



MUKA TANGATA
People, Food and Fibre
Workforce Development Council



A new approach to learner pathways

Research project final report

March 2024

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Executive summary

Context

This applied research project, co-funded by Muka Tangata and Food and Fibre Centre of Vocational Excellence (Food and Fibre CoVE), aims to breathe life into the ideas and

concepts proposed in *A New Approach to Learner Pathways*.¹ This Muka Tangata discussion document delivers a wero to the organisation (working closely with the food and fibre sector) to develop and embrace a radically simplified qualification structure, that will enable greater flexibility for ākonga and enhance transferability of skills across the sector.

Aim

The aim is to create a food and fibre skills framework, and a suite of products, that maximises flexibility and transferability, while remaining meaningful to industry and allowing opportunities for specialisms. The research questions to support this response are:

- How can we maximise ākonga mobility while ensuring qualifications have currency for employers?
- What is the optimum level of skill flexibility and transferability for ākonga in the food and fibre sector?
- What actions should we take to achieve this outcome?

Methodology

A mixed method approach was used for this research. A literature scan was used to develop the underpinning principles, definitions of flexibility and transferability, and an embryonic version of a skills framework. Analysis was carried out across existing qualifications and unit standards, and newly developed skills standards and micro credentials, examining usage data, design, and future skills gaps. This allowed several exemplars to be developed. The draft Food and Fibre Skills Framework and exemplars were tested with key informants, and then refined via internal Muka Tangata workshops, employer and learner / employee surveys, and employer and provider focus groups.

Literature scan

The literature and skills frameworks we reviewed highlighted the importance of skills as the currency for workforce development in the 21st century. In a fluid and rapidly changing employment landscape, job titles, occupational classifications or static qualifications are no longer fully reflective of what employers and industry seek in their workforce, or of what employees bring. Focusing on skills also presents the opportunity for rapid updating and futureproofing as technology and ways of working change.

Along with the importance of a skills-first approach, we were guided by several other key concepts drawn from the literature scan. In terms of the **shape** of a food and fibre skills framework, these are:

- The appropriate recognition of te ao Māori in (or around) the framework
- The centrality of essential skills
- The need for a ‘common language’
- Maturity / proficiency progression, which is enabling and learner-centred, rather than a more prescriptive ‘levels’ approach.

The Food and Fibre Skills Framework

Vision

The vision for the Food and Fibre Skills Framework is that it be:

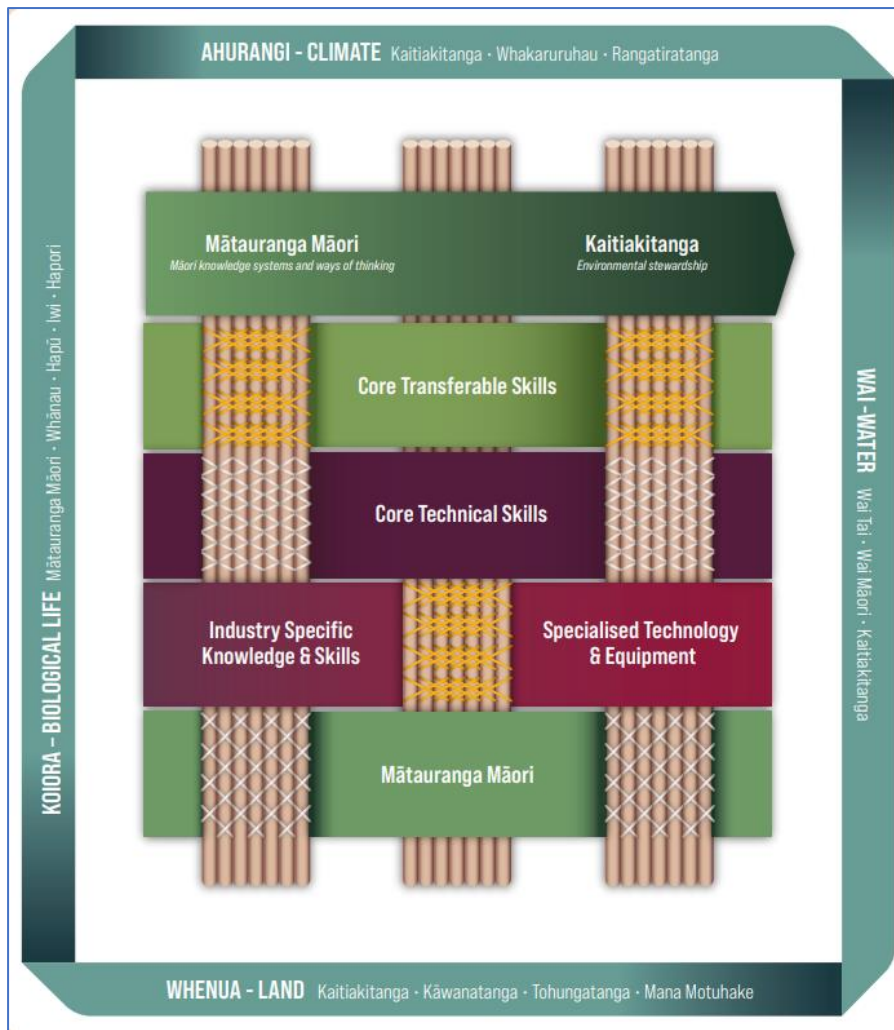
¹ *A New Approach to Learner Pathways* (January 2023). Muka Tangata.

- A living skills framework, with accompanying resources, which are used (and contributed to) by all food and fibre sector vocational education stakeholders, to develop engaged, effective and empowered employees.
- A mechanism to support the skills-first approach across all sectors, enabled by aligned policy, funding and qualifications approval settings.

Visualisation

Figure 1 is a high-level visualisation of the Food and Fibre Skills Framework, which shows the interwoven nature of the core components. Te Ao Māori has been integrated into The Framework by using a Māori icon in the form of Tukupuku Lattice panels which adorn the pakiwaitara (stories) on the walls of the whare Tipuna (see pp.31-32 for more detail).²

Figure 1: Food and Fibre Skills Framework visualisation



Components

The Food and Fibre Skills Framework has four components:

Core transferable skills: These are ‘skills to build skills’: learning to learn (learner agency), learning for work, and learning for life. We have deliberately chosen the term ‘core transferable skills’ as these skill sets underpin the ability of ākonga to gain, value, extend

² This visualisation was prepared for the project by [HTK Ltd](#).

and transfer any skills or knowledge to different contexts. These skills have a proficiency progression across mōhio (understanding), mātau (expertise) and mārama (enlightenment).

Core technical skills: These are the generic or underpinning technical or work-related skills that are common to all (or most) of the food and fibre sectors. By their nature, these skills are transferable across different contexts, and also have a proficiency progression across mōhio, mātau and mārama.

Industry specific skills: These are specialised technical skills; industry specific knowledge and skills, and specialised technology and equipment skills, which are unique to the relevant industry.

Bodies of knowledge: The concept of bodies of knowledge is to allow learners to explore and develop mastery of areas of knowledge that are significant to them as they progress through their careers. These include both content areas, like biodiversity or climate resilience, and specialised business or technical skills.

Key findings

The Food and Fibre Skills Framework: There was positive feedback about The Framework across all research participants. The focus on skills-first resonated with all, especially at the foundation level. There were several discussions about how the core transferable skills were the building blocks on which all other skills are built. The concept of progression for these skills was also valued. Concerns raised included how best to articulate the value to employers, the need for a common language, and the interdependence of the core skills.

Flexibility: The Framework supports a deeper understanding of core transferable and technical skills. This will enable the deliberate design of qualifications and their components to ensure portability within and between qualifications, roles, and sectors. This provides flexibility so that ākonga can move along a learning and employment pathway in the way that meets their needs and preferences, without significant barriers or consequences.

Transferability: The Framework explicitly identifies the dimensions and developmental progression of transferable skills. Transferable skills are “portable skills” that can be transferred across different social, cultural or work settings. They include cognitive, social, and emotional skills, and they work alongside other skills such as those specific to a job. (NB: the underpinning knowledge involved in many of the core technical skills is also highly transferable). It is important to note that the ability to transfer skills between different contexts is a relatively complex cognitive process, which requires support and scaffolding from all involved in the training system.

Bridging to non-formal and informal learning: The prevalence and importance of non-formal and informal learning across the food and fibre sector highlights the importance of flexibility and transferability for the sector. Employers and learners value the relevance, timeliness, cost-effectiveness, and flexibility that non-formal learning opportunities offer. Learners bring skills gained in different settings to the workplace or classroom and continue to build skills in a wide variety of ways that are not necessarily from, or recognised by, the formal qualification system. The Framework may provide a common language to facilitate discussion and recognition of these skills, enabling the development of bridging mechanisms between formal and non-formal / informal learning.

A New Zealand Certificate in Food and Fibre: The Framework supports a clearer understanding of core transferable and technical skills that could form the basis of a family of generic NZ Certificates in Food and Fibre. These would be based on common core topics, with electives chosen from specialist areas to build a qualification to suit individual learners'

requirements. Feedback was generally positive – simplification was seen as a key benefit. The major concern was for there to be sufficient information for future employers to understand what a graduate had achieved, and what they knew and could do.

Summary of recommendations

Food and Fibre CoVE and Muka Tangata

- Complete an initial build out of The Framework, describing skills at appropriate level
- Develop guidance for each skill set to encourage the consistent application of the skills language and terminology, and approach to teaching.

Muka Tangata

- Qualification review process - formalise the implementation of The Framework in the review and development process.
- The Qualification and Standards (Q&S) team continue to encourage transferability of skills through the skills first approach, incorporating the Skills Framework as guidance, and developing generic qualifications which are consistent across many sectors.
- Include The Framework concept in the Māori Workforce Development plan workstream.
- Quality Assurance and Enhancement (QAE) team – support a consistent approach to evaluation of delivery of core transferable skills as well as technical skills.
- Engagement and Partnerships (E&P) team – use The Framework approach to skill sets in discussions with employers and industry groups.
- Workforce Development Plans (Skills Leadership & Advice (SLA) team – in the review of these plans, use a skills-first approach and apply The Framework to gain a consistent approach across the plans.
- Skill Forecasting (SLA) – assess any application of The Framework to aid the consistency of terminology and skills-first approach.

Food and Fibre CoVE

- Explore and commission further research, including:
 - Best practice examples (case studies) of teaching core transferable skills for each skill set and level - on campus, online and work-based settings.
 - Learner voice – what does flexibility and transferability of skills look like for them.
 - Employer usage research - what tools would assist employers to "teach" core transferable skills in their workplace.
- Explore synergies across the multiple research projects (e.g. non-formal and informal learning, attraction and retention, DLA, and this project).

Wider vocational education and training eco-system

- Recommend discussion about wider uptake of The Framework across Ohu Ahumahi.
- Bring awareness of the Skills Framework to leadership within Ministry of Primary Industries and Associate Minister Hoggard.
- Workshop with TEC and NZQA (and others) to understand wider application of the skills-first approach, and its importance for building equitable outcomes for all learners.

- Continue to develop the vocational education ecosystem with flexibility of delivery as a core tenet to remove barriers for all learners.
- Communicate importance of skill-first approach for building equitable outcomes; Māori, Pasifika, women, neuro-divergent learners.
- Discuss with secondary schools / career guidance – explore building The Framework connectivity from the New Zealand Curriculum aligning through to food and fibre vocational education.

Introduction

Context

This applied research project, co-funded by Muka Tangata and Food and Fibre Centre of Vocational Excellence (Food and Fibre CoVE), aims to breathe life into the ideas and concepts proposed in *A New Approach to Learner Pathways*.³ This Muka Tangata discussion document delivers a wero to the organisation (working closely with the food and fibre sector) to develop and embrace a radically simplified qualification structure, that will enable greater flexibility for ākonga and enhance transferability of skills across the sector.

Background

The problem

A New Approach to Learner Pathways sets out the following inter-related issues:

- Previous settings and approaches to qualifications, standards, and other forms of recognition for skill and capabilities have been inflexible and overly complex.
- The number of people in formal vocational education in the food and fibre sector has been dropping over the last five years, against a backdrop of endemic skill and labour shortages.
- The current system is not responsive to the diverse need of employers, ākonga, iwi and hapū Māori (p.6).

In addition, attraction and retention, and the recognition and utilisation of existing skills (including those gained through informal and non-formal learning) are key issues identified in the 14 industry-specific Workforce Development Plans developed by Muka Tangata (2023).

The proposed response

Muka Tangata acknowledges that a key part of the response to these issues is to streamline the qualification suite and other products, and to ensure that quality assurance settings are equally enabling.

The goal is to create a food and fibre skills framework, and a suite of products, that maximises flexibility and transferability, while remaining meaningful to industry and allowing opportunities for specialisms.

The research questions to support this response

- How can we maximise ākonga mobility while ensuring qualifications have currency for employers?
- What is the optimum level of skill flexibility and transferability for ākonga in the food and fibre sector?
- What actions should we take to achieve this outcome?

Overarching design principles

1: The incorporation of mātauranga Māori into learning

Using mātauranga Māori as an essential component of every educational development in a food and fibre setting, in accordance with our commitment to te Tiriti o Waitangi, resides at the core of what we do.

³ *A New Approach to Learner Pathways* (January 2023). Muka Tangata.

The VET system will better support Māori to flourish in the food and fibre sector and allow better insight into te ao Māori.

2: The creation of a food and fibre skills framework

All qualifications, standards, and micro-credentials within the food and fibre sector should work together as a coherent set in both workplace-based and provider-based settings to form a wider and more transferable skills base.

Pathways will become more intelligible and enable greater ākonga mobility within the sector and beyond.

3: The design of learning elements in parallel

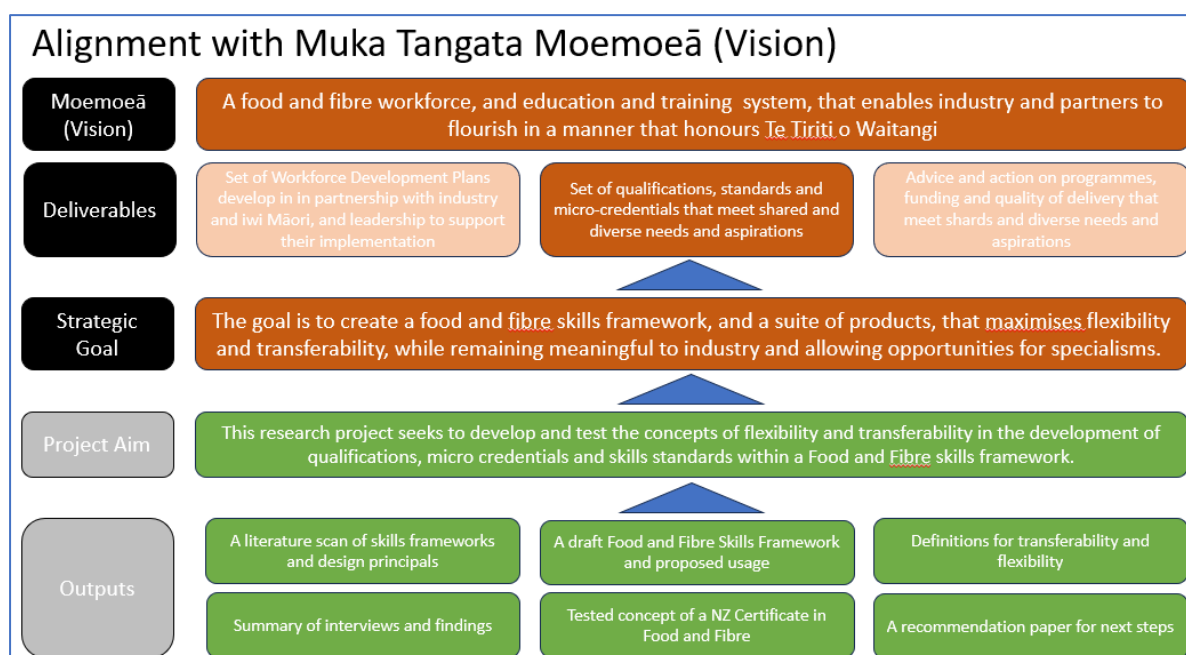
Most qualifications, standards, and micro-credentials will be designed together, and tailored responsively based on input from the relevant industry workforce development plan.

Conjunctive design ensures and supports relevance, coherence, and mobility, and creates clearer pathways for learners.

Logic model

Figure 2 presents a logic model for this project.

Figure 2: Project alignment with Muka Tangata Moemoeā



What's been done so far?

