
Food and Fibre Degree-level Apprenticeship

FRAMEWORK ELEMENTS

1. Purpose

To provide a 'starter for 10' statement for each of the elements of a FF degree-level apprenticeship framework for the purpose of seeding a more detailed discussion which would inform the construct of the eventual framework.

2. Background

There is a growing interest in degree-level apprenticeships for the Food and Fibre sector and, given there are no historical instances to leverage, the opportunity exists to develop a 'framework' which VET providers would base their degree programmes on so that:

- There is consistency between different FF-related degrees regarding:
 - Assessing a worker's current skills, experience and prior qualifications for entry into the programme
 - Leveraging micro-credentials to incorporate specialist elements into a core subject
 - Integrating work-based learning practices into the study programme
 - Etc.

Core courses are developed by one provider on behalf of all

- Workers who move across industries within the Food and Fibre sector can take recognised qualifications with them covering generic skills and complete an appropriate set of micro-credentials to transition from their previous industry to their new one
- And so on

While the range of industries across the sector suggests that there will be a significant spread of different courses to be covered by the collection of degree programmes, there would also be a significant number of common courses. That they are all apprenticeship courses suggests there will also be a range of common approaches regarding activities such as (not the exhaustive list):

- Delivering lessons, tutorials, practical exercises in a work environment
- At work assessment of knowledge and/or competency
- Moderation
- Assessing work experience and qualifications from other programmes as Recognised Prior Learning

Appendix A (hopefully) maps the majority of degree-level apprenticeship programme activities which have potential for alignment via a common framework. What follows – starting clockwise from ‘Specialisations’ – is a short description of each as a start point for consultation.

3. Specialisations

At this early stage, it is not intended to agree the title of each degree programme nor the range of endorsements. This placeholder simply identifies that there will be a range of degree programmes, each of which might or might not offer endorsements.

4. Emerging Knowledge

There is an ongoing emergence of new knowledge across Food and Fibre and related generic topics. This initiative needs to maintain a constant watch on these to ensure the framework is able to accommodate these as needed.

5. Core Courses

The expectation is that there will be a subset of courses which will represent the core of a degree where it's the combination of other courses which deliver to an endorsement. It's also likely that some core courses will be generic enough to be common to a number of degree programmes e.g. foundation courses in Health and Safety, Water Management, Social and Ethical Responsibilities etc.

Economies of scale can be achieved if a single provider (in consultation with other providers) were to develop a core course on behalf of the collective.

Appendix B¹ provides an overview of the Global Good Agriculture Practice and suggests a wider range of potential core courses and how these might be extended out to make a customisable curriculum framework for the entire Food and Fibre sector.

Instead of multiple courses with the same core topics, at level 5 in particular, a common core might be developed with micro-credentials providing the specialist component to cover industry differences.

At levels 6 and 7, to maintain consistency across the sector, a course might share a common structure for a particular subject but the topics within it follow an industry-specific theme (strand).

6. Stakeholder Engagement

Recognises the need to stay in touch with a wide range of entities who have a vested interest in the outcomes of this initiative.

7. Delivery

Like any other degree programme, the degree-level apprenticeship will comprise a mix of theory and practical. To be a genuine apprenticeship however, the majority of learning should be at-work with the vast majority of students able to complete the programme within three years:

- At-work learning would leverage the methodologies currently being piloted in the Work Integrated Learning project.

¹ Courtesy of Richard van Der Jagt, Te Wananga o Aotearo

- VET providers will need to support employers in the delivery of training; a genuine partnership which allows flexibility in delivery to mutual benefit of worker and employer whilst giving the provider confidence the learning outcomes are being achieved.
- In-class learning is minimised (online for workers in more remote areas), could be available after-hours etc.
- Study programmes will however, need to factor in the significant variation that can occur regarding availability to study across different work-places at different times of the year; lambing, calving, planting, harvesting etc (acknowledging that these may also be ideal opportunities for research-related studies).
- Provider delivery (lectures, tutorials, practical exercises) would also be flexible and include support of home-based learning and use of community facilities such as the local marae or community hall to enable group learning without imposing excessive travel requirements on rural students.
- Cultural practices such as Te Ao Māori and Te Ata Hapara would be supported for Māori students.
- Resources used by both providers and employers would be available via an online repository.
- Study programmes must be able to accommodate seasonal and other variations in workload to make appropriate allowances for high intensity periods of work and take advantage when learners have more time available to study.

