprenticeship and Related Trade Training Committee and the Vocational Training Council delivers its first report	The Apprenticeship and Related Trade Training Committee (est. 1970) report discussed the low status of trades and the small wages for apprentices. Discussion around competency rather than time served and the amount and quality of off-job and on-job training. Recommended an overhaul of the apprenticeship system.
1977	Review of Apprenticeship: Discussion Paper	Prepared by Vocational Training Council. Outlines concerns about the imbalance between supply and demand of trade skills and the quality and organisation of on-job and off-job training. Revised system proposed to link Industry Training Boards with Manpower Planning section of Department of Labour. Discussion about aligning allied trades.

Date	Event	Summary
1979	Vocational Awards Act	The Authority for Advanced Vocational Awards established. Membership consisting of the Director-General of Education, two members of Technical Institutes Association, one member of Association of Teachers in Technical Institutes, Chairman of the Vocational Training Council, Chairman of NZ Vice-Chancellors' Committee and others. This body provided standards for qualifications at diploma level and the Trades Certification Board for certificate level.
1983	Apprenticeship Act	Set up of New Zealand Apprenticeship Committees and empowered to recommend changes to apprenticeship training.
1988	The Report on Post Compulsory Education and Training (PCET), the Hawke Report	Recommended the establishment of a National Qualifications Authority, funding formulas and student fees.
1989	Department of Labour report on Further Education and Training of the Labour Force Learning for Life	Discussed the lack of cohesion in the apprenticeship system. Outlined the different functions of those involved in apprenticeships/industry training with 35 national apprenticeship committees and approx. 350 local apprenticeship committees.
1989	Education Act	Determined funding mechanisms for TEOs. Introduced the idea of secondary-tertiary programmes.
1990	Education Amendment Act	Gave more independence and freedom to tertiary organisations. Established New Zealand Qualifications Authority (NZQA) to replace the Trades Certification Board and the Authority for Advanced Vocational Awards increased access. Education Training and Support Agency (ETSA) was set up as crown agency to support the employment side of the apprenticeship system. Changed its name to Skill New Zealand in 1988 and became part of the Tertiary Education Commission in 2003.
1991	Employment Contracts Act	Removed the rights of unions to negotiate employment conditions and wages. Disestablished the Arbitration Commission. In effect this disestablished the apprenticeship system.
1991	National Government Tertiary Review	
1992	Industry Training Act	Repealed the Apprenticeship Act of 1983 and described the role for Industry Training Organisations (ITOs) as standard-setting bodies. Apprentices became industry trainees, training agreements replaced apprenticeship contracts. ETSA became a funding body and responsible for the recognition of ITOs. ITOs responsible for standard setting. Off-job training became the role of the Ministry of Education.
1994	The Todd Task Force	Further expand PTEs. Continue institutional fee setting.
1995	Industry Training Review	Industry Training Fund changed the funding for industry training.
2000	Modern Apprenticeship Training Act	To encourage employers to hire more and younger apprentices. Introduced apprentice brokers (co-ordinators).
2000		Training fund changed to bulk funding model for industry training.
2001	Review of Industry Training	Concern at proliferation and activities of ITOs.

Date	Event	Summary
2002	Industry Training Amendment Act	Sets out activities for which ITOs can claim funding through the Tertiary Education Commission. Purchasing of off-job training removed from Ministry of Education to ITOs. ITOs have additional leadership roles and more tests in the recognition process.
2003	Tertiary Education Commission	Establishment of Tertiary Education Commission. ETSA incorporated into TEC.
2010	Education Amendment Act	Extends entitlement for free state school or partnership school from 5 to 19 years. Provides for secondary-tertiary programmes of study co-ordinated by a provider or lead provider and sets out rules for 'provider groups'.
2011/2012	Industry Training Review	Review of Modern Apprenticeships
2013	Apprenticeship 'reboot'	Offers a cash bonus to employers to take on apprentices.
2013	Industry Training and Apprenticeships Amendment Bill	Provision to regulate ITOs and outlines functions of TEC, NZQA
2013	Education Amendment Act	More structure for secondary-tertiary programmes. Approval and operation of partnership schools. 'Secondary schools' become 'relevant schools'.

Author Bio



Dr Lisa Maurice-Takerei is a teacher, researcher, writer and manager. Lisa has worked in education for more than 30 years and her work has spanned the secondary, tertiary, adult, community and vocational education and training sectors. Lisa's doctoral thesis involved an ethnographic study which followed the work of trade teachers in polytechnics. The thesis called for increased recognition of the discipline-based pedagogies associated with trade and vocational teaching and called attention to the complexities of post school training and education in New Zealand.

In particular Lisa is interested in the role of teacher creativity and teacher agency in the development of meaningful and relevant educational experiences. Lisa's work involves a commitment to providing opportunities for the development of expertise through experiences. Acknowledgement of the educator as craftsperson is central to Lisa's work.

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