Training and Careers Framework project

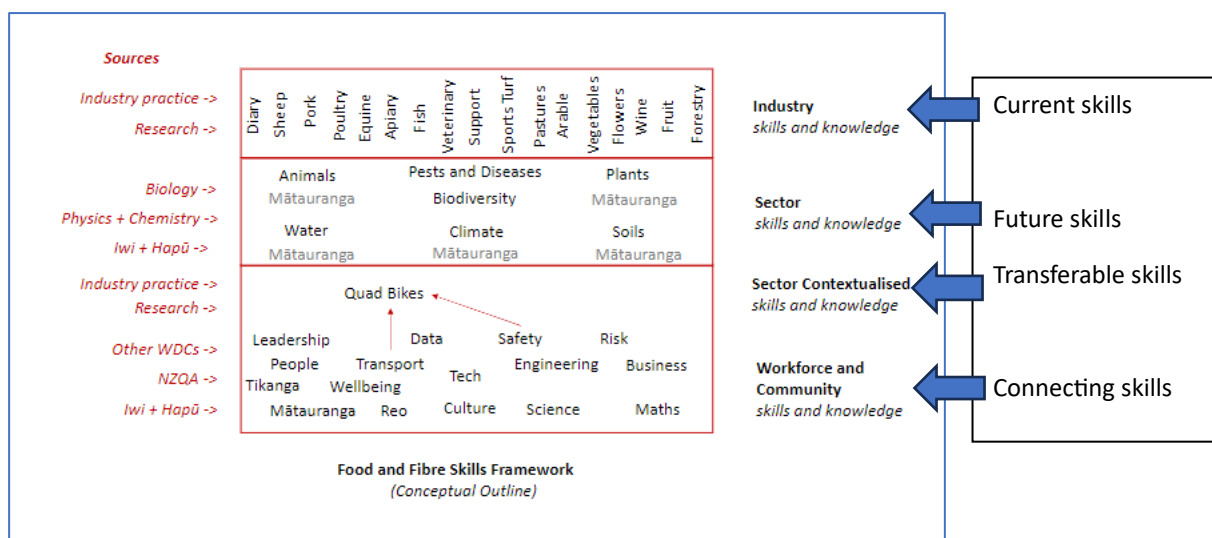
The Food and Fibre CoVE's *Training and Careers Framework* project began in late 2022. The project aimed to support the food and fibre sector toward better attraction, training, and retention, by describing and providing exemplars of excellent vocational pathways. Outputs to date include a vocational pathways excellence rubric and a good practice exemplars

document.⁴ The third output, *Stakeholder Perspectives on Flexible Learning (March 2023)*,⁵ reports on the findings from 24 interviews conducted across a range of stakeholders, which tested several areas relating to flexibility suggested in *A New Approach to Learner Pathways*.

The evolution of the food and fibre skills framework concept

A conceptual outline for a Food and Fibre Skills Framework was shared internally with Muka Tangata kaimahi, early in 2023 (see Figure 3).

Figure 3: Food and Fibre Skills Framework – conceptual outline



Some of the proposed uses for a framework included:

- Provide **coherence** for skills and knowledge across the whole food and fibre sector, and beyond.
- Enable the recognition or **incorporation of mātauranga Māori** into sector qualifications, standards, micro-credentials and programmes.
- Enable Muka Tangata, industry, providers, learners and iwi / hapū Māori to understand the **relationship** between food and fibre qualifications, standards and micro-credentials.
- Facilitate the **creation of pathways** within and between qualifications and micro-credentials.
- Create a **resource base** for the more **rapid development** of qualifications, standards and micro-credentials.
- Enable the **sharing of learning elements or modules** between qualifications, standards and micro-credentials, both within the food and fibre sector and other related areas, e.g. leadership modules.
- Enable the **future proofing of food and fibre sector skills and capabilities**, addressing new and emerging skills as well as current skills.⁶

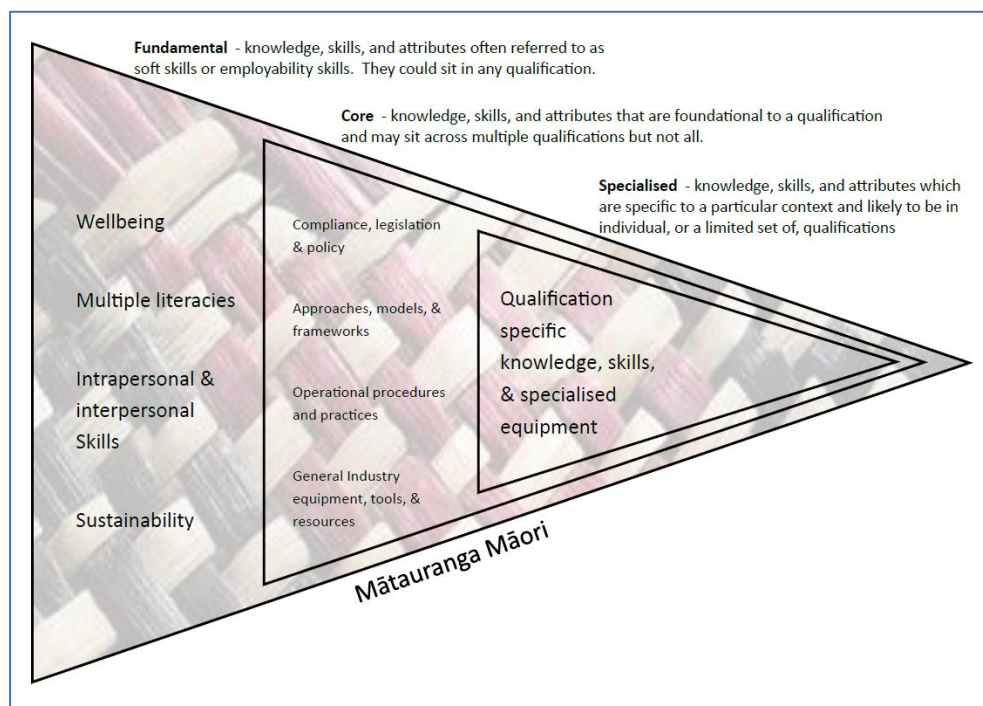
⁴ <https://foodandfibrecove.nz/knowledgebase/project-delivery/ff-initiatives/training-and-career-framework-for-the-ff-sector/>

⁵ *Stakeholder Perspectives on Flexible Learning* (March 2023). Food and Fibre CoVE.

⁶ Internal presentation: *Food and Fibre Skills Framework: Outline discussion* (March 2023).

The Muka Tangata Qualification and Standards team were able to apply a practical lens to this framework, developing a conceptual qualification, micro-credential and skill standards framework (see Figure 4). This has provided a high-level approach against which existing and new products can be created and mapped. This tool was successfully used in the 2023 Forestry and Seafood qualification reviews, fulfilling several of the uses suggested above.

Figure 4: Conceptual qualification, micro-credential and skill standards framework



Aims

This project has three aims:

1. To develop a food and fibre skills framework

Develop and test a draft food and fibre skills framework, **which is**:

- A visual representation of the skills required for the food and fibre sector
- Infused with te ao Māori, explicitly using and prioritising Māori understanding of areas such as sustainability and wellbeing
- Centred on skills, knowledge and attributes – not qualifications
- High-level, not curriculum-focused
- Iterative; the high-level focus allows future skill needs to be captured as they bubble up.

And **is not**:

- A qualifications framework...but it will help inform qualification development
- A career pathway...but it may help ākonga understand what skills they already have as they move along their pathway and help employers to recognise the skills employees bring and support them with areas that need development
- Static or the one source of truth...but it will provoke conversation, develop a common language, and help sectors see the commonalities they share.

And it may be **used as**:

- A roadmap for the review of current qualifications and the design of future qualifications
- In discussions and the review process to identify skill gaps and incorporate future skills
- A tool to articulate the value of training to stakeholders, e.g., the importance of ‘soft’ skills
- A way to provide guidance to providers (programme design and delivery)
- And it will provide a **consistency of approach** that will enable flexibility and transferability.

2. To explore, refine, and test the concepts of flexibility and transferability, which the Food and Fibre Skills Framework is designed to enhance

Taking a learner-centred approach but also considering these concepts from the viewpoint of the other players; employers, providers, the qualification owner, and industry.

3. To explore product concepts by developing exemplars, including a New Zealand Certificate in Food and Fibre

Test The Framework, the conceptualisations of flexibility and transferability, and shine a light on barriers (real, perceived, structural, or other) to the viability, applicability, and usefulness of a skills framework. Exemplars may include, but are not limited to:

- Skills standards
- Micro-credentials
- Simplified qualification structure.

The project also considers how its activities and findings:

- sit across the wider Ohu Ahumahi network.
- sit alongside the current Muka Tangata work, i.e., four qualification review areas and ongoing micro-credential and skill standard development, and
- how The Framework might contribute to the recognition and credentialisation of informal and non-formal learning.

Methodology

A mixed method approach was used for this research. To understand the starting point and impetus for this work essentially required an action research approach. We had extensive discussions with members of the Muka Tangata senior leadership team, and the Qualification and Standards team, to gain a deeper understanding of how the research was informed by, and could impact on, their activities. Key members of the Qualification and Standards team have provided valuable input throughout the research process, testing our thinking against the realities of both the qualification review and approval processes. Additionally, the researchers met with kaimahi from Toi Mai, Ringa Hora and Waihanga Ara Rau to outline the project and to ask for connections where appropriate with any work they have underway.

We also drew on the expertise of the Muka Tangata Māori kaimahi to explore how to incorporate mātauranga Māori and infuse te ao Māori into any skills framework. While kaimahi were incredibly generous with their comments and advice, we are very conscious of our limits in this area as two Pākehā researchers. Our views are encapsulated in this quote, taken from a Treasury Discussion Paper:

We recognise the weight of responsibility of drawing on concepts of such cultural, spiritual and historical significance. We understand that it is not enough to incorporate kupu (words) and whakaaro Māori (Māori ideas): the framework must

generate substantive, measurable change. We recognise that there is a whakapapa, or lineage, to these kupu and that they fit within a wider values-based framework in Te Ao Māori (the Māori world).⁷

Food and Fibre CoVE contracted an external organisation to support us to develop our thinking in this area. The resulting visual representation can be seen on p.32. Some of the concepts central to this project will be useful in the development of the Muka Tangata Māori Workforce Development Plan.

A literature scan was used to develop the underpinning principles, definitions of flexibility and transferability, and an embryonic version of the Food and Fibre Skills Framework. Analysis was carried out across existing qualifications and unit standards, and newly developed skills standards and micro credentials, examining usage data, design, and future skills gaps. This allowed several exemplars to be developed.

The draft Framework and exemplars were then tested with 16 key informants, selected to give a broad range of representative views across different sectors and perspectives. We refined and extended both The Framework and exemplars through this process, culminating in presenting our thinking to the Food and Fibre CoVE Board and the Muka Tangata Council in late 2023.

Phase Two of the research comprised internal Muka Tangata workshops, employer and learner / employee surveys, and employer and provider focus groups.

The internal Muka Tangata workshops consisted of three 2-hour workshops, with a similar agenda, but each with a focus on the different skill sets – Core, Technical and Specialist. All three workshops had a good level of attendance and participation from the qualifications team and representatives from other teams.

Five online external focus groups were held in February and March 2024. The aim of the workshops was to gain employer and provider feedback about the core concepts of the project:

- The Food and Fibre Skills Framework - content and usage
- The New Zealand Certificate in Food and Fibre
- The importance and definition of flexibility and transferability.

It should be noted that although there were focus group participants who had close contact with employers, there were no employers in any of the focus groups, despite our efforts to engage with them through our website, LinkedIn, and communication with our key informants.

In addition, there were short polls available on the Muka Tangata website for employers and learners / employees, which aimed to understand the characteristics of flexibility and transferability that are valued by employers and employees. The low number of respondents to these polls was disappointing; however, we feel that the employer 'voice' will be captured in the upcoming entry-level and agricultural qualification review processes. The Food and Fibre CoVE has also commissioned a 'learner voice' research project, which will extend and deepen our understanding of learner perspectives on flexibility and transferability.

The detailed research activities are included as Appendix 1.

⁷ [*He Ara Waiora: A Pathway Towards Wellbeing \(Feb 2018\). The Treasury: Wellington.*](#)

Literature scan

Introduction

We engaged with a wide variety of literature and working documents to inform this research. This scan was completed by reviewing existing research listed below and following source references. It also referenced countries who had widely acknowledged good VET systems (e.g. United Kingdom). Much of it touches only peripherally on the key focus points for this work but provides important context for our thinking.

Alignment with other Food and Fibre CoVE projects

Non formal and informal learning, Food and Fibre CoVE.

The purpose of the non-formal and informal learning project was to evaluate the opportunity to better integrate the non-formal, informal, and formal learning systems, and to identify potential solutions either for integration, or to better recognise skills gained through non-formal and informal learning. Four concepts were tested in a market research process: validating existing knowledge; badging; integrating non-formal modules, and farmer-led learning.

There was no single concept that stood out for interviewees as meeting their needs – all concepts had some appeal and an identifiable value proposition. Equally so, they identified challenges and areas of confusion. The development of infrastructure will also be required for any concept(s) selected.⁸

Pathways, Pride, and Possibilities: Food and Fibre Apprenticeships in Aotearoa. A Discussion Paper (April 2023).⁹

This report investigates potential apprenticeship models for the Food and Fibre sector to ensure apprenticeships within the industry are fit for purpose and meet the needs of employers, learners, and the sector. This includes an exploration of the potential content of a 'generic' Food and Fibre Apprenticeship for the sector, as well as innovation and best practices from Aotearoa New Zealand and around the world.

It includes a review of the learning and graduate outcomes of the 62 current Food and Fibre New Zealand Apprenticeships to identify the common competencies and groups core competencies: soft skills, legislative and regulatory knowledge, and technical skills.

Food and Fibre Degree-level Apprenticeship, Food and Fibre CoVE

This is an ongoing project to explore a degree-level apprenticeship for the food and fibre sector. It proposes four 'majors': plant, animals, forestry, seafood. A critical element for degree-level apprenticeships will be the ability for VET providers to convert informal and non-formal learning into credits. The expectation is that a Food and Fibre Skills Framework would contribute significantly to that objective.¹⁰

Food and Fibre Leadership Development, NZ Rural Leaders and Food and Fibre CoVE

In September 2022, Food and Fibre CoVE commissioned the New Zealand Rural Leadership Trust to research and design a leadership development eco system for Aotearoa

⁸ *Non-formal and Informal Learning in the Food and Fibre Sector: Market research report.* Food and Fibre CoVE, August 2023.

⁹ *Pathways, Pride, and Possibilities: Food and Fibre Apprenticeships in Aotearoa. A Discussion Paper (Apr 2023).* Prepared by Skills Consulting Group for Muka Tangata and the Food & Fibre Centre of Vocational Excellence

¹⁰ *Food and Fibre CoVE Business Case: A New Approach to Learner Pathways Researcher.* 15 August 2023.

New Zealand's Food and Fibre sector. The first report examined the state of leadership development in the sector and the second output proposed a principles-based leadership model. The third output to date (not yet published) articulates a potential competency framework which could be used and applied to support the new principles-centred leadership capability model through the Food and Fibre Leadership Development Ecosystem Research Project.¹¹

21st Century Delivery and Assessment, Food and Fibre CoVE¹²

This project (due for completion in August 2024) will carry out a critical assessment of the delivery, assessment and recognition of prior learning methods to determine if existing models still have currency and relevance, and if not, suggest alternatives. It will examine:

- Delivery methods, reasons for change, and implications for learners of various different models.
- Assessment methods, to explore whether existing methods have currency or require modernisation; and to better understand if assessment is a barrier to qualification completion.
- Recognition of prior learning including: a critical assessment, the real or perceived need, the barriers, and the benefits.
- It will also identify which food and fibre industries have learner challenges and opportunities.

Other relevant projects include the *Tupu Case Study*, a programme developed by the Te Hiku o Te Ika Iwi Development Trust to trial a local workforce development solution for the horticulture industry in Northland.

Industry Transformation Plans

There were five Industry Transformation Plans, owned by various government agencies, which provided useful contextual information, including workforce and skill considerations, for each of their topic areas: *Agritech*, *Agritech Hort Technology Catalyst*, *Fisheries*, *Food and Beverage*, *Forestry and Wood Processing*. The National-led government closed the Industry Transformation Plan programme in January 2024.

Aotearoa food and fibre sector-related resources

- [*Future skills for Primary Industries \(MPI\)*](#): a useful repository of food and fibre workforce reports and publications.
- [*Tertiary Education Commission - Food and Fibre Focus*](#): a summary of activities supported by TEC funding.
- [*NZIER food-and-fibre-workforce-forecasts*](#): a series of reports, commissioned by MPI, which model three possible future scenarios of the food and fibre workforce.
- [*Aotearoa Future Food & Beverage Capability \(July 2022\)*](#) *Ministry of Primary Industries (MPI)* Includes an examination of future people capability in the food and beverage industry. The top five skill themes industry thinks are most important in the next five years are: Leadership, Food technology, Digital technology, General human skills, Consumer focus.

¹¹ *Competency Framework Development*. Prepared for NZ Rural Leaders and Food and Fibre CoVE, August 2023, Skills Group.

¹² <https://foodandfibrecove.nz/project/21st-century-delivery-assessment/>.

We also considered a number of publications and websites that focused on career planning and employability skills in general. (Please see Appendix 2 for a list of other literature considered).

As outlined above, the Muka Tangata Qualification and Standards team are already using a prototype skills framework to help inform their current qualification review work. We have been able to observe this work, and the team have generously shared their outputs and consultations documents, as well as the TEC and NZQA regulatory documents that guide their work.

Skills frameworks: focusing the lens

To focus the literature scan for skill frameworks, we revisited the *New Approach to Learner Pathways* design principles:

Focus one: We need to acknowledge Māori perspectives on skills, and how they should be developed, recognised, and valued.

Focus two: This framework must be broad and deep enough to cover the full range of skills required by the sector.

Focus three:

- Skills that are needed and valued by the sectors will be identified and validated by the workforce development plan.
- The research project will be closely informed by existing qualification review processes and will respect the professionalism and deep sector and process knowledge the Qualification and Standards team bring.