8. Industry Accreditation

It is suggested that a key factor in achieving wider acceptance of the degree qualification will be endorsement by industry bodies. Accreditation is a common practice² in many domains to ensure that educational institutions deliver an acceptable level of quality for training and that practitioners meet a minimum standard for their profession. Accreditation across the range of FF degree-level apprenticeships by NZ Institute of Primary Industry Management would enhance the value of the qualification and provide regular quality reviews to maintain accreditation so that the degree programmes remain current.

9. Assessment

The Work Integrated Learning project is currently exploring options for online and remote assessment of knowledge and competencies. Some industries – Forestry for example – rely heavily on contracted assessors who travel to the workplace to perform assessments. A degree programme which is largely based on work-related practices is likely to need at-work and/or online assessment supported by a robust process for employer attestation of the student’s knowledge and capabilities.

10. Moderation

Moderation is a key component of any educational system. This is a placeholder to ensure a viable moderation process exists or, if it doesn’t, to ensure thought is given to what it needs to look like.

² Accreditation is common for professions such as engineers, solicitors and accountants etc. who have a couple of years in the field and complete their professional examination before becoming registered.

11. Development of Degree Programmes

This is a placeholder for a discussion on the division of work etc. which spreads the load across multiple providers whilst maintaining the necessary level of academic rigour.

12. Graduate Profile

The graduate profile (or profiles) is very important with regard to:

- How it is written.
- How different industries are accommodated through more universal descriptions of the attributes to be attained by graduates.
- Centre for Assessment of Prior Learning (CAPL) which supports the awarding of a qualification based on prior learning in the workplace and determine the entry point into the degree pathway.

13. Three-year Study Programme

The base assumption is that this wouldn't be a true apprenticeship if it wasn't delivered within a three-year timeframe. The challenge is to develop courses which lean heavily on current work activities but retain proven higher learning commensurate with any other degree programme.

However, like any other degree programme, it must be flexible enough to support students who want to study part-time.

At the same time, each degree programme should progressively move students toward stronger understanding and greater independence in the learning process (scaffolding). This applies not only to the degree programme itself but should also be considered as part of the alignment of pathways with entry into the degree programme i.e. that holders of level 3 or 4 qualifications in a particular subject aren't required to repeat that foundational learning at level 5 (other than that there might be a refresher component).

14. Pathways

Continuing on from the previous paragraph, the expectation is that the degree (and each year's study programme within the degree) is part of a continuum. There should be multiple pathways available to potential students both into the degree-level apprenticeship programme and from the degree-level programme out to other programmes:

- Pathways in would include:
 - Graduates from appropriate Level 5 Certificates (advanced entry into year 2) and Level 6 Diplomas (advanced entry into year 3) with additional courses prescribed if necessary to address any weaknesses in coverage
 - Graduates from Level 3 and Level 4 programmes
 - Given the practical nature of the degree-level apprenticeship, unless they have significant work experience in their last year or two of study, secondary school students may be required to work in the industry for a year before commencing an apprenticeship programme.
 - For existing workers a protocol might need to be developed which gives consistency to how work experience is assessed toward credits against the degree-level apprenticeship. In principle, the process should not require a worker to repeat any

learning which they can clearly demonstrate prior to commencing the degree programme.

- Graduates of other degree programmes could enrol in a Graduate Diploma in FF e.g. to ultimately seek employment as a farm advisor or other FF-related position.

