




Degree apprenticeships in Aotearoa
New Zealand
Literature scan

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EXECUTIVE SUMMARY

This literature scan provides insights into the potential implementation issues of piloting degree-level apprenticeships in New Zealand. The methodology involved reviewing literature from Australia, Canada, New Zealand, the UK, and the USA, focusing on sources published since 2010. The scan notes that much of the relevant research comes from the UK, which has the most developed system for degree-level apprenticeships, formalized in 2015.

Key characteristics of the UK model include apprentices being in full-time paid employment, curricula developed by employer-led groups, and significant integration of on-job and off-job training. Benefits identified in the UK context include increased productivity, enhanced employability, and greater employer engagement in the educational process. However, challenges such as complex regulatory structures, resource intensity, and accessibility barriers, particularly for small and medium enterprises, are also highlighted.

The scan emphasizes the need for strong leadership, industry collaboration, and government support to successfully implement degree-level apprenticeships. It suggests that New Zealand can learn from the UK's experiences while considering its unique educational and industry contexts. Further research and peer-reviewed studies are recommended to build a robust evidence base and inform policy decisions.

In conclusion, degree-level apprenticeships have the potential to enhance employability, address skills shortages, and promote social mobility in New Zealand, provided the implementation challenges are effectively managed.

PURPOSE

This literature scan is intended to provide insights into the kinds of implementation issues we might expect when piloting degree-level apprenticeships in New Zealand.

METHODOLOGY

A search of publicly available literature was undertaken using the search term 'degree-level apprenticeships'. The search was limited to literature produced since 2010 relating to Australia, Canada, New Zealand, the United Kingdom, and the USA, with preference given to peer-reviewed research and reports from organisations with direct experience of implementing degree-level apprenticeships.

LIMITATIONS

Due to time constraints, the literature scan is not intended to be comprehensive or complete, so the findings should be treated as indicative only. The preponderance of the literature related to the experience in the United Kingdom. Given the distinct characteristics of the policy, regulatory and funding arrangements in that country, we should be cautious about the direct applicability of the findings.

The evidence base for degree-level apprenticeships appears to be underdeveloped with a need for further, broad-based, peer-reviewed research and data collection to solidify the evidence base and inform policy decisions (Universities UK, 2019), (Nawaz, 2022), (Venkatraman, 2018).

This literature scan should be read in conjunction with the other sections of the business case, particularly the key informant interviews.

BACKGROUND

Degree-level apprenticeships involve people in employment undertaking full-time programmes of study comprising workplace and off-job learning delivered in tandem which leads to the award of undergraduate or higher degrees (AI Group, 2024).

This type of delivery was formalised in the United Kingdom in 2015 (Hubble, 2019), (Smith, 2021) which has the most mature and largest system (see Appendix Three), but there are examples of similar approaches in the USA (Lester, undated), Australia (AI, 2024), (Venkatraman, 2018) and New Zealand (Gorb, 2022), (MacKay, 2022).

Degree-level apprenticeships form part of a continuum of professional development, which, in their ideal form, are characterised by integrated and experiential learning. Degree-level apprenticeships can be understood as an integrated professional development pathway, where learning in the workspace and education space, along with theory and practice, are blended together often with the aid of digital technology (Lester, undated).

The most integrated approaches contrast with arguably less sophisticated approaches, whereby off- and on-job learning take place in parallel through day release, block release or a digitally facilitated equivalent, but with minimal coordination or integration (Lester, undated), (Morley, 2018).



THE UK MODEL

The model in England is the most developed and follows a long history of increasing focus and validation of apprenticeship (Lester, 2020). In the United Kingdom, degree apprenticeships have the following general characteristics:

- apprentices who are generally in paid full-time employment and are eligible for other employment-related benefits.
- the basic requirements are specified by an employer-led working group (trailblazers) and agreed by the Institute for Apprenticeships and Technical Education (IfATE), a non-departmental public body .
- the degree is either a requirement of a professional institution or registration body, or is customarily required in the industry as evidenced by employers' recruitment practices.
- the programme includes at least 20 per cent off-job training (i.e. attendance at an institution or the equivalent in the form of e-learning, independent study or similar) and at least 50 per cent of education and training delivered as work-based learning .
- end-point assessments (EPA) are used to determine if they have acquired the necessary skills and knowledge, either integrated into the programme of study or kept separate.
- use of an apprenticeship levy funded by larger employers to cover the costs of training, and co-investment by the government with smaller employers together with variable funding rates and incentive payments to employers (Cedefop, 2021), (Cedefop, 2021a), (Lester, 2020a).