Focus one: a te ao Māori perspective on skills

In 2022, Muka Tangata commissioned a report on the future of the food and fibre workforce. An international literature review was conducted, with particular emphasis on workforce development planning undertaken in partnership with indigenous people. The report found that ‘no other country reviewed took a broad view of indigenous needs in skills development for (their) food and fibre sector’ (p.12).¹³

To ground this work in te ao Māori, then, we have drawn heavily on two publications. The [Te Taiao report](#), prepared by a Primary Sector Council Working Group, was released in July 2020.¹⁴

For Māori, Te Taiao is the natural world that contains and surrounds humanity in an interconnected relationship of respect. It's a way of thinking about and relating to nature that is inherent to tangata whenua. The connection to, respect for and reliance on nature resonates with many New Zealanders who work on the land and sea (p.5).

The Te Taiao framework and pathways aims to enable the food and fibre sector to achieve the regeneration and wellbeing of our land, water, climate and living beings.

Working in genuine partnership between Māori and Pākehā, the Te Taiao framework opens up a new way of living and working for our sector that is unique and valuable in Aotearoa New Zealand and the world (p.5).

¹³ *Future of the Food and Fibre Workforce*, June 2022. FutureCentre.nz for Muka Tangata.

¹⁴ *Taiao Ora Tangata Ora: The Natural World and Our People Are Healthy*, July 2020. Primary Sector Council.

The principles of Te Taiao are outlined in Figure 5 below.

Figure 5: Te Taiao principles and dimensions



The second document is *Nau Mai Te Anamata: Tomorrow's Skills*, published in April 2022 by Tokona te Raki (Māori Futures Collective). A media release (15 Feb 2023) neatly summarises the report and underlines the importance of a 'skills-first' approach (rather than a focus on qualifications).

Research tells us skills are the currency of the future. Unlike technical skills that are mostly taught through formal qualifications, it is the interpersonal or human skills we gain through life and work experience that are increasingly in demand. It's well evidenced that the traditional qualifications approach has always been an active barrier for Māori and has seen many shut out of opportunities. This new approach is a way to open doors, remove barriers and create possibilities. A focus on skills brings with it the chance to address the inequity issues that hold us back, and to view skill shortages differently.

We all have skills and the ability to learn new ones and apply them to new situations. The key is being aware of how to grow our skills for career development. A responsible employer will consider and value the full array of skills someone brings to a job, including the interpersonal skills they may have gained. This means that those without the necessary qualifications will not be disadvantaged as they likely have skills gained through previous work experience or are able to learn them as part of the new role.¹⁵

¹⁵ <https://www.maorifutures.co.nz/story/skills-the-job-currency-of-the-future/>

Focus two: a broad and deep conception of skills

The 'skills first' focus was also present in the international literature. The World Economic Forum (WEF)'s *Putting Skills First: A Framework for Action* (May 2023)¹⁶ suggest that the benefits of a 'skills first' approach include unlocking hidden talent pools, increasing productivity, supporting talent mobility and redeployment, and promoting diversity, equity and inclusion.

A skills-first approach focuses on whether a person has the right skills and competencies for a particular role, rather than having the right degree, job history or previous job titles. It means that businesses get the skills they actually need for a particular job, but more than that, it democratizes access to good jobs for those people who have the competencies but not the right formal qualifications for a role (WEF, 2023, p.3).

These two publications validated our focus on 'skills' rather than qualifications and highlighted the need to examine the full range of skills, from foundational through to higher-level, complex skill sets. Moving away from qualifications, however, also means leaving behind a relatively well-understood system of levels and descriptors, to the world of 'skills', where the concepts are often deeply contested and somewhat amorphous. A key part of this project, then, is to propose some common language across the skills continuum. According to the WEF, adopting a common skills language could 'help employers broaden their focus from specialist and technical skills; highlight commonalities between skills needs across business functions; and help providers to articulate and deliver learning content and training programmes in terms of work-relevant skills' (WEF, 2023, p.11).

The challenge of finding a common skills language, particularly when considering soft / essential / foundation / life skills, is well-articulated in Spencer & Lucas (2021).¹⁷ They explore the language used across frameworks that attempt to group and articulate such skills, which includes terms like: 'attributes, capabilities, character, competences(ies), habits, non-cognitive skills, soft skills, wider skills' (p.3). They also discuss conceptual inconsistency in the ways in which frameworks are organised, with confusion and lack of clarity between (for example) 'competencies to be mastered' and 'educational learning processes', or 'habits/competencies' and 'desirable outcomes'. There is also significant variation in the way frameworks are clustered or levelled (pp.4-8). Regardless of these challenges, however, the authors highlight the:

importance of achieving 'buy-in' from a range of stakeholders, the need to focus on building consensus over definitions, the value of developing clear progression frameworks for each of the meta-skills and the desirability of producing more detailed guidance for employers and work-based learning providers (p. 1).

A third pivotal publication came to our attention as the literature scan was nearly complete. This UK publication, *Transforming Skills: A Call to Action* (Sept 2023),¹⁸ sets out a 'vision for a radically transformed skills system' in response to a series of labour market and systemic 'weaknesses' (p.8) that bear a striking resemblance to the issues identified earlier in this report: essential skills are not prioritised; formal training is too lengthy and rigid; qualification updating is 'laborious and unresponsive'; assessment is narrow; and the careers advice

¹⁶ *Putting Skills First: A Framework for Action*, May 2023. World Economic Forum.

¹⁷ Spencer, E. & Lucas, B. (Nov 2021). *Meta-Skills: Best practices in work-based learning. A literature review.* University of Winchester.

¹⁸ *Transforming Skills: A Call to Action*, Sept 2023. Corndel, Edge Foundation, NCFE. United Kingdom.

system doesn't support agility and lifelong learning. Policy recommendations to address these weaknesses include:

- embedding uniquely human skills, so everyone can be work ready
- modernising assessment, including introducing personal digital learner profiles, and
- building responsive and agile skills delivery (pp.5-6).

Focus three: drawing from the Workforce Development Plan well

As well as the issues identified from the Workforce Development Plans that are outlined in the introduction, further analysis has identified four key issues which are common across all or most food and fibre sectors:

- More flexible delivery and assessment models to better align with industry and learner needs.
- Better support for learners to help them succeed in their training and qualifications.
- The need for a formal process for recognising existing skills or non-formal training.
- That mental health and wellbeing¹⁹ remain an ongoing focus for many of our industries.²⁰

We have also maintained a strong relationship with the Muka Tangata Qualification and Standards team as they finalise current reviews and begin planning for the next tranche of reviews: the Entry Level and Agriculture qualification development projects, scheduled to take place over 2024. This involvement has also allowed us to observe the interplay between industry needs and educational good practice, and to gain a deeper understanding of the fluid regulatory landscape, wherein it appears product development guidelines are being developed only one step ahead of product submissions for approval.

Skills frameworks: what did we find?

In this section, we describe the main skills frameworks that we examined to inform this work. This is by no means an exhaustive list, but we are satisfied that the frameworks discussed provide sufficient depth and contrast to anchor our thinking and justify the approach we took. These frameworks, and a few additional sources, are listed in Appendix 3.

Aotearoa New Zealand sources

[Employability Skills Framework](#) (2016), Ministry of Education

Focus: Employability and soft skills.

Details: The Employability Skills Framework identifies the soft skills or capabilities most desired in young people by New Zealand employers. It was developed in 2016 by a group of employers and tertiary and secondary education representatives and tested with students, educators and employers to support increased understanding across sectors about what is needed from employees in the workforce. The seven employability skills are:

- Positive attitude
- Communication
- Teamwork
- Self-management
- Willingness to learn

¹⁹ Also identified as a key theme in the Food and Fibre CoVE's [Attraction and Retention Research Programme](#).

²⁰ <https://mukatangata.workforceskills.nz/explore-industries/all-food-and-fibre/>

- Thinking skills (problem solving and decision making)
- Resilience.

Strengths: Developed in New Zealand, with employer / industry involvement.

How did we use it? As part of the content analysis to develop the core transferable skills matrix.

[NZ Curriculum Key Competencies](#), Ministry of Education

Focus: Key competencies are the capabilities people have and need to develop, to live and learn today and in the future.

Details: An integral part of the New Zealand Curriculum. The five key competencies are:

- Thinking
- Relating to others
- Using language, symbols, and texts
- Managing self
- Participating and contributing.

Strengths: Developed in New Zealand. Allows articulation from the compulsory education sector through to the vocational education and training sector.

How did we use it? As part of the content analysis to develop the core transferable skills matrix.

[Competency Mapping: Infrastructure Sector](#) (Jun 2022), Energy Academy, commissioned by Waihangara Rau.

Focus: Building interoperable standards and competencies for the infrastructure sector.

Details: Mapped learning pathways across different infrastructure industries, to illustrate the potential of developing common 'skill clusters' that would make workers more portable, career pathways more visible, and give workers more agency.

Strengths: Reinforced the importance of the skills first approach. Emphasis on rapid recognition of prior learning. Worker agency – supporting employees to be able to easily demonstrate relevant skills and stack new learning.

How did we use it? Concept of occupation / role mapping helped inform the core technical skills matrix.

[Transferable Skills Research \(Apr 2023\)](#), Research First, commissioned by Toi Mai WDC (Hard copy only)

Focus: Transferable skills in a global context.

Details: Literature review focusing on transferable and employability skills.

Strengths: Useful definition of transferable skills: *Transferable skills are “portable skills” that can be transferred across different social, cultural or work settings. They include cognitive, social and emotional skills, and they work alongside other skills such as those specific to a job* (p.9). This publication used the UNICEF Global framework on transferable skills that identified twelve transferable skills and the four dimensions of learning that these transferable skills are based on: social, cognitive, instrumental and individual.

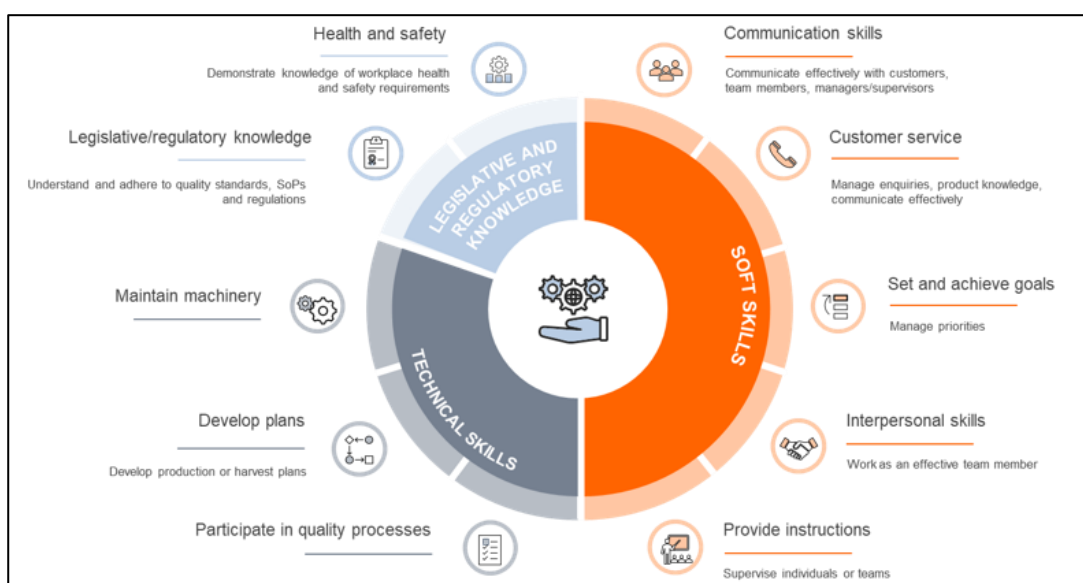
How did we use it? Used the UNICEF framework as part of the content analysis to develop the core transferable skills matrix.

[Pathways, Pride, and Possibilities: Food and Fibre Apprenticeships in Aotearoa. A Discussion Paper](#) (April 2023). Prepared by Skills Consulting Group for Muka Tangata and the Food & Fibre Centre of Vocational Excellence

Focus: Review of the learning and graduate outcomes of the 62 current Food and Fibre New Zealand Apprenticeships to identify the common competencies.

Details: Established three domains and ten core competencies across food and fibre apprenticeships (p.35). (See Figure 6).

Figure 6: NZ Apprenticeship Core Competencies



Strengths: Closely tied to existing food and fibre qualifications.

How did we use it? Used as part of the content analysis to develop the core transferable and core technical skills matrices.

[A Principles-centred Leadership Model for Aotearoa New Zealand's Food and Fibre Sector](#) (Jul 2023) Parsons, C, and Nelson, E.J. for Food and Fibre CoVE and Rural Leaders.

Focus: Proposes a leadership model for the food and fibre's leadership development ecosystem.

Details: The second output of this work is a competency framework, with a draft version of an accompanying handbook currently out for review.

Strengths: The competency framework is infused with te ao Māori and proposes a values-based maturity progression.

How did we use it? Leadership is a crucial component of a food and fibre skills framework. This work also intersects with the work that other WDCs are undertaking, and with the Māori leadership work that Muka Tangata is exploring.

International sources

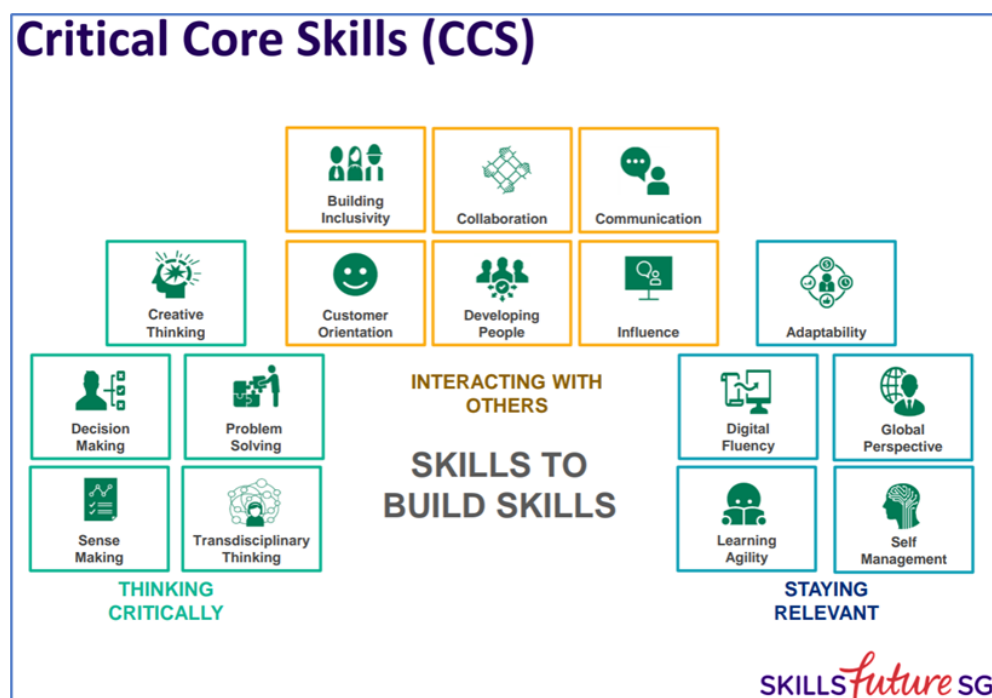
[Singapore Critical Core Skills Framework](#)

Focus: Core skills - 'Skills to build skills'.

Details: Critical Core Skills (CCS) comprises 16 competencies across three skills clusters that workplaces deem essential (see Figure 7). There are also 35 sector-based Skills

Frameworks that provide key sectoral information, career pathways, job roles and skills in line with Industry Transformation Maps.

Figure 7: Singapore Critical Core Skills



Strengths: Detailed unpacking of core skills, with well-articulated differences between knowledge and abilities. Covers a good range of core transferable skills. Globally recognised framework. Detailed proficiency level 'ruler'.

How did we use it? As part of the content analysis to develop the core transferable skills matrix.

[Building a Common Language for Skills at Work: A Global Taxonomy](#) (Jan 2021), World Economic Forum.²¹

Focus: Proposed framework for a global skills taxonomy as a first step in shifting toward a skills-based labour market.

Details: Globally used, detailed unpacking of core skills. Core nodes, with increasingly granular skill descriptors

Strengths: Interesting split between 'skills, knowledge, and abilities' and 'attitudes'.

How did we use it? Used as part of the content analysis to develop the core transferable and core technical skills matrices.

[SFIA Framework](#)

Focus: The SFIA Foundation is a global not-for-profit organisation which oversees the production and use of the Skills Framework for the Information Age (SFIA).

²¹ Link to taxonomy: <https://www1.reskillingrevolution2030.org/skills-taxonomy/index.html>

Details: Global skills and competency framework for the digital world, used by NZ IT sector. Has Category, Subcategory, Skill and then attributed levels for the skill (2-7).

Strengths: Provides a starting point for creating skills-based profiles for common IT roles. Introduces the concept of role and career 'families'

How did we use it? Experimented with mapping skill components to levels (using NZQA levels).

[Australian Jobs and Skills Council model](#)

Focus: Australian national VET register.

Details: Information includes nationally recognised training (NRT) training packages, qualifications, units of competency, skill sets and accredited courses.

Strengths: Taxonomy based on industry sector / occupation. Very detailed, with searchable components.

How did we use it? Used some of the granular descriptors to test the core technical skills matrix.