15. Pastoral and Cultural Care

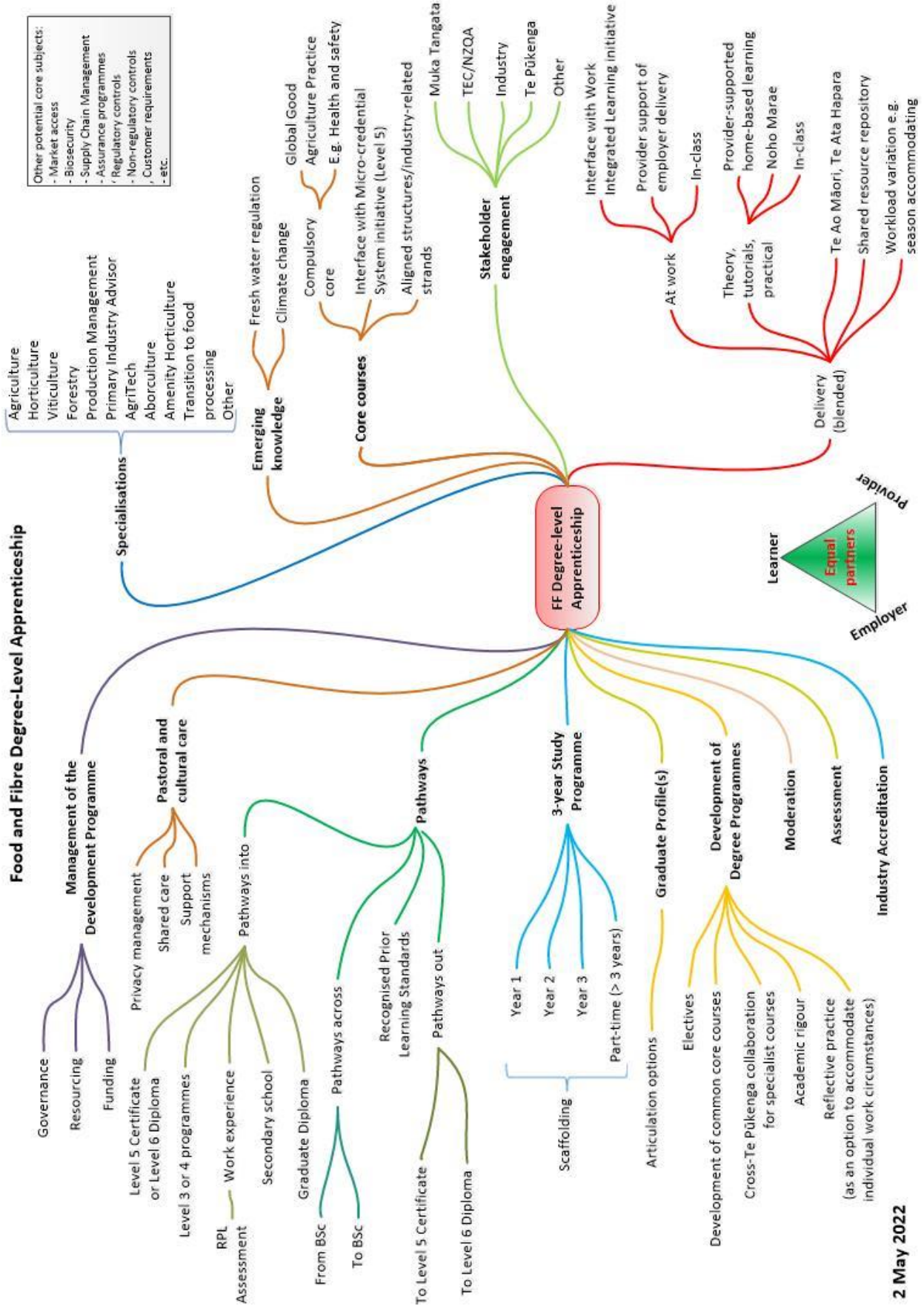
From a cultural care perspective, Te Ao Māori or Te Ata Hapara integration into programme delivery is but one element of care which needs to be factored in. Other ethnicity practices need to be accommodated. In addition, at-work learning brings with it other issues such as:

- Privacy management (e.g. what would the protocol be if a learner divulged employment concerns to the provider?)
- How would the pastoral care of the learner/worker be managed across a combination of in-class and at-work activities?
- What support mechanisms are needed which fall outside the norm for either the employer or the provider?