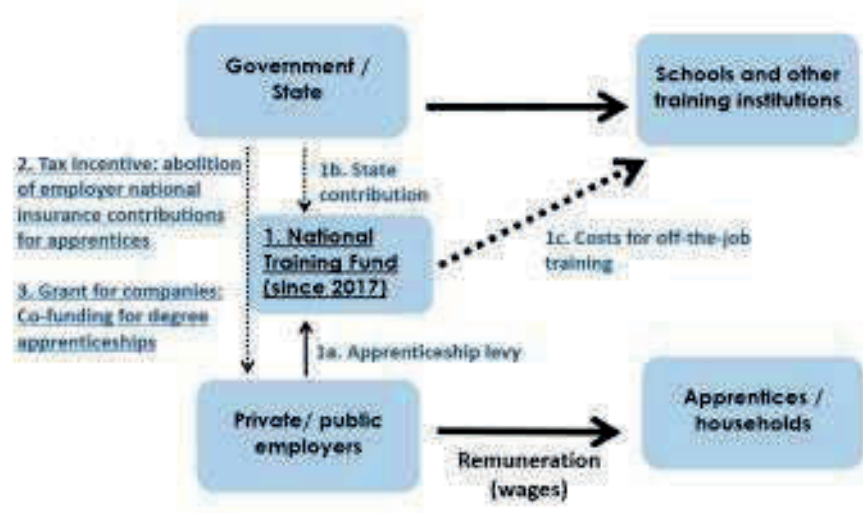
Initial development funding (Hubble, 2019), (The Office for Students, 2019) and enrolment and results-based payments to employers stimulated demand (Cedefop, 2021), (Cedefop, 2021a), (Sheffield Hallam University, 2021).

An evaluation of the development funding indicated that it provided a focus for activity, attracted senior-level commitment and incentivised the development of strategic plans and internal capacity (The Office for Students, 2019).

The models in the UK have a range of positive (flexible, industry-led curriculum, authentic work-integrated learning, collaborations between employers and TEOs, new markets for tertiary education organisations, qualifications that were highly portable within industries, directly addressing graduate employability concerns, and addressing stigma about apprenticeships and negative (higher resource intensity and complex processes) features (Dawson, 2020), (Fowles-Sweet, 2018), (Lester, 2020), (Lester, 2022), (Mulkeen, 2019), (Ryan, 2023), (Rowe, 2017), (Smith, 2019).

Early commentary on degree-level apprenticeships cited their potential value in enhancing relationships between business and higher education, promoting regional economic development and addressing skills shortages (Universities UK, 2017). Initially, the programmes were primarily used by the largest private-sector and government organisations (Lester, 2020), but they have expanded rapidly (see Quantitative Analysis). F

Figure one: Funding flows - degree-level apprenticeships in England



Source: (Cedefop, 2021)

The prospect of ‘earn while you learn’ models when compared to the prospect of high student debt appeared to be appealing to some potential applicants (Dawson, 2020). The ability to obtain paid employment as an integral part of the programme was appealing for many, and in contrast to other degree- graduates, the main anxiety of degree-level apprenticeship graduates was whether they could access particular roles or departments within their host employer rather than the ability to gain paid employment (Jones, 2022).

Degree-level apprentices also appear to have a distinctive identity and sense of belonging relative to other undergraduates (Taylor-Smith, 2019).

Some reported benefits include 78% of employers observed increased productivity, 8% noted the development of skills relevant to their organization, 87% of apprentices expressed satisfaction with their programs and 90% reported a positive change in their practice (Sheffield Hallam University, 2021), (Stone, 2022).

Early concerns

There were early notes of caution, however, that efforts were needed to maintain high-quality delivery, manage the implications of different organisational cultures, and explore pedagogical innovations in workplace-based learning (Crawford-Lee et al., 2019), (Dawson, 2020).