[US - O*Net](#)

Focus: US occupation database

Details: The O*NET Program is the US's primary source of occupational information. Central to the project is the O*NET database, containing hundreds of standardized and occupation-specific descriptors on almost 1,000 occupations covering the entire U.S. economy.

Strengths: Useful to look at structure of a job, showing skills, knowledge, tasks, technology skills, work activities etc. Also has useful Basic Skills, and Skills (cross functional) headings.

How did we use it? Helpful in developing the core technical skills matrix.

[Skills Builder UK](#)

Focus: Essential skills

Details: The Skills Builder Universal Framework is a tool for measuring and building essential skills. It breaks eight essential skills down into a sequence of steps, starting with absolute beginner through to mastery. The essential skills are listening, speaking, problem-solving, creativity, staying positive, aiming high, leadership and teamwork.

Strengths: Each skill has 'I' statements that describe the required skill components. The learner can click through to activities to help build each component. There is also advice at each step for individuals, educators, employers, organisations, and parents and carers.

How did we use it: To 'sense check' the skill sets in our core transferable skills matrix. We also think the framework activities could be a useful tool to include in qualification guidance for providers.

[Skills 4.0: Meta-skills](#)

Focus: Meta-skills for the future.

Details: Skills Development Scotland is Scotland's national skills body. They term skills for the future as 'meta-skills', and define them as timeless, higher order skills that create

adaptive learners and promote success in whatever context the future brings (see Figure 8). The skills have been classified under three headings:

- Self-management: Manage the now
- Social intelligence: Connect with the world
- Innovation: Create our own change.

Figure 8: Meta-skills

Self management	Social intelligence	Innovation
Focussing	Communicating	Curiosity
Integrity	Feeling	Creativity
Adapting	Collaborating	Sense making
Initiative	Leading	Critical thinking

How did we use it: To 'sense check' the skill sets in our core transferable skills matrix.

Summary

The frameworks we reviewed could be loosely categorised across two main dimensions, as represented in Figure 9 below. Some were strongly industry or occupation-focused, while others were more generic and high-level. The second dimension involved how skills were measured: some frameworks were tied to levels (along the lines of the NZCQF levels), while the majority used a more encompassing maturity or proficiency progression. We discovered that NZQA have blended these ideas, using the terms Mōhio (understanding), Mātau (expertise) and Mārama (enlightenment) across their levels.²²

Figure 9: Dimensions of skills frameworks

²² <https://www.etf.europa.eu/sites/default/files/2023-06/Micro-Credential%20Guidelines%20Final%20Delivery.pdf>

Industry/job focused		<ul style="list-style-type: none"> SFIA (IT sector framework) Australian Jobs and Skills Council model
Generic	<ul style="list-style-type: none"> Singapore Skills Future: Critical Core Skills WEF Global Taxonomy (defining proficiency levels is an additional task) Food and Fibre CoVE Leadership Framework 	
Maturity / Proficiency-based		Levels-based

SSF: Critical Core Skills	Basic	Intermediate	Advanced
WEF Global Taxonomy	Foundational	Experienced	Advanced
FFCoVE Leadership Framework	Transactional	Transformational	True
NZQA (Bringing together proficiency and level-based?)	Mōhio (understanding)	Mātau (expertise)	Mārama (enlightenment)

Figure 4: The NZQCF. Source: ETF (2022a).

A Food and Fibre Skills Framework: where did we land?

Introduction

The skills frameworks we reviewed highlighted the importance of skills as the currency for workforce development in the 21st century. In a fluid and rapidly changing employment landscape, job titles, occupational classifications or static qualifications are no longer fully reflective of what employers and industry seek in their workforce, or of what employees bring. Focusing on skills also presents the opportunity for rapid updating and futureproofing as technology and ways of working change. The new products that Workforce Development Councils are working with; micro-credentials and skill standards, are ideally placed to support futureproofing, with generic, less prescriptive learning outcomes, balanced with indicative content and guidance for providers.

Along with the importance of a skills-first approach, we were guided by several other key concepts drawn from the literature scan. In terms of the **shape** of a food and fibre skills framework, these are:

- The appropriate recognition of te ao Māori in (or around) the framework
- The centrality of essential skills
- The need for a 'common language'
- Maturity / proficiency progression, which is enabling and learner-centred, rather than a more prescriptive 'levels' approach.

The literature also pointed to several aspects to be considered when thinking about how a food and fibre skills framework might be **utilised**:

- As a tool to support and enhance the transferability of skills
- As a tool to support and encourage flexible and learner-centred delivery
- As a supporting mechanism to allow the qualification developers to suggest guidance for providers
- As a lever to enable flexible and innovative assessment, including recognition of prior learning and bridging to non-formal and informal learning.

Food and Fibre Skills Framework: the elements

The Food and Fibre Skills Framework has four elements:

- Core transferable skills
- Core technical skills
- Specialised technical skills
- Food and fibre bodies of knowledge, including specialised business skills.

Core transferable skills (Figure 10)

Vision: These are 'skills to build skills': learning to learn (learner agency), learning for work, and learning for life. We have deliberately chosen the term 'core transferable skills' as these skill sets underpin the ability of ākonga to gain, value, extend and transfer skills or knowledge to different contexts.

Sources: The core transferable skills were derived from the existing Muka Tangata skills frameworks (pp.7-8) and a content analysis exercise across the following frameworks: Careers NZ: 7 essential employability skills; NZ Curriculum: Capabilities for living and lifelong learning; five key competencies; Singapore Skills: Future Critical Core Skills; NZ Apprenticeship Summary: Soft skills; WEF Global taxonomy and UNICEF: 12 transferable skills.

Domains: These describe the high-level areas of The Framework. Of particular note is the concept of the ‘collective’, which is pivotal to a te ao Māori viewpoint. We have ‘overlayed’ some other te ao Māori concepts to attempt to visually represent the influence of te ao Māori on our thinking, with full acknowledgement that while these concepts strengthen and deepen our understanding, they do not directly align.²³

Skills sets:

- Participating and contributing
- Interacting with others
- Knowing self
- Thinking critically
- Learning to learn.

We have used the NZQA maturity framework to emphasise the continuum or progression of these core skills, as they build to higher-level business and leadership skills. In keeping with the discussion about the challenges of developing a common language for skills (p.19), we acknowledge the conceptual variation in the terminology of the skills or attributes listed. Figure 11 (p.28) provides an example of how some of these may be teased out to develop clear progression statements. This provides an opportunity for ongoing and detailed co-creation with stakeholders.

Figure 10: Core transferable skills


	Domain	Skill sets	Mōhio (understanding)	Mātau (expertise)	Mārama (enlightenment)
	Collective	<i>Participating and contributing</i>	Participation Empathy Respect for diversity Cultural capability Kaitiakitanga (sustainability) Iwītanga	Leadership and social influence Civic responsibility Mātauranga-a-iwi Global perspective Integrity Ethics	Leadership Service Innovation Entrepreneurship Developing people Kaitiakitanga (environmental stewardship) Global perspective
	Social	<i>Interacting with others</i>	Communication Empathy and active listening Interpersonal skills Wellbeing Building inclusivity Teamwork	Customer service Co-operation Negotiation Collaboration Teaching, mentoring, and coaching Provide instruction and supervision Managing conflict	
	Individual	<i>Knowing self</i>	Resilience Motivation (initiative) and self-awareness Dependability and attention to detail Flexibility and agility Adaptability Self-control	Leading self Active self-care and development	
	Cognitive	<i>Thinking critically</i>	Problem solving Decision making Creative thinking Sense making Trouble shooting	Transdisciplinary thinking Intuition	
	Lifelong learning	<i>Learning to learn</i>	Curiosity Multiple literacies Learning agility Learning strategies Reflective practice Focusing	Digital fluency Reflexive practice Openness – growth mindset	

Figure 11 uses existing frameworks to show an approach that could be taken in a future phase of the Framework's development. The researchers are not learning designers or qualification developers, and so have built this example from existing global and New Zealand frameworks.

Each skill set has an overarching characteristic statement, then for each skill, there are three sets of statements to display the skill development's progression, as well as an overarching

²³ Our understanding of the concepts in blue were gained from: *Ngā Hau e Whā o Tāwhirimātea: Culturally Responsive Teaching and Learning for the Tertiary Sector (2022)*. Edited by Matiu Tai Rātima, Jennifer Pearl Smith, Angus Hikairo Macfarlane, Nathan Mahikai Riki, Kay-Lee Jones, Lisa Kaye Davies. Canterbury University Press.

characteristic statement. These should be written from a learner's perspective, for example "I can" or "Can apply" statements, focused on skills.

Figure 11: Example core transferable skill progressions

Interacting with Others			
This skill is the ability to engage with people around us, through various forms of communication, building connections, fostering relationships, and navigating social and cultural dynamics.			
	Mōhio (understanding)	Mātau (expertise)	Mārama (enlightenment)
Listening			
This skill is about being able to effectively receive information - whether it comes from customers, colleagues, or stakeholders. ²⁴			
	I listen to others and can tell others what it is about	I am aware of how a speaker is influencing me through their tone and language	I listen critically and use questioning to evaluate different perspectives
Communication			
Convey and exchange thoughts, ideas, and information effectively through various mediums and approaches. ²⁵			
	Can communicate with others to share information, respond to general inquiries, and obtain specific information	Can tailor communication approaches to audience needs and determine suitable methods to convey and exchange information	Can synthesise information and inputs to communicate an overarching storyline to multiple stakeholders

Core technical skills (Figure 12)

Vision: These are the generic or underpinning technical or work-related skills that are common to all (or most) of the food and fibre sectors. By their nature, these skills are transferable across different contexts.

Sources: The core technical skills were derived from the existing Muka Tangata skills frameworks (pp.11-12) and a content analysis exercise across the following frameworks: NZ Apprenticeship Summary: Core competencies; WEF Global taxonomy; ONet Online Work Activities (Fish & Farmer).

Skills sets:

- Living beings and environmental knowledge
- Legislative and regulatory knowledge
- Good practice operation
- Quality management

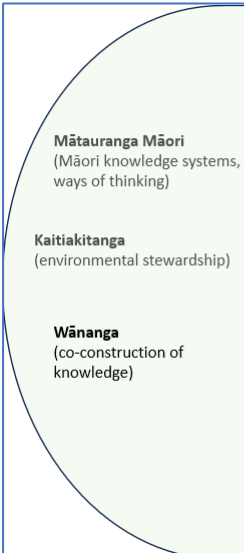
²⁴ Adapted from *UK Skills Builder*.

²⁵ Adapted from *Skills Future Singapore*.

- Machinery and technology skills.

We have again used the NZQA maturity framework to emphasise the continuum or progression of these core technical skills, as they build to higher-level technical, regulatory, and business skills. We tested the skills sets against the Australian Certificates I to IV in Agriculture, using some of their generic standards to populate the draft matrix.²⁶

Figure 12: Core technical skills

	Skill sets	Mōhio (understanding)	Mātau (expertise)	Mārama (enlightenment)
	Living beings and environmental knowledge	Participate in environmentally sustainable work practices Support ecological restoration	Apply environmentally sustainable work practices	Implement and monitor environmentally sustainable work practices
	Legislative and regulatory knowledge	Work safely Participate in workplace health and safety processes	Contribute to workplace health and safety processes	Maintain workplace health and safety processes
	Good practice operation	Follow biosecurity procedures Maintain the workplace Follow Standard Operating Procedures (SoP)	Apply biosecurity measures Implement a plan/program Coordinate work site activities Contribute to the development of SoP	Develop a plan/program Conduct site inspections Develop new/enhanced SoP processes
	Quality management	Observe workplace quality assurance procedures	Collect and record production data Measure system performance	Implement quality assurance procedures Cost a project Operate within a budget framework Report on a project
	Machinery and technology skills	Follow basic chemical safety rules Apply chemicals under supervision Operate basic machinery and equipment Assist with routine maintenance of machinery and equipment Use and maintain basic hand tools	Transport and store chemicals Prepare and apply chemicals Operate machinery and equipment Undertake operational maintenance of machinery Use power tools	Plan and implement a chemical use programme Supervise maintenance of property, machinery, and equipment Prepare safe operating procedures for calibration of equipment

Industry specific skills

These are specialised technical skills; industry specific knowledge and skills, and specialised technology and equipment skills, which are unique to the relevant industry.

Bodies of knowledge

The concept of bodies of knowledge is to allow learners to explore and develop mastery of areas of knowledge that are significant to them as they progress through their careers. These include both content areas, like biodiversity or climate resilience, and specialised business or technical skills.

As the food and fibre sector becomes increasingly sophisticated, the need for specialised content and business skills becomes an imperative. Those in more senior roles in the sector must be able to lead, manage and grow successful businesses; respect and enhance the environment that cradles their business endeavours; and have a clear sight on global perspectives that enable high-value products to realise their worth. Some of these factors include higher consumer expectations, a greater focus on sustainability, new technologies, and an increasingly complex global supply chain.²⁷

The Waikato Regional Skills Leadership Group Regional Workforce Plan suggests (for example) the future skills required in the dairy industry:

- More market and product skills in consumer branding, along with cultural knowledge and language skills to address barriers to doing business in emerging markets.

²⁶ <https://training.gov.au/Training/Details/AHC10222>

²⁷ <https://www.mpi.govt.nz/funding-rural-support/future-skills/>

- Business and management skills in the areas of risk management, food safety and quality assurance systems.
- Higher levels of production-oriented skills including whole farm systems, information management, resource use, financial efficiency, soft skills, and managing local and migrant staff and contractors.
- Increased science and technical support skills, particularly researchers on resource use efficiency, reducing environment effects and agriculture resource economics.
- More accredited rural professionals and providers to transfer new techniques and knowledge to farmers.²⁸

Some aspects of bodies of knowledge are already part of the formal qualification system (either in vocational education and training or university-level qualifications) or are offered by other organisations, e.g. the New Zealand Institute of Directors. As well as their evident importance to a well-functioning food and fibre sector, we reiterate the point made in *Figure 10: Core transferable skills* (p.27); these higher-level skills have their roots in foundation or core skills. Growing 'true' leaders, for example, depends on learners progressing from mōhio (understanding) through to mārama (enlightenment) across a range of skill sets.

The criteria for awarding some form of body of knowledge credential could be a shared responsibility between Muka Tangata and the relevant industry body(ies), with a percentage of the 'credits' being gained via the formal qualification system and the remainder being a mix of industry-approved courses or other professional development. This would rely on active industry bodies with a degree of independence. The concept of bodies of knowledge could thus provide a mechanism for bridging to non-formal learning and a way to further value and incorporate mātauranga Māori.

²⁸ <https://www.mbie.govt.nz/business-and-employment/employment-and-skills/regional-skills-leadership-groups/waikato/regional-workforce-plans/regional-workforce-plan/priority-sectors-from-farm-to-port/primary-industries/>

The Food and Fibre Skills Framework: bringing the elements together

Vision

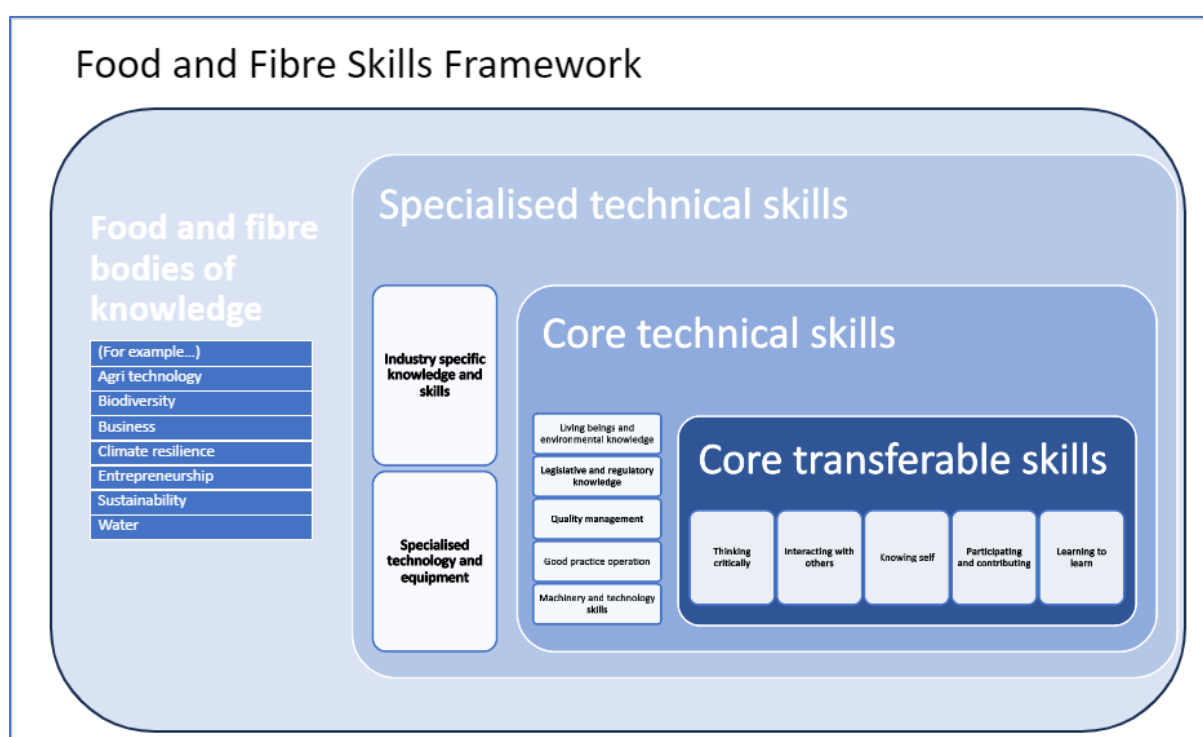
The vision for the Food and Fibre Skills Framework is that it be:

- A living skills framework, with accompanying resources, which are used (and contributed to) by all food and fibre sector vocational education stakeholders, to develop engaged, effective and empowered employees.
- A mechanism to support the skills-first approach across all sectors, enabled by aligned policy, funding and qualifications approval settings.