16. Management of the Development Programme

Not an element of the framework itself, this activity is a placeholder for a programme structure (governance, resources, funding etc.) to coordinate the development of the collection of degree programmes. There are too many variables across the VET system let alone between different industries across the sector. Without some form of coordination, it would be too easy for programmes to veer away from the framework, for courses to be duplicated, for inconsistencies to creep in and we'd lose those benefits possible through economies of scale etc.

Appendix A: Mind Map of a Potential Framework



Appendix B: Global GAP as a Curriculum Platform

Background

People are increasingly concerned about the origin and safety of their food. As an exporting country particularly one heavily focused on food and fibre, they also expect responsible and sustainable farming practices as well as the safety of workers.

Global GAP through its standards framework, could inadvertently provide a curriculum framework which is both practical, nationally and internationally recognised, and has commonality across all food and fibre industry sectors.

Curriculum / Standards

Global GAP https://www.globalgap.org/uk_en/ is a trademark and set of standards (think curriculum outline for employer and training providers) for Good Agricultural Practice, something all food and fibre producers should be doing.

It's a global standard that as an exporting nation all New Zealand food and fibre industries participate in, in some way.

There are a lot of local variations including NZGAP <https://nzgap.co.nz/> which use Global Gap as its core then add additional units specific to an industry, sector or country.

The **core** standards in Global GAP include:

- Worker Health and Safety
- Training (professional development – industry badges, seals, micro credentials, awards)
- Conservation, Water and Pollution management
- Energy, & Natural Resources
- Product Identification and Traceability inc withdrawal
- Soil Management and Conservation
- Water Management
- Pest Management incl (biosecurity and integrated pest management)
- Chemical Control and Management
- Equipment Management
- Storage & Transport
- Social and Ethical Responsibilities
- Subcontractors
- Site Management (including Farm Plans) and Propagation
- Food safety

There are now a lot of **add-ons** to global gap which include:

- Social practice
- Environmental
- Food Act
- Grasp – (employment law, workers' rights, wages/salaries, discrimination, complaints)
- Contractor Standards

If you were then to add the following topics it would go along way to round out a customisable curriculum framework for the entire Food and Fibre sector:

- Financial management (accounting, budgets, annual plans)
- Human Resource and Personal Management
- Project Management

- Marketing
- Digital / Technology

Potential Framework

1. As an internationally recognised set of standards Global GAP has the potential to be developed into a curriculum framework / scaffolding for the New Zealand food and fibre sector.
2. As a set of standards, it is already being used by the majority of the Food and Fibre sector as a certification gate way into export and domestic markets, so they are familiar with it.
3. Increasingly, more and more units are being added on to these standards to reflect the changing times including Carbon Sequestration and Farm Plans.
4. Using these standards as a template for a degree would ensure new modules are added and students coming through are up to date with current trends and international requirements across the food and fibre sector.
5. Using Global Gap as a framework would mean their degrees and training are transferrable and would be recognised between food and fibre sectors, within New Zealand and internationally.
6. These standards lend themselves to micro credential development, and they have immediate relevance and benefit to the business supporting students through their apprentice degree.
7. These standards can easily be integrated into larger meaningful (employer and student) student projects such as the development of farm plans which incorporate; Conservation, Water and Pollution Management, Energy, & Natural Resources, Soil Management and Conservation, Water Management Pest Management incl (biosecurity and integrated pest management), Chemical Control and Management.