Degree-level apprenticeships were also criticized for a complex regulatory structure, time-consuming programme development cycles, barriers to access by small and medium enterprises, rebranding of graduate programmes and excess of opportunity for MBA-type programmes (Hubble, 2019), (Jones, 2022), (The Office for Students, 2019), (Universities UK, 2019).

A vehicle for social mobility?

It was argued by the proponents of the policy that degree-level apprenticeships may aid social mobility (Crawford-Lee, et al, 2019), (Fowles-Sweet, 2018), (Jackson, 2020), (Universities UK, 2017), fill a market niche as part-time enrolments had been declining in England over the preceding decade (Dawson, 2020), (Rowe, 2019), provide pathways for career advancement (Stone, 2022) and help to address long-standing issues such as a lack of recognition of vocational qualifications and apprenticeships by universities (Fuller, 2012).

However, enrolments initially tended to comprise people with similar levels of educational advantage to full-time degree learners, who were predominantly white males (Hubble, 2019) and who had pre-existing skills that reflected those intended to be developed by the programmes (Rowe, 2016). In one case, employers and providers seemed to reinforce traditional university entry qualifications in their promotional material (Fabian, 2021).

People from disadvantaged backgrounds also appeared reluctant to pursue degree-level apprenticeships because they perceived them to be a novel and, therefore, riskier pathway (Casey, 2022) or perceived the apprenticeship 'label' negatively (Jones, 2022).

These issues appeared to have attenuated over time, and there is growing evidence that the programmes are contributing to increased social mobility. Degree-level apprentices are increasingly drawn from ethnic, geographic, and socioeconomically deprived communities with poorer access to undergraduate programmes, and women are increasingly represented (Lester, 2020), (Nawaz, 2022), and (Smith, 2023).

This general trend may not be universal, however, with one study of computing apprentices finding that they tended to come from more privileged backgrounds even if they benefited from the opportunity to upskill later in life (Smith, 2021).

Possible enhancements

There have also been suggestions made that degree-level apprenticeships in the United Kingdom could benefit from more promotion, particularly targeting underrepresented groups, clearer pathways from lower-level apprenticeships and 'step on, step off' points, broader apprenticeship standards, more deliberate 'ground up' design of support mechanisms and more effective and efficient approval pathways (Lester, 2020), (Nawaz, 2022).

Other identified enhancements included better targeting of learner academic support, tailoring of TEO communication with employers, widening the use of strengths-based admissions criteria, and appropriately considering early career instability rather than using it as a rationale for less integrated teaching and learning (Lester 2020).

A particular issue of note was the need to ensure that accountability frameworks acknowledged the distinctive roles and responsibilities of each party embodied in the unique tripartite relationship (involving the educational institution, the employer, and the apprentice) inherent in degree-level apprenticeships (Lambert, 2016), enabled innovative programme designs and delivery methods (Lester, undated) and promoted parity of esteem for academic and professional standards (Lester, 2020a), all while balancing the risk of more pragmatic workplace concerns dominating education and training (Lester, 2020), (Lillis, 2020), (Mulkeen, 2019).

End point assessments form an increasingly important component of degree-level apprenticeships whether as a 'non-integrated' assessment that sits alongside the apprenticeship or an 'integrated' model that includes the assessment within the apprenticeship (Lester, 2020), however there may be a case to integrate these more cohesively in relevant programmes of study (Baker, 2022) and to take care to ensure these are not seen as an 'unnecessary toll booth' (Mulkeen, 2019).



Possible success criteria

The literature from the United Kingdom suggests that the key success criteria include strong institutional leadership and a visible central unit, TEO and employer champions, apprentice communities of practice, integrated employability, practical and theoretical learning, innovation in teaching and learning, assessment adapted for the workplace, deliberate strategies to address barriers to employer engagement, partnerships with professional registration bodies and a supportive policy and funding environment (Lester, 2020a), (Lillis, 2020), (Morley, 2018), (Rowe, 2019).

A novel checklist to help TEOs determine whether degree-level apprenticeships are viable and sustainable may also be applicable to the New Zealand context (Qew-Jones, 2023).



OTHER CONSIDERATIONS

Other matters that may require attention include:

The lack of career pathways for people teaching on degree apprenticeships can be keenly experienced by academics (Martin, 2020).