The visualisation

The development of the visualisation of the Food and Fibre Skills Framework has been an interesting journey (hampered by two graphically challenged researchers!). Figure 13 provides a simple representation of these elements.

Figure 13: Food and Fibre Skills Framework



As indicated on p.13, we were delighted to be able to work with an external organisation to develop a visualisation that incorporates Te Ao Māori into the initial 'flat' version of the visualisation. Figure 14 is a high-level visualisation on the Food and Fibre Skills Framework, which shows the interwoven nature of the core components. Figure 15 shows an expanded version of The Framework.

Visualisation details

Te Ao Māori has been integrated into The Framework by using a Māori icon in the form of Tukutuku Lattice panels which adorn the pakiwaitara (stories) on the walls of the whare Tipuna.²⁹

²⁹ This visualisation was prepared for the project by [HTK Ltd](#).

Te Whare Tapa Wha is a framework situated outside of the marae. It is important to note that the Tukutuku framework is found inside the whare. The lattice work which adorns the inside of the whare is called Tukutuku panels. These hold stories of ahuatanga, tikanga and mātauranga Māori through tribal narrative about life and culture. Each are significant and provide important interpretation about the land, water, air and mahinga kai in each region.

The colour scheme represents the muka of the harakeke or the flax fibre which can be an orange colour, in conjunction with the colours of the harakeke (flax) and the whenua / land and dirt (green and maroon). The muka of the flax root is used for weaving, tying, and connecting the tukutuku lattice panels together.

Figure 14: Te Ao Māori: Food and Fibre Skills Framework

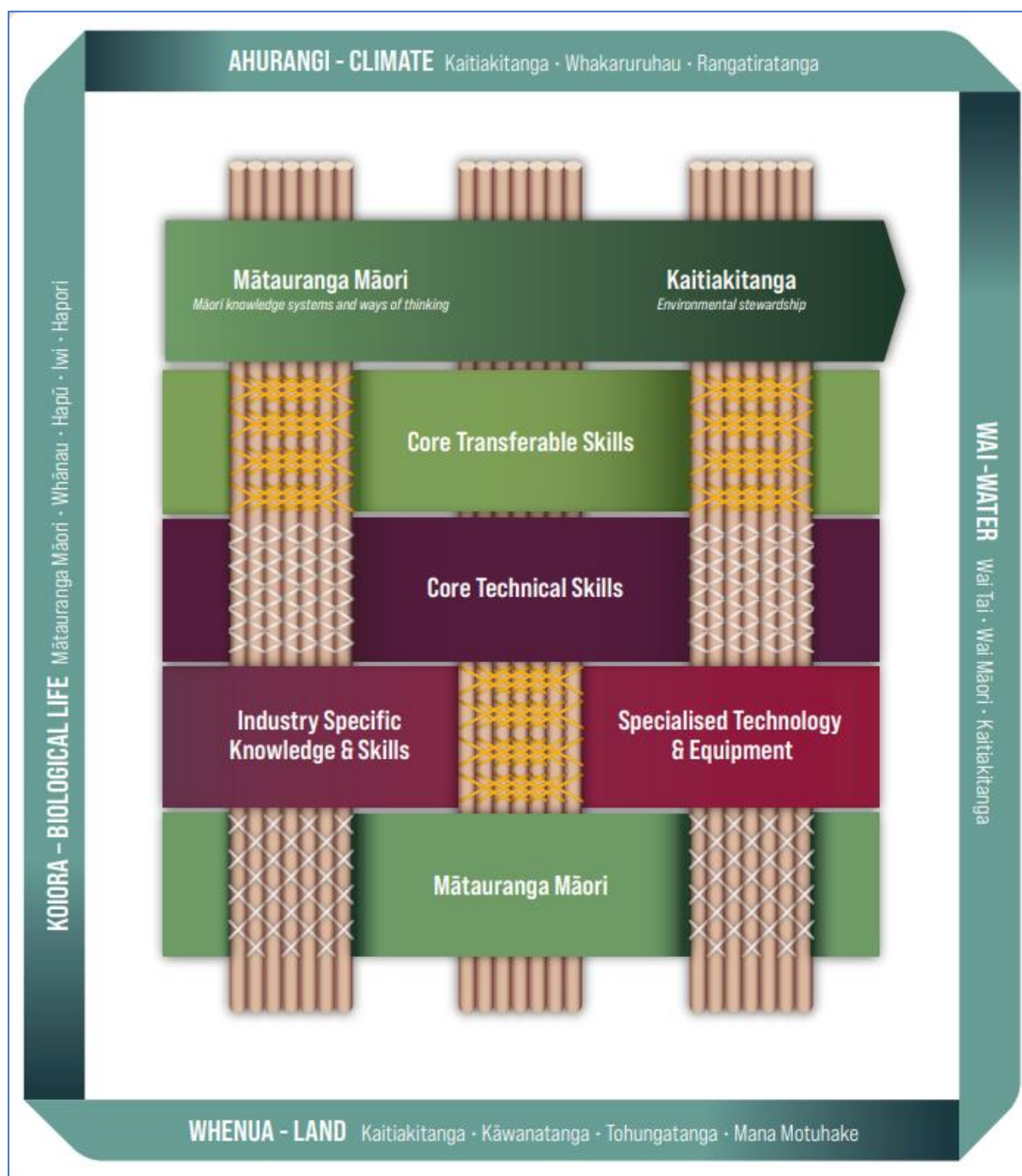
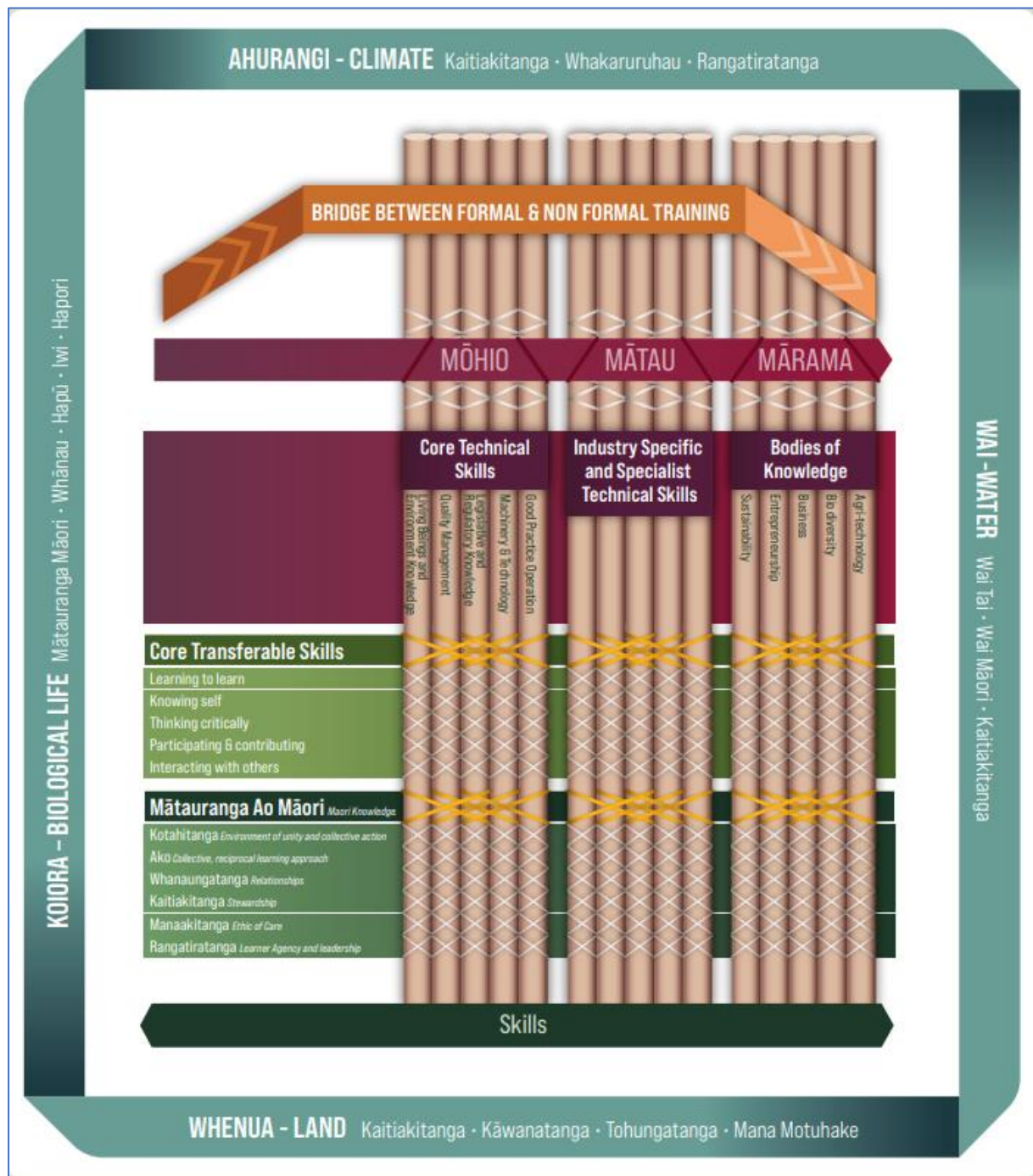


Figure 15: Expanded Framework



Using the Food and Fibre Skills Framework to enable flexibility and transferability

Introduction

As mentioned earlier (p.11 and p.12) a food and fibre skills framework may be used in several ways. Key to this project, however, is understanding how it will support flexibility and transferability. To recap, the Food and Fibre Skills Framework will:

- Provide **coherence** for skills and knowledge across the whole food and fibre sector, and beyond.
- Facilitate the creation of **pathways** within and between qualifications and micro-credentials.
- Enable the **sharing of learning elements** or modules between qualifications, standards and micro-credentials, within the sector and beyond.
- And it will provide **a consistency of approach and a common language** that will enable flexibility and transferability.

Flexibility

Food and Fibre CoVE provides a useful definition of flexibility: *The ability of vocational pathway transitions to be undertaken in a way that meets a person's needs and preferences, without significant barriers or consequences.*³⁰ While this definition rightly focuses on learner pathways, there are multiple facets to consider when thinking about flexibility. Using a variety of different sources, including the Muka Tangata Workforce Development Plans, we suggest that some of these facets include:

- The learner, who
 - Can move seamlessly between on-job, classroom-based, online formal learning
 - Can pick up blocks of learning as, when and where suits them, while knowing they 'count'
 - Can move between employers, sectors, and in and out of paid employment without having to stop learning
 - Can have different types of learning recognised and valued.
- The employer, who
 - Can tailor the 'when and where' of their employees' learning to fit business and seasonal cycles
 - Can prioritise the skills they require (both within and outside formal qualification structures)
 - Can select different providers and provision styles, knowing they are quality assured
 - Can participate in the learning themselves if they wish.
- The provider, who
 - Can tailor a bespoke learning plan that meets the learner's needs, from a menu of funded and non-funded options
 - Can leverage off external learning opportunities to support the formal learning (e.g. industry, regional, community, marae-based) without compromising funding rules
 - Can seamlessly blend on and off job learning opportunities.
- The qualification owner, who

³⁰ [Training and Careers Framework: Summary](#) (Dec 2022). Food and Fibre CoVE.

- Has the freedom and mandate to develop a wide range of products that allow sensible combining and stacking of learning options
- Develops entry and exit points that preference learner and employer needs
- Collaborates with providers outside of the formal system when applicable
- Manages the tension between ‘flexibility’ and ‘consistency’.
- Industry, who
 - Understands there may be tension between ‘flexibility’ and ‘consistency’
 - Advocates for the importance of flexibility and promotes the value and benefits.

While the concepts contained in the Food and Fibre Skills Framework will support more flexible programme development and delivery options, as was identified in *The New Approach to Learner Pathways* and the Muka Tangata Workforce Development Plans, many of the barriers to flexibility are systemic. Funding and qualification systems are driven by rules that aim to provide consistency and accountability, rather than being driven by the fluid and rapidly changing needs of learners and workplaces, with the ability to design for exceptions. This means that education providers are also constrained by these rules and must ‘play the game’ to be able offer viable programmes.

Transferability

We revisit the definition of ‘transferability’ used earlier: *Transferable skills are “portable skills” that can be transferred across different social, cultural or work settings. They include cognitive, social and emotional skills, and they work alongside other skills such as those specific to a job* (p.9).³¹ As discussed on p.27, The Framework’s core transferable skills explicitly underpin the ability of ākonga to gain, value, extend and transfer skills or knowledge to different contexts. We would also suggest that the underpinning knowledge involved in many of the core technical skills is highly transferable. It is important to note that the ability to transfer skills between different contexts is a relatively complex cognitive process, which requires support and scaffolding from all involved in the training system. For successful skill transfer to occur:

- The learner
 - Is supported to see how the skills, knowledge and attributes could be applied in a different context
 - Has the learner agency to initiate the process of transferring the skill
 - Is afforded the opportunity to explore the process of transferring the skill.
- The employer
 - Can engage with new or existing employees to draw out skill elements that may be transferable
 - Can understand what the learner’s CV/qualifications/personal attributes might mean in terms of transferability
 - Affords the employee the opportunity to rehearse skills being applied in a different context (and rewards successful outcomes).
- The provider
 - During delivery makes explicit the skills, underpinning knowledge and attributes that will be transferable in different contexts
 - Builds the learner’s agency so that they are both able to understand what is transferable and to initiate that transfer

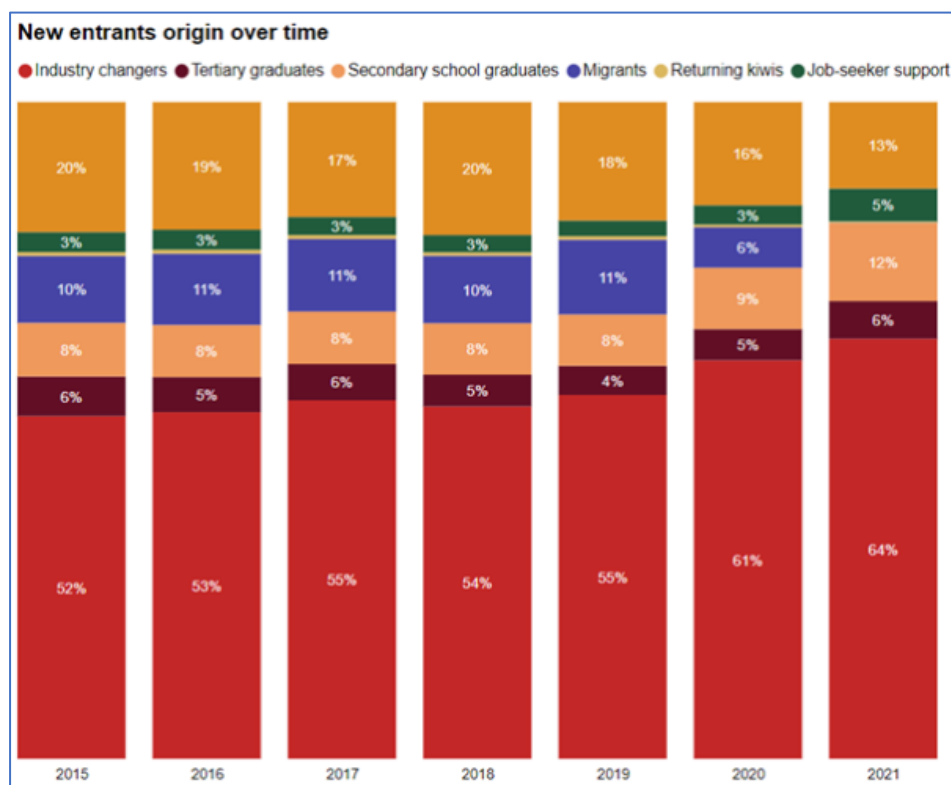
³¹ *Transferable Skills Research* (Apr 2023). Research First, commissioned by Toi Mai WDC.

- Uses assessment regimes that reinforce the transferability of skills, e.g., a professional conversation that explicitly asks: 'how would you do that in this (novel) situation'.
- The qualification owner
 - Understands the skill dimensions where transferability is easiest to achieve and works with industry to articulate the value of this
 - Makes explicit in each product the degree of transferability, providing examples
 - Supports a broad skill portfolio (of which a formal Record of Achievement may be a component) which allows a learner to showcase their transferable skills.
- Industry
 - Works across sectors to articulate the skills they have in common
 - Promotes the value of those transferable skills to employers and learners.

Why does transferability of skills matter?

A significant proportion of new entrants to the food and fibre sector are 'industry changers' (see Figure 16).³² They will bring skills, qualifications, or other forms of training to their new roles.

Figure 16: New entrant origins



Over a third of industry changers in Muka Tangata industries come from another Muka Tangata industry. In 2020 this equated to around 14,000 people. Nearly 30% came from service industries, 19% from manufacturing, engineering and logistics industries and 10% from construction and infrastructure industries. The proportion of industry changers coming

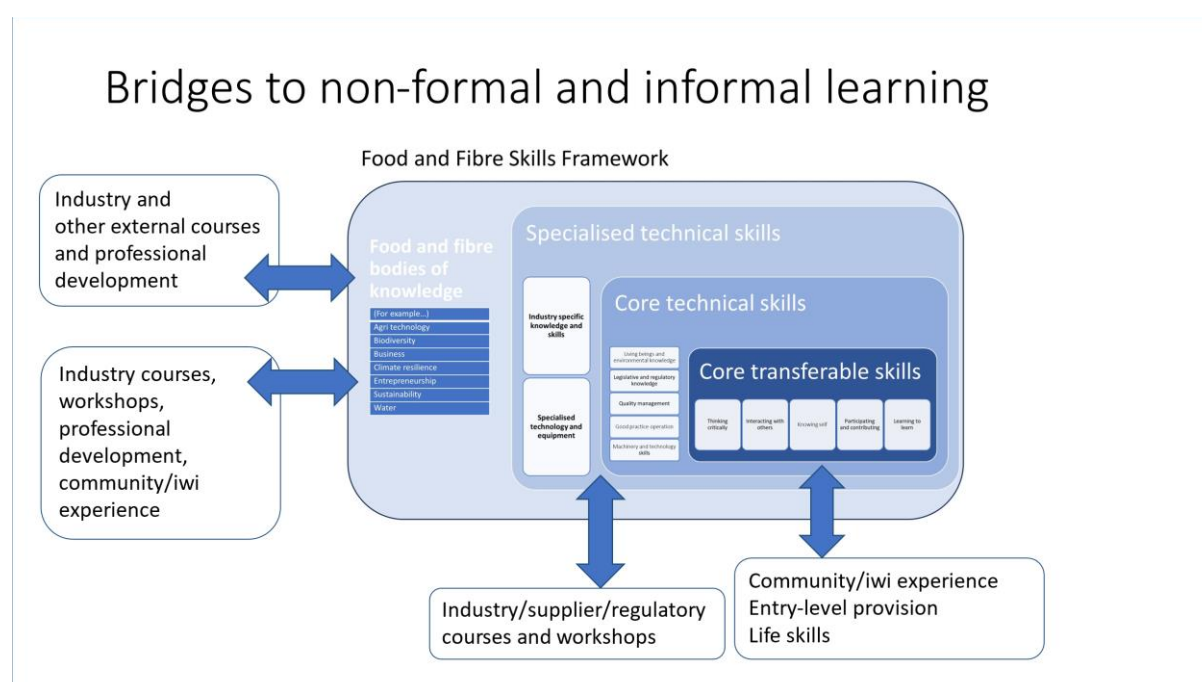
³² <https://mukatangata.nz/industry-changers-in-the-food-and-fibre-sector/>

from other food and fibre industries represented by Muka Tangata was higher in previous years (40% in 2017 and 2018).

Bridging to non-formal and informal learning

The prevalence and importance of non-formal and informal learning across the food and fibre sector highlights the importance of flexibility and transferability for the sector. Employers and learners value the relevance, timeliness, cost-effectiveness, and flexibility that non-formal learning opportunities offer. Learners bring skills gained in different settings to the workplace or classroom and continue to build skills in a wide variety of ways that are not necessarily from, or recognised by, the formal qualification system. A food and fibre skills framework may provide a common language to facilitate discussion and recognition of these skills, enabling the development of bridging mechanisms between formal and non-formal / informal learning, as represented in Figure 17.

Figure 17: Bridges to non-formal and informal learning



Summary

It is clear from this research and the feedback we received that the concepts of 'flexibility' and 'transferability' resonate across the sector, as does the need for clearer ways to capture and recognise by some means the learning that happens outside of the formal qualification system. We suggest that the Food and Fibre Skills Framework will provide a useful context, and some common language and framing, for ongoing conversations about these crucial areas.

Testing the thinking: Data collection and analysis

This phase of the research was carried out in an iterative way, testing and refining the products as we went. We collected and analysed data from four sources:

1. Data analysis to inform the development of exemplars
2. Key informant interviews
3. Internal workshops with Muka Tangata kaimahi
4. External feedback: poll and focus groups.

The findings are summarised below, with the full details from of each source available as appendices.

Testing the thinking: Developing exemplars

The aim of the exemplars was to take the design principles from the *New Approach to Learner Pathways*, and the design guidance for skills standards, and create examples which show how these principles could impact future qualification decisions. Specifically:

- How can we maximise learner mobility while ensuring qualifications have currency for employers?
- What is the optimum level of skill flexibility and transferability for ākonga in the food and fibre sector?
- Skills standards (that may be made compulsory, are less prescriptive, and of standard sizes).

Methodology

We analysed the enrolment data for unit standards and qualifications to look for sectors or topics on which to focus. We hypothesized that: generic learning outcome + specific indicative content + specific guidance = each sectors' needs are met.

We articulated possible changes to qualifications, not being constrained by funding or qualification rules, to seek feedback from the key informants initially, to refine the exemplars before the second phase of feedback.

The research followed several paths in order to see which had merits and exposed meaningful insights to guide our thinking about the core project elements of flexibility, transferability, use of current qualifications, along with sector sizing details.

Key activities

1. Identifying transferability statistics

The Muka Tangata Sweet Analytics dashboard has a section on Pathways, which was reviewed in detail to learn what we could about entrants to the sector(s), tenure and departure. The most relevant graphs were added to presentations to get context to the discussion about transferability.

2. Current sector sizes – workforce and learners

Several views were created to gain understanding about both learners and workforce by the 14 sub sectors, including the range of qualifications undertaken, and what sectors they were relevant to, whether on campus or through work-based learning, and what level of qualifications were enrolled.

3. Workforce Development Plans Analysis

The fourteen sector workforce development plans were analysed, focusing on mentions of flexibility, transferability or career or learning pathways. This gave us common themes and,

in two cases, specific exemplars to test (Arable: Shorter, stackable, training and the NZ Diploma in Primary Industries Business Management into micro-credentials).

4. Unit standard and qualification enrolments

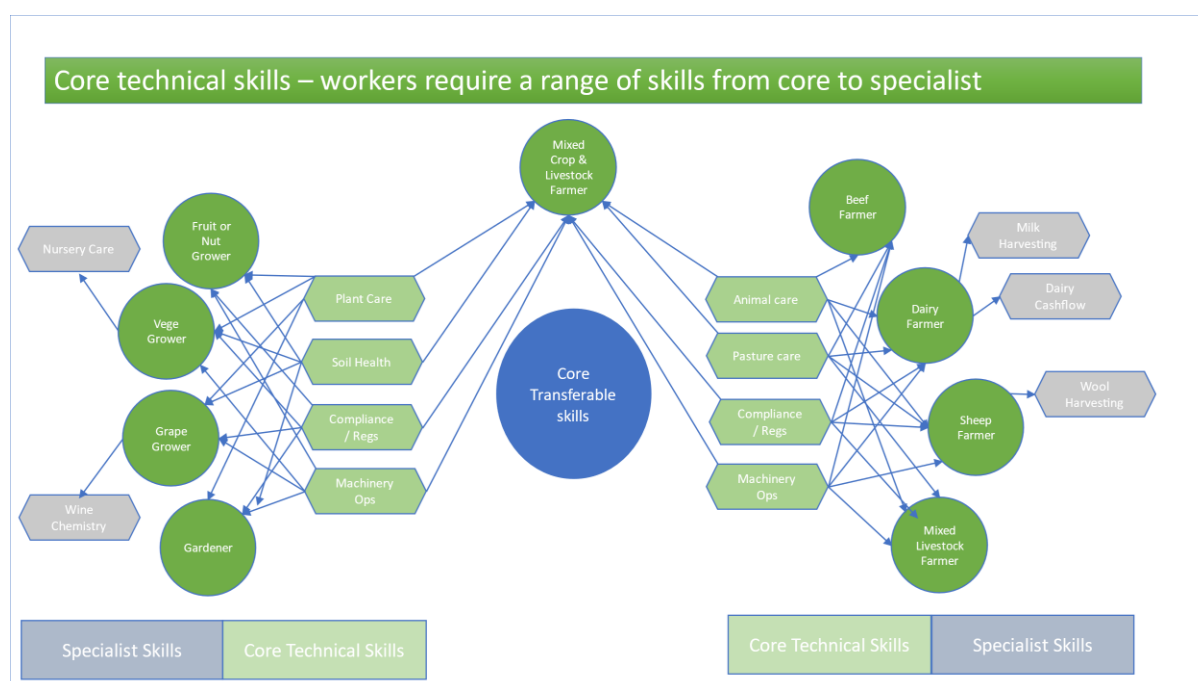
The enrolment data for 2022 was analysed to highlight the most popular programmes and to look for examples that may work to highlight the design principles of the *New Approach to Learner Pathways*. The land vehicle, chainsaw and pruning examples came to light through this analysis.

5. Occupation Mapping

With the skills first approach, it was important to investigate the requirements of the workforce. Job adverts are a common tool used for this analysis; however, it was thought that for our sector, they would not reveal the majority of roles. Instead, the Statistics census data was used to analyse the most common roles, according to ANSIC categories.

This work highlighted a couple of key roles, as shown in Figure 18 below, that we could then use to create the visualisation of core technical skills, which aided the completion of this part of the matrix.

Figure 18: Occupation mapping



6. Overlaying existing Degree Level Apprenticeship (DLA) analysis with the existing review matrix

As both the qualification review and DLA project involved analysing Learning Outcomes against some key criteria, we looked at combining this to get insight for the NZ Cert in Food and Fibre. This was useful to bring the researcher up to speed with the existing matrix. However, the analysis itself didn't highlight anything to pursue at this point.

7. Analysis of learning outcomes for New Zealand Certificate in Food and Fibre

A number of similar qualifications (NZ Cert in Primary Industries, Sustainable Land Based Practices and NZ Cert in Horticulture Production and Services) were compared at a learning

outcome level, to look for similarities and differences. This was mapped to learner enrolments, to understand key qualifications and give indications of skills.

8. Future Skills for Food and Fibre Sector

The NZIER report for Ministry of Primary Industries is a useful reference point. It models three scenarios – Business as Usual, Increased Technology and Transformational - for the wider Food and Fibre industry, and the impact on skills required. All scenarios point to the need to improve skills in the sector: “highly skilled workers are required to support the expected growth of technology and complexity in the next decade”. This modelling also indicates the growth of broad sector employment requirements between 2020 and 2032.

The exemplars

This section explains the exemplars that have been developed to date – the logic behind their choice, what they are trying to highlight and a summary of the feedback we have received on them. Full details of the exemplars are presented in Appendix 4.

Example 1: NZ Certificate in Agriculture

Principle: The introduction of a generic learning outcome, and then being able to remove strands, and give more flexibility to providers to set the appropriate context. We highlighted this qualification, as there were over 5,500 enrolments in 2022, across both ITP and ITO delivery. This was the highest enrolment in a qualification, with over 20% of all enrolments.

Feedback was generally supportive, as it would enable learning to be targeted for the specific farm environment more easily – where things may not always fit into the strands, and not all plans are required. However, there was concern if a person did one set of learning for a particular sector (e.g., breeding livestock) and then moved sectors and required some learning about another type of farm – they would be unable to re-enrol in the same qualification. This concern highlights the tension between the transferability of the skill, and how the learner is equipped to do this, and the potential need for additional formal training to enable the learner to adapt to the second (or subsequent) sector.

Example 2: Rural Land Vehicle Operations

Principle: Using a skill standard or micro-credential to simplify a complex skill set. One of the largest enrolment topics is the driving or operation of four categories of vehicles on farms. There are 16 unit standards, across four vehicles, and two levels, of varying sizes. In 2022 there were over 13,000 enrolments in these standards, equating to 14% of enrolments. At level 2, these enrolments account for 24% of total enrolments.

This example aimed to show two different approaches, using a more generic approach, and focused on the skill level of the learners. Feedback on this example was more mixed, mainly around the need for learners to learn about multiple vehicles and the importance of proper training given the safety elements. However, most respondents agreed that the current system was overly complex, and potentially doing a disservice to the industry by having too many credits involved (and funded).

Example 3: Iwitanga micro-credentials

Principle: Using stackable micro-credentials to credentialise a new topic in a mana-enhancing way. This example was created to show how a progression of learning could be designed through stackable micro-credentials. It also shows how an iwitanga micro-credential could be designed without impinging on iwi Intellectual property rights. This was only discussed a couple of times, but the concept received positive support and an iwitanga

micro-credential will be developed in 2024 as part of the Muka Tangata Māori Workforce Development plan.

Example 4: NZ Certificate in Food and Fibre

Principle: The creation of a family of generic NZ Certificates in Food and Fibre. These would be based on common core topics, adding electives from specialist areas to build a qualification to suit individual learners' requirements.

Feedback was generally positive – simplification was seen as a key benefit. The major concern was for there to be sufficient information for future employers to understand what a graduate had achieved, and what they knew and could do.

Example 5: NZ Diploma in Primary Industries Business Management

Principle: Reshaping an existing qualification using micro-credentials. In this example (which was developed in response to feedback within the Arable Workforce Development Plan), an existing qualification of 120 credits is broken into 5 micro-credentials, four of which could be done at a time and in the order that suited the learner, with a fifth capstone micro-credential.

There was generally positive feedback about this approach, especially from a learner's perspective. The main concern was about the bureaucracy for both the learner and provider for the enrolment process. (i.e., five separate enrolments). For the provider, a concern was expressed over the level of administration required for five micro-credentials, rather than a single qualification.

Exemplar feedback summary

The purpose of talking through exemplars was twofold – did giving examples of potential future qualifications help explain the design principles more clearly and was there any feedback on the exemplars shown?

For the former purpose there was general agreement that exemplars were effective at highlighting what a *New Approach to Learner Pathways* design principles could mean. There was support for the simplification of qualifications, and the ability for providers to design the delivery context which is appropriate for their region, employers, and learners.

For the particular exemplars discussed, overall, there was support with caveats. Largely the caveats were around funding (i.e. If a learner does one "strand" at one point in time, how would they be able to get access to funding to do a second "strand" of the same qualification), or bureaucracy (i.e. a learner having to enrol separately for each micro-credential, or for providers, each micro-credential needing to be reviewed annually).

Testing the thinking: Key informant interviews

Introduction

Over November, the research team held 16 interviews with external parties (see Appendix 5 for a list of those interviewed). These took the form of 45-to-60-minute video calls or in-person discussions, where a set of slides outlining the core topics was talked through, and feedback noted. Progress through the slides and discussion was free-flowing and directed by the interest and perspective of the interviewee.

This process was highly iterative; the key informants interviewed towards the end of the process were seeing concepts and exemplars that had been moulded and strengthened by previous conversations. The interviews were based on six themes, listed below (see Appendix 5 for the interview guide). The themes were:

- The concept of a food and fibre sector skills framework

- The incorporation of mātauranga Māori into learning
- Bridging to non-formal and informal learning
- Exploring exemplars to highlight impact on qualification development
- Defining and prioritising flexibility
- Defining and prioritising transferability.

High-level findings

This phase of the project aimed to test and improve the initial draft of the project outcomes – in particular The Framework and exemplars. It was hoped that by talking to several senior leaders in various organisations involved in the Food and Fibre vocational education system – either as representatives of employers/learners or as providers, we could have candid conversations about the essence of the research – not focussed too much on the graphic design or wordsmithing.

This has proved to be a useful exercise, and a number of improvements have been made to the initial drafts. A secondary aim, to communicate the progress of this project and the broader *New Approach to Learner Pathways* mahi, has also been achieved, including offers to take The Framework out to wider networks.

The feedback about the research and the draft Food and Fibre Skills Framework was overwhelmingly positive. The key response was that this work resonates with the interviewees and that The Framework could become a useful tool for the sector. The skills-first approach in particular was welcomed by all. This was seen as a way to overcome some of the complexity of the current qualification system.

If there was any caution mentioned, it had the theme of ensuring that the work is clearly understood by employers, and that they can see value in the changed qualification approach. It was mentioned that there will need to be targeted change management communication around any significant change to qualifications design and delivery. Employers understand the current system and know the qualifications that are applicable to their sector. When changes are made, we need to show how it adds value to the employers and learners.

Food and Fibre Skills Framework

Along with support for the skills-first approach and the draft framework, there were a couple of themes which were repeated by a number of the interviewees.

There was feedback about how the qualifications have become too big, complex and in part driven by the funding of the providers, rather than the needs of the learners or employers; for example, the standard on-campus delivery of 1 year, 120 credits. The focus on skills-first should allow learners to focus on the skills they need, and qualifications are a secondary consideration.

This approach should also enable learning to be done in a “just in time” nature, selecting smaller learning modules that target learners' specific needs, rather than “just in case”, where qualifications attempt to foresee all knowledge that may be required in a certain area.

There were several discussions about how to ensure the core transferable skills, and to a certain extent the core technical skills are taught. Several conversations pointed to skills in the matrix that can't be taught per se. (e.g. empathy). There was agreement that in most situations the core transferable skills would need to be embedded in the delivery approach taken by the providers. While this is less controllable than specifying skills in compulsory skill standards, Muka Tangata can give guidance, and indicative content notes within skills standards and qualifications. By having a recognised skills framework across the sector, and

a focus on ensuring our learners gain core transferable skills, providers will have the tools they need to design appropriate delivery methods.