The complexity of degree-level apprenticeships is an issue raised by employers (Mulkeen, 2019), and apprenticeships with one noted that they interacted with up to six different mentors, academics and educators in addition to the support services available to them (UCAS, 2023).

Some apprentices struggle to manage conflicting priorities between study, business, and personal needs and it appears that study habits and preferences among apprentices are highly individualized, influenced significantly by employment workload and the accessibility of off-the-job study time (Poole, 2023), (Smith, 2023), (Stone, 2022), (Taylor-Smith, 2019).

Prior learning is salient for some learners, with 37 per cent of degree-level apprentices in one study already holding a bachelor's degree and others having extensive skills and competencies gained through experiential learning (Smith, 2023).

One literature review of mentoring in the construction workforce indicated that mentoring underpinned by trust and communication between mentors and mentees and training of mentors could be valuable in providing psychosocial support to mentees who are new to their vocation.

It was much less certain that mentoring had a direct role to play in upskilling the workforce (BRANZ, undated) although one study pointed to opportunities to strengthen their impact by clearly defining their roles and responsibilities and more structured support systems (Qew-Jones, 2022).



THE NEW ZEALAND EXPERIENCE

The most notable New Zealand example is the Bachelor of Engineering Technology (Infrastructure Asset Management) which demonstrated the feasibility and benefits (industry collaboration, flexible work-integrated delivery, reduced financial barriers) of the model, but noted opportunities to strengthen marketing, introduce more standardization and share good practice with employers (Gorb, 2022), (Mackay, 2022).

The pilot project to establish this programme received considerable set-up funding (\$2.3m over four years) (Ibid) in addition to the normal government subsidies attracted by the learners involved, who numbered 75 in 2023 (Key informant).

ConCOVE commissioned a systems gap analysis to understand the barriers to the wider uptake of degree-level apprenticeships in New Zealand. This analysis argued that the key barriers included a lack of specific policies, resources, cohesive relationships among key stakeholders, and prevailing mental models that view apprenticeships as solely trades-based or less favourable compared to academic, research-based degrees. This report recommended leadership from key government agencies, a public awareness campaign and a pilot project to explore the feasibility of higher-level apprenticeships (ConCOVE, 2022).

A study that explored the suitability of degree-level apprenticeships for the Food and Fibre sector noted the need for industry involvement, flexibility and government support (Skills Consulting Group, 2023).

A salient issue is the requirement in New Zealand that degree-level teaching be undertaken mainly by people engaged in research (Education and Training Act 2022). Degree-level apprenticeships challenge the normal conception of this requirement in New Zealand that academic staff have a primary role in directing teaching and learning by interweaving the profession's 'science' and 'applied science' in a way that both ensures that practitioners have an adequate theoretical base for their work, and keeps sight of how practice recontextualizes, modifies and ultimately generates theory (Lester, undated). 9

CONCLUSION

This literature scan on degree apprenticeships in Aotearoa New Zealand provides an overview of the current state, challenges, and potential benefits of implementing such programs.

The analysis reveals that degree apprenticeships offer a promising path for integrating workplace learning with formal education, potentially enhancing employability, addressing skills shortages, and promoting social mobility. However, the scan also identifies significant challenges, including regulatory complexity, the need for high-quality delivery, and the importance of addressing barriers to access, especially for small and medium enterprises and underrepresented groups.

The UK's experience, along with insights from Australia, Canada, the USA, and initial efforts in New Zealand, suggest that success hinges on strong institutional leadership, industry collaboration, and government support. A tailored approach that considers New Zealand's unique educational, cultural, and industry contexts will be essential. Moreover, further research and peer-reviewed studies are needed to solidify the evidence base and inform policy decisions.

As New Zealand considers the wider uptake of degree apprenticeships, it must navigate these complexities with innovative solutions that balance educational quality, industry needs, and inclusivity. The pilot BEngTech programme exemplifies the feasibility and benefits of such programs in New Zealand, offering a foundation for expansion and adaptation across different sectors.

In conclusion, degree apprenticeships represent an opportunity for New Zealand's education and workforce development. With careful planning, collaboration, and ongoing evaluation, they can contribute to the country's economic and social advancement and prepare a skilled, adaptable, and diverse workforce for the future.

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