Another common discussion was about whether the focus on skills would undermine the need for qualifications. This is a risk, but only if there is not a focus on ensuring there is value in the qualification for both employers and learners. The design of the individual components (i.e. individual skill standards, micro-credentials or qualifications) must have at its core the industry need it is addressing. There should be tangible outcomes that add to the skill of the learner, that will ultimately add value to the employer. In this way, the uptake of formal training, and the award of qualifications, should increase.

In parallel with this discussion was the notion that employers may also need some further education. There are two elements to this, first, education about the *New Approach to Learner Pathways*, The Framework, and changes to the qualification systems. Secondly, employers need support to understand the importance of the development of certain core skills in their employees, and themselves, in order for them to be able to build higher-level technical skills and to become more productive and engaged employees.

There were several other take-outs from the key informant interviews. Some were adjustments in The Framework content (i.e. changing from "managing self" to "knowing self" in the skills sets) and others were recommendations for next steps or actions to come out of this project (i.e. if introducing a NZ Certificate in Food and Fibre, there needs to be a way of communicating to employers about the change and what they should look for in graduates).

Flexibility and transferability feedback

While this wasn't a major focus of discussion, the two topics were raised by the interviewees in many of the conversations. There was an understanding by the interviewees that the barriers to change were largely systemic (e.g. funding). However, there was also a desire for this project to identify tangible recommendations for improvement to the current system.

Our approach to survey employers to better understand the key elements of flexibility and transferability that they require was supported. It was noted that the current economic environment may make discussions about investment in training and qualifications difficult. We would need to highlight the context and value proposition in order to get meaningful responses.

Testing the thinking: Internal workshops with Muka Tangata kaimahi

The aim of the workshops was to bring the Muka Tangata team up to date on The Framework, and to tap into their combined expertise across the multiple internal teams, especially the Qualifications and Standards team. The workshops were designed to explore how The Framework could be used by the teams, and what level of detail would be required to make it useful. Three 2-hour workshops were offered, with a similar agenda, but each with a focus on different skill sets – Core, Technical and Specialist. All three workshops had a good level of attendance and participation (see Appendix 6 for full notes).

How could The Framework be used?

This section considered how various audiences might use The Framework and was built on in each subsequent workshop.

Key points: Muka Tangata

- Additional reference for appropriate level of qualifications and components
- Provides a consistent approach across qualification design and review (shared language, focus on skills and their transferability, gap identification, specialist qualifications)

- Guidance for product development
- Developing transferable career pathways
- Input into skills forecasting, TEC advice, future research.

Insight: The recommendations should detail how to best incorporate The Framework into standard operating procedures in the teams as appropriate. Start with the Qualifications and Standards team requirements, and then adapt for other teams as usage dictates.

Key points: Industry Groups

- Use in the initial planning and scoping with industry and shows responsiveness to issues identified in workforce development plans
- Enable discussion about commonality of skills across sectors / support cross industry conversations about things like health and safety
- Maintaining higher-level discussions with industry experts.

Insight: Useful to develop and align industry thinking around the transferability of core transferable and technical skills. This would need to be considered in the qualification review and other discussions where cross-industry collaboration is required.

Key points: Employers

- A way for employers to identify, recognise, understand, and value core transferable and technical skills, and to talk with employers about how to support their learners to learn
- Helps employers to understand what “level” their incoming employees are at, so they can provide more targeted/differentiated training
- Helps employers to recognise skills that employees bring that have been gained in different settings; support “work ready” employees.

Insight: Theoretically useful to employers, the next step would be to test this, and to work out an effective mechanism to disseminate and encourage take-up of the concepts in The Framework to impact employer-employee training.

Key points: Employees / Learners

- Support learners to be able to articulate what skills they already have / capitalise on their experiences
- Helps them value themselves, their current knowledge, and their ability to learn to learn
- Higher level appreciation of core and technical skill sets will open options for learners /employees - both within existing career pathway and into other pathways.

Insight: Theoretically useful to employees/learners, the next step would be to test this, and to work out an effective mechanism to disseminate and encourage take-up of the concepts in The Framework to impact on the employer-employee training.

Key points: Iwi / Hapū

- Support iwi and hapū to understand what high-level skills look like in industries that may be new to them
- Incorporating mātauranga Māori, including iwitanga in a way that is respectful, appropriate and adds value to how rangatahi learn
- Caring for the whenua

- Acknowledgement of other knowledge systems
- Providing an entry point for involvement in training/development for rangatahi, e.g. Could provide wananga that focus specifically on core transferable skills with a shared understanding of what these expectations are.
- Help to build a profile of what skills are needed and where the gaps might be to support iwi businesses
- Incorporating ngā mātāpono / Māori values into guidance for our products.

I think several of the aspects of the framework will be compelling for our iwi Māori communities and learners – particularly around participating, interacting, and knowing self – good bridge into training (Workshop participant).

Insight: Theoretically useful to iwi/hapū so the next step would be to test this, and to work out an effective mechanism to disseminate and encourage take-up of the concepts in The Framework to impact rangatahi training.

Key points: Providers

- Sends a consistent message to providers what we are targeting through the core skills e.g. throughout the duration of the project from kick off, during consultation, and in the development of guidance information
- To highlight good practice in the delivery of essential skills
 - Helps validate what is already been done by good providers and encourage others
 - Providers can give their learners a way to articulate / understand their own skills
- Pathways / linkages
 - Linking transferable skills to other programmes
 - Helps to develop foundation skills and easy transition to higher level quals/programmes
 - Enable shared training between employers i.e. in apprenticeships where an employer is unable to provide certain required aspects to meet qualification/programme requirements
- Programme / resource design
 - Help them design programmes that focus on skills / may help focus on the core skill, and make the context adaptable
 - Providers can include transferable skills in their programmes to prepare ākonga for a variety of careers
 - Help rationalise resource development within and across providers
 - Programme designed to support specialist roles.

Insight: Providers are a key stakeholder in the application of The Framework. More work will be required to understand how it could be incorporated into qualifications and standards, so that it has the desired impact on delivery and on learners' skill development.

Refining the elements of the draft Skills Framework

Core Transferable Skills Matrix

Refinements to the matrix: There were some useful points raised in this discussion. These changes have been incorporated into the version of the matrix presented on p.27.

Desired level of detail: In this exercise, four frameworks were given as examples for the participants to consider, to stimulate their thoughts on what level of detail would be required for The Framework to be useful and useable. These were Singapore Skills Future, SFIA, UK Skills Builder and the Australian Job Classification. While each framework had strengths, the UK Skills Builder was particularly well-received, as being learner-centred and easy to follow.

I like the opportunity in this framework for pre-assessment and building learning plans based on the learner's existing skill level / mōhiotanga.

I like how they have thought about the progressions within each skill area.

I have strong feelings about transferable skills - giving people credit for the skills that they already have and building on them, so I like the potential in the UK approach.

Insights:

- The level of detail required in The Framework would vary, depending on the audience – provider more detailed, less detailed/prescriptive for employers.
- There was good support for the learner approach taken by the UK Skills Builder, and the skill categories of the Singapore Future Skills. The level of resources contained in the UK Skills Builder could be leveraged where applicable.
- To start, a simple, descriptive statement per skill, per level could be drafted, and tested in the upcoming reviews (see Figure 11, p.8, for an example). Where possible we could adapt from the UK Skills Builder, so that more of those resources can be utilised (rather than creating from scratch).

Core Technical Skills Matrix

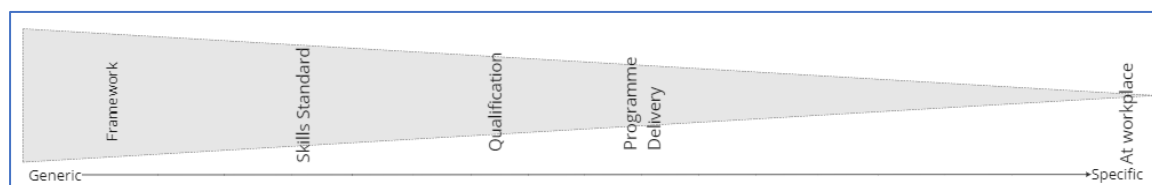
Refinements to the matrix: A mapping exercise was undertaken to test the categories against draft micro-credentials, to see if there were gaps in the five skill sets.

Insight: There was agreement that the five skill sets were appropriate – however there was significant overlap, where a single learning outcome could be attributed to multiple skill set categories. This wasn't seen as an issue.

Desired level of detail

There is a continuum, shown in Figure 19, from generic through to workplace specific. Three examples of current standards were presented for the participants to consider, to stimulate their thoughts on what level of detail would be required for the Food and Fibre Skills Framework.

Figure 19: Continuum of specificity



Skill standards, well developed, will likely decrease the level of duplication and context specificity

The more detail you put in, the more it will need to be maintained

Putting in a lot of detail narrows the focus too much.

Insight: In general, the feedback was that limited detail is required in The Framework for technical skills. It will be a useful tool to guide the creation of generic skills standards, where the context could contain industry specific detail.

Specialist Business Skills / Bodies of Knowledge

Refining: There was a mix of discussion with these outcomes:

- To combine Specialist Business Skills and Bodies of Knowledge
- Removal of specialist skills which are central in the core transferable skills (e.g. Leadership)
- The list of Bodies of Knowledge will be fluid, and really be driven by industry needs. The Framework will just indicate some examples.
- The Bodies of Knowledge area is a combination of formal and informal qualifications combined with ongoing growth and development of expertise and mastery. They may also be cross-sector fields, with professional body governance. (e.g. Sustainable Business Network, Institute of Directors).

Connecting with Non-Formal and Professional Bodies: This discussion raised areas for further exploration:

- Could the UK Skills Builder approach of self-assessing help here?
- Is it enough to just articulate? Does it need a mechanism to bridge?
- Is there a place for recognition of prior experience (professional conversation)
- What is the value proposition for employers? And existing professional bodies.

How and when could we build this framework category out? Some ideas for how we could approach any next steps were:

- We could perhaps build a pathway example, perhaps one vertical and one horizontal progression. Pathways are very rarely linear so it would be great to see a wobbly one, or a spider web with threads, and junctions (decisions)
- Posit these as examples rather than as “the framework” (noted above)
- How would the bodies of knowledge be of use to industry, learners, and providers?
- Perhaps think of these as “tags” rather than their own category. Could skill sets (bodies of knowledge) be represented visually to learners, in their record of learning, so the clusters are formed and shown based on the tags.

Insight: There was agreement that Bodies of Knowledge is a useful category, but it could be left undefined in The Framework – as it naturally occurs as people progress through to expertise and mastery in any given field.

Testing the thinking: External feedback

Five online external focus groups were held in February and March 2024. The aim of the workshops was to gain employer and provider feedback about the core concepts of the project:

- The Food and Fibre Skills Framework - content and usage
- The NZ Certificate in Food and Fibre
- The importance and definition of flexibility and transferability.

It should be noted that although there were focus group participants who had close contact with employers, there were no employers in any of the focus groups, despite our efforts to engage with them through our website, LinkedIn, and communication with our key informants.

In addition, there was a short poll available on a Muka Tangata website for employers and employees, which aimed to understand the characteristics of flexibility and transferability that are valued by employers and employees.

This section summarises the combined outputs, and Appendix 7 has the notes for the individual workshops.

Food and Fibre Skills Framework

There was positive feedback about The Framework from all participants. The focus on skills resonated with all, especially at the foundation level. There were several discussions about how the core transferable skills were the building blocks on which all other skills are built.

The concept of progression for these skills was also valued. Participants thought The Framework could be useful in conversations with employers around core transferable skills. It would enable providers to explain the concept of how skills for learning form the basis of the interpersonal skills that employers value. (i.e. teamwork). It also shines a light on work already happening in the sector.

In the foundation space, any programme is just a vehicle to teach these life skills (Focus group participant).

The following were some concerns raised in these discussions, which will need to be worked through:

- Primarily, how best to articulate the value to employers. We need to make the skills explicit rather than implicit in the outcomes we want for our learners. Some employers don't see the value in teaching these skills, they see it as a cost rather than investment which will result in better productivity from their staff. Additionally, some employers are not sufficiently skilled in teaching to provide guidance to work-based learners.
- It is important that the approach to any skill statements is consistent. It needs to be in common language – not education speak. It should focus on the skills, not tasks.
- There was also concern that the draft matrix separates skills into five categories. In reality, the skills overlap each other and the categories. Guidance around the use of The Framework should clarify the interrelated nature of the core transferable skills.

Teaching Core Transferable Skills

The provider sessions also asked about what was currently working, and how The Framework could support their work. The general theme was that they are already focused on core transferable skills, under a variety of names, and that it is hard, particularly in the work-based training environment.

The participants noted that today, some core transferable skills are embedded in their delivery (i.e. teamwork), while others are more explicit (i.e. part of a course on wellbeing).

There was some discussion that not everything needs to be assessed. This should be clarified in any guidance.

Generally, it was felt that teaching core transferable skills was easier to do in a real-world context, as opposed to a classroom. Having discussions with learners to highlight the underlying core transferable skill in each situation was seen as being the most powerful.

NZ Certificate in Food and Fibre

The NZ Certificate of Food and Fibre was shown as an example of how the qualification suite could be simplified. It was understood that a generic qualification would aid the skills-first approach, and the ability of the sector to better harness transferable skills. However, there were significant concerns raised which will need to be explored further. There were three recurring themes:

1. Multiple awarding of one qualification

It is conceivable, and indeed desirable, that a learner completes this Certificate, and then at a later stage of their employment, wants to do different "topics." Under the current system this would not be publicly funded or even be able to be delivered (as you can't enrol in something you have already completed).

2. Employer understanding of what the qualification meant

The replacement of known and trusted qualifications for something more generic would require significant change management; in particular, clear communication to employers about what they should expect from graduates, and how they should review what elements a specific employee was taught/awarded. Currently, with a specific focus for a qualification (e.g. NZ Certificate in Agriculture), the employer understands what the qualification means, and its make-up. With a more generic NZ Certificate in Food and Fibre there will be a range of delivery options available, and more questioning of the employee by the employer would be required, or a mechanism to show "endorsements."

3. Providers being able to add context sufficiently

The providers could see two sides to this approach. On the one hand, it could allow them to provide very specific context to cohorts of learners. On the other hand, it may be hard to articulate to potential learners the value of the programme, with a generic NZ Certificate in Food and Fibre qualification title.

Flexibility and Transferability

In the focus groups, both concepts were valued – especially given the changing needs of the sector.

Employers want more flexibility, particularly to suit their business and seasonal timings. However, it was understood that this would be costly, and not something that providers could necessarily provide.

Poll insights

The employer poll had a low number of respondents; however, some insights can be distilled. The employee / learner poll is not usable due to extremely low number of respondents. Selected poll results are presented in Appendix 8.

Flexibility: Clearly understanding which skills employees would gain from training, tailoring the when and where of training, and knowing that the training was of good quality were the three most valued characteristics. The ability to select different providers and tailor the training (size and content) was less important. Respondents strongly supported the statement that improved flexibility would increase their investment in vocational training.

This is important to our orchard staff who struggle at certain parts of the season and with spray rotas etc. due to current staffing levels (Employer poll respondent).

Transferability: Being able to understand what additional training may be required for employees from another industry and being able to recruit from a wider range of employees were the key characteristics for employers. This would similarly likely equate to increased investment in vocational education.

The key transferable skills are about being a good person, reliability, ownership and responsibility for self. If we can get those, we can teach the technical stuff on the job. Attitude matters!

Being mindful of transferring from other sectors, for example a diesel mechanic moving into outdoor vege production will already be able to manage machinery, a plumber can work as a landscaper installing irrigation, a nursery person can move into garden retail.

Testing the thinking: Summary

1.Exemplars

The exemplars were effective at highlighting what the *New Approach to Learner Pathways* design principles could mean. There was support for the simplification of qualifications, and the ability for providers to design the delivery context which is appropriate for their region, employers, and learners.

For the particular exemplars discussed, overall, there was support with caveats. Largely the caveats were around funding (i.e. If a learner does one "strand" at one point in time, how would they be able to get access to funding to do a second "strand" of the same qualification), or bureaucracy (i.e. a learner having to enrol separately for each micro-credential, or for providers, each micro-credential needing to be reviewed annually).

2.Key informant interviews

The feedback about the research and the draft Food and Fibre Skills Framework was overwhelmingly positive. The key response has been that this work resonates with the interviewees and that The Framework could become a useful tool for the sector. The skills-first approach in particular was welcomed by all. This was seen as a way to overcome some of the complexity of the current qualification system.

If there was any caution mentioned, it had the theme of ensuring that the work is clearly understood by employers, and that they can see value in the changed qualification approach. It was mentioned that there will need to be targeted change management communication around any significant change to qualifications design and delivery. Employers understand the current system and know the qualifications that are applicable to their sector. When changes are made, we need to show how it adds value to the employers and learners.

3.Internal workshops with Muka Tangata kaimahi

For Muka Tangata staff: The Framework could provide a consistent approach across qualification design and review (shared language, focus on skills and their transferability, gap identification, specialist qualifications) and guidance for product development. Aspects of The Framework could be incorporated into standard operating procedures across several Muka Tangata teams as appropriate.

For industry / employers: The Framework would be useful to develop and align industry thinking around the transferability of core transferable and technical skills. It may be a way for employers to identify, recognise, understand, and value core transferable and technical skills, to talk with employers about how to support their learners to learn, and to help employers to recognise skills that employees bring that have been gained in different settings.

Learners: The Framework could support learners to be able to articulate what skills they already have, helping them to value themselves, their current knowledge and experience, and their ability to learn to learn. A higher-level appreciation of core and technical skill sets will open options for learners /employees - both within existing career pathways and into other pathways.

Iwi / Hapū: The Framework could help with incorporating mātauranga Māori, including iwitanga, in a way that is respectful, appropriate and adds value to how rangatahi learn, adding ngā mātauranga / Māori values into guidance for our products. It could support iwi and hapū workforce development aspirations by (for example) building a profile of what skills are needed and where the gaps might be to support iwi businesses.

Providers: The Framework sends a consistent message to providers about the importance of core skills. It could be a vehicle to highlight good practice in the delivery of essential skills and to validate what is already being done by good providers and encourage others. It could support providers to include transferable skills in their programmes to prepare ākonga for a variety of careers, helping them design programmes that focus on skills and make explicit how these can be transferred across different contexts.

4.External feedback

Food and Fibre Skills Framework: There was positive feedback about The Framework from all participants. The focus on skills resonated with all, especially at the foundation level. There were several discussions about how the core transferable skills were the building blocks on which all other skills are built. The concept of progression for these skills was also valued. Concerns raised included how best to articulate the value to employers, the need for a common language, and the interdependence of the core skills.

Teaching Core Transferable Skills: Providers are already focused on core transferable skills, with some embedded in delivery, while others are more explicit. Teaching core transferable skills was easier to do in a real-world context, as opposed to a classroom. Having discussions with learners to highlight the underlying core transferable skill in each situation was seen as being the most powerful.

NZ Certificate in Food and Fibre: While it was understood that a generic qualification would aid the skills-first approach, and the ability of the sector to better harness transferable skills, significant concerns raised which will need to be explored further. There were three recurring themes, the multiple awarding of one qualification if a learner adds topics, employer understanding of what the qualification means, and providers being able to add sufficient context.

Flexibility and Transferability: Both concepts were valued – especially given the changing needs of the sector. Employers want more flexibility, particularly to suit their business and seasonal timings. However, it was understood that this would be costly, and not something that providers could necessarily provide. In terms of transferability, the ability to understand what additional training may be required for employees from another industry and being able to recruit from a wider range of employees were the key characteristics for employers.

Conclusion

He aha te mea nui o te ao?

He tāngata, he tāngata, he tāngata!

It is the people across Aotearoa New Zealand's food and fibre eco-system who hold the skills, knowledge, and attributes that enable productive and safe workplaces, and allow the sector to grow and thrive. This research project provides some concepts and tools that aim to support the strategic goal of Muka Tangata: a food and fibre workforce, and education and training system, that enables industry and partners to flourish in a manner that honours te Tiriti o Waitangi.

We argue for a 'skills-first approach': while qualifications remain vital, skills are the currency for workforce development in the 21st century. In a fluid and rapidly changing sector, job titles, occupational classifications or static qualifications are no longer fully reflective of what employers and industry seek in their workforce, or of what employees bring. Focusing on skills also presents the opportunity for rapid updating and futureproofing as technology and ways of working change.

The Food and Fibre Skills Framework supports the 'skills-first' approach by providing a common language for the sector that will enable greater flexibility for employers and ākonga and enhance transferability of skills across the sector. It will support a simplified qualification structure, that meets rapidly evolving learner and industry needs, while remaining relevant and understandable to employers. The Framework also opens a space to provide a bridge between non-formal and informal learning, and the formal qualifications system.

The vision for the Food and Fibre Skills Framework is that it becomes a living framework, with accompanying resources, which are used (and contributed to) by all food and fibre sector vocational education stakeholders, to develop engaged, effective and empowered employees. The report's recommendations outline further work needed to enact this vision across the sector.

Recommendations

Food and Fibre CoVE / Muka Tangata

- Complete an initial build out of The Framework,
 - For each skill on the Core Transferable Skill matrix, develop a sentence to describe skill at the appropriate level.
- Develop guidance for each skill set to encourage the consistent application of the skills language and terminology, and approach to teaching.

Muka Tangata

- Formalise the implementation of the Skills Framework in the qualification review process:
 - Encourage the discussion of the core transferable skills as part of the input to reviews,
 - Encourage review teams to amend/update The Framework as part of the process
 - Develop examples to assist qualification team to focus on skills first (not task) in the development of products.
 - Develop a template for the Core Transferable Skills which can be included as guidance notes in qualification and skill standard documentation (appropriate to the level and topic).
 - Develop a process to assess the qualification reviews across the whole product landscape to ensure consistent application and terminology for the core skills. This process would refine the framework and vice versa.
 - Entry Level and Agriculture reviews - take note of the feedback about the NZ Certificate in Food and Fibre in their development of future qualifications.
- The Qualification and Standards (Q&S) team continue to encourage transferability of skills through the skills first approach, incorporating The Framework as guidance, and developing generic qualifications which are consistent across many sectors.
- Include The Framework concept in the Māori Workforce Development plan workstream.
- Quality Assurance and Enhancement (QAE) team – support a consistent approach to evaluation of delivery of core transferable skills as well as technical skills.
- Engagement and Partnership (E&P) team – use The Framework approach to skill sets in discussions with employers and industry groups.
- Workforce Development Plans (Skills Leadership and Advice (SLA) team) – in the review of these plans, use a skills-first approach and apply The Framework to gain a consistent approach across the plans.
- Skill Forecasting (SLA) – assess any application of The Framework to aid the consistency of terminology and skills-first approach.

Food and Fibre CoVE

- Explore and commission further research, including:
 - Providers - Best practice examples (case studies) of teaching core transferable skills for each skill set and level - on campus, online and work-based settings.
 - Learner voice – around flexibility and transferability of skills - what are their priorities, would a passport system for core transferable skills be appealing, test value of self-assessment approach.

- Employer usage research - what tools would assist employers to "teach" core transferable skills in their workplace.
- Explore the value of further work around the Bodies of Knowledge component of the framework. (e.g. discussions with a couple of Professional Bodies).
- Outline possible infrastructure requirements to do pilot for a sub-sector (i.e. could involve passport, digital credentials, etc.)
- Explore the approach to the consistent assessment of tacit knowledge and skills to determine their equivalence against a qualification. Perhaps including the potential alignment of a qualification assessment with an employer's need to assess those same attributes against a job.
- Explore synergies across the multiple research projects (e.g. non-formal and informal learning, attraction and retention, DLA, and this project) to:
 - outline possible infrastructure requirements to do pilot for a sub-sector (i.e. could involve passport, digital credentials, etc.)
 - Identify projects which could be enhanced by, or test, the use of The Framework (e.g. Rural Leaders research, Ngā Pou a Tāne (NPAT)).

Wider Vocational Education Eco-system / Long Term

- Recommend discussion about wider uptake of Skills Framework across Ohu Ahumahi.
- Bring awareness of The Framework to Ministry of Primary Industries and Associate Minister Hoggard.
- Workshop with TEC and NZQA (and others) to understand wider application of the skills-first approach and its importance for building equitable outcomes for all learners. The two key enablers from WEF framework are – adopting skills-first culture, policies, and mindset, and adopting a common skills language.
- Continue to develop the vocational education ecosystem with flexibility of delivery as a core tenet to remove barriers for all learners.
- Communicate importance of skill-first approach for building equitable outcomes: Māori, Pasifika, women, neuro-divergent learners.
- Discuss with secondary schools / career guidance – explore building The Framework connectivity from NZ Curriculum aligning through to food and fibre vocational education.

Appendices

Appendix 1: Research activities

1. Integrate with other Muka Tangata, Ohu Ahumahi and FFCoVE workstreams
2. Plan how best to incorporate te ao Māori within the project and outcomes
3. Research interdependencies and constraints
 - a. Outline possible industry feedback opportunities
 - b. List and plan key informer interviews/meetings
 - c. Outline existing definitions – to test and build on
4. Literature scan: Research other relevant national/international vocational education examples
5. Complete analysis on existing quals/unit standards (and skill standards as they are drafted)
 - a. Usage data / AI insights
 - b. Design – Graduate Profile/Learning Outcome
 - c. Future skills gaps/analysis
5. Key informant interviews
 - a. Map out key informants and interview opportunities
 - b. Develop interview schedule
 - c. Carry out interviews
 - d. Analyse results and feed into draft FF Skills Framework and concept for Food and Fibre Certificate with accompanying exemplars
6. Use above to create hypothesis to test
 - a. Build out a skills framework and concept of Food and Fibre Certificate
 - b. Create scenarios to test
7. Seek initial feedback – internal/critical friend
8. Summarise analysis and create discussion paper
9. Seek feedback from wider audience – industry, provider and ākonga. This may include:
 - a. Host workshops – industry /providers
 - b. Complete survey – employers / ākonga
 - d. Host focus groups – employer / ākonga
10. Create recommendation paper.

Appendix 2: Contributing literature list

What	Who	Focus	Link
<i>Set4Life, 2019</i> 2-year programme in Northland	The Skills Organisation, Tertiary Education Commission (TEC), Ako Aotearoa, PrimaryITO, Te Matarau Education Trust, NorthTec, Whangarei Boys High School.	Secondary to employment transition	https://ako.ac.nz/assets/Knowledge-centre/NPF-16-002-SET-for-Life/POSTER-Set-for-Life.pdf
<i>Farm4life Hub</i>	Tangaroa Walker Hub Founder	Dairy farming Educational video platform	https://www.farm4life.co.nz/
<i>Future Workforce Skills for the Primary Industries</i> (last updated Oct 2023)	Ministry of Primary Industries (MPI)	Research and report stocktake	https://www.mpi.govt.nz/funding-rural-support/future-skills/
<i>Food and Fibre Focus</i> (last updated Mar 2021)	Tertiary Education Commission	TEC food and fibre investment brief	https://www.tec.govt.nz/focus/our-focus/industry-focus/food-and-fibre/
<i>Food and fibre workforce forecasts</i> (Jun 2023)	NZIER, commissioned by MPI	Three possible future scenarios of the food and fibre workforce	https://www.nzier.org.nz/publications/food-and-fibre-workforce-forecasts
<i>Pathways into Primary Industries (PiPI) – Phase 1 report</i> (Feb 2021)	Primary ITO	Develop clear and concise learner pathways between education and employment	https://www.primaryito.ac.nz/assets/News-PDF/PIPI-Phase-One-Report-A4-Portrait.pdf
<i>Pathways into Primary Industries (PiPI) – Phase 2 report</i> (Aug 2021)	Primary ITO	Survey and focus group findings	https://www.primaryito.ac.nz/assets/PDFs-PIPI/PIPI-Phase-Two-Report-A4-Portrait-Proof-2.pdf
<i>Aotearoa Future Food & Beverage Capability</i> (July 2022)	Ministry of Primary Industries (MPI)	Future people capability in the food and beverage industry	https://www.mpi.govt.nz/dmsdocument/54382-MPI-Aotearoa-Future-Food-and-Beverage-Capability-Report
<i>Future of Jobs Report</i> (May 2023)	World Economic Forum	Bi-annual report that track labour markets	https://www3.weforum.org/docs/WEF_Future_of_Jobs_2023.pdf

<i>Putting Skills First: A Framework for Action</i> (May 2023)	World Economic Forum	'Skills-first approach' that emphasises a person's skills and competencies, rather than qualifications	https://www3.weforum.org/docs/WEF_CNES_Putting_Skills_First_2023.pdf
<i>Transforming Skills: A Call to Action</i> (Sept 2023)	Corndel, Edge Foundation, NCFE.	UK publication that proposes radical skills transformation	https://www.ncfe.org.uk/media/qohgaadx/transforming-skills-september-2023.pdf
<i>The New Work Mindset</i> (2017)	Foundation for Young Australians	Analysed more than 2.7 million job advertisements to reveal 7 new job clusters in the Australian economy where the required skills are closely related and more portable than previously thought.	https://www.fya.org.au/app/uploads/2021/09/The-New-Work-Mindset_2016.pdf
<i>Meta-Skills: Best practices in work-based learning A literature review</i> (Nov 2021)	Spencer, E. & Lucas, B. (Nov 2021). University of Winchester	This review of literature was commissioned by Skills Development Scotland (SDS) to help deepen its understanding of meta-skills with a particular interest in work-based learning.	https://www.researchgate.net/publication/356344936_Meta-Skills_Best_practices_in_work-based_learning_A_literature_review

Appendix 3: Skills frameworks list

What	Who	Focus	Link
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Aotearoa New Zealand			
<i>Employability Skills Framework (2016)</i>	Ministry of Education	Employability and soft skills	https://youthguarantee.education.govt.nz/tools/employability-skills/employability-skills-framework/
<i>NZ Curriculum Key Competencies</i>	Ministry of Education	Key competencies are the capabilities people have and need to develop, to live and learn today and in the future.	https://nzcurriculum.tki.org.nz/Key-competencies
<i>Competency Mapping: Infrastructure Sector (Jun 2022)</i>	Energy Academy, commissioned by Waihangā Ara Rua	Building interoperable standards and competencies	https://waihangaararau.nz/wp-content/uploads/2023/10/ESI-Water_Workforce-Activation-Strategy-Report_Aug_2022.pdf
<i>Transferable Skills Research (Apr 2023)</i>	Research First, commissioned by Toi Mai WDC	Transferable skills in a global context	Hard copy only
<i>Pathways, Pride, and Possibilities: Food and Fibre Apprenticeships in Aotearoa. A Discussion Paper (Apr 2023)</i>	Prepared by Skills Consulting Group for Muka Tangata and the Food & Fibre Centre of Vocational Excellence	Review of the learning and graduate outcomes of the 62 current Food and Fibre New Zealand Apprenticeships to identify the common competencies.	https://foodandfibrecove.nz/wp-content/uploads/2023/04/230421-NZ-Apprenticeships-Review-.pdf
<i>A Principles-centred Leadership Model for Aotearoa New Zealand's Food and Fibre Sector (Jul 2023)</i>	Parsons, C, and Nelson, E.J. For the Food and Fibre CoVE and Rural Leaders.	Proposes a leadership model for the food and fibre's leadership development ecosystem.	https://foodandfibrecove.nz/wp-content/uploads/2023/08/FF-Principles-Centred-Leadership-Model-30Jul23.pdf
International			
<i>Singapore Critical Core Skills Framework³³</i>	SkillsFuture Singapore (SSG) drives and coordinates the implementation of the national SkillsFuture movement and strengthens the ecosystem of quality education and training in Singapore.	Critical Core Skills (CCS) comprises of 16 competencies across three skills cluster, that workplaces deem essential.	https://www.skillsfuture.gov.sg/initiatives/mid-career/criticalcoreskills

³³ NB: There are also 35 sector-based Skills Frameworks that provide key sectoral information, career pathways, job roles and skills in line with Industry Transformation Maps.

<i>Building a Common Language for Skills at Work: A Global Taxonomy</i> (Jan 2021)	World Economic Forum	Proposed framework for a global skills taxonomy as a first step in shifting toward a skills-based labour market.	https://www3.weforum.org/docs/WEF_Skills_Taxonomy_2021.pdf Link to taxonomy: https://www1.reskillingrevolution2030.org/skills-taxonomy/index.html
Australian Jobs and Skills Council model	Australian and State & Territory Governments	Australian national register of VET. Information includes: Nationally recognised training (NRT): training packages, qualifications, units of competency, skill sets and accredited courses	https://training.gov.au/
US - O*Net	US occupation database	Useful to look at structure of a job, showing skills, knowledge, tasks, technology skills, work activities etc. Also has useful Basic Skills, and Skills (cross functional) headings.	https://www.onetonline.org/
SFIA Framework	SFIA Framework for the Information Age (SFIA).	Global skills and competency framework for the digital world, used by NZ IT sector - has Category, Subcategory, Skill and then attributed Levels for the skill (2-7)	https://sfia-online.org/en/sfia-8/sfia-views/full-framework-view
Skills 4.0: Meta-skills	Skills Development Scotland	Timeless, higher order skills that create adaptive learners and promote success in whatever context the future brings.	https://www.skillsdevelopmentscotland.co.uk/media/pgkgrzlf/skills-4-0_a-model-to-drive-scotlands-future.pdf

Appendix 4: Developing exemplars

Purpose

This section explains the exemplars that have been developed to date – the logic behind their choice, what they are trying to highlight and a summary of the feedback we have received on them.

Aim

The aim of the exemplars was to take the design principles from the *New Approach to Learner Pathways*, and the design guidance for skills standards, and create examples which show how these principles could impact future qualification decisions. Specifically:

- How can we maximise learner mobility while ensuring qualifications have currency for employers?
- What is the optimum level of skill flexibility and transferability for ākonga in the food and fibre sector?
- Skills standards are developed and made compulsory where useful.
- Skills standards are less prescriptive.
- Skills standards are standard sizes.

Methodology

We analysed the enrolment data for unit standards and qualifications to look for particular sectors or topics to focus on.

We created the hypothesis that: generic learning outcome + specific indicative content + specific guidance = each sectors' needs are met.

We articulated possible changes to qualifications, not being constrained by funding or qualification rules, to seek feedback from the key informants initially, to refine the exemplars before the second phase of feedback.

Important note: No decisions have been made about the implementation of these exemplars; they are purely a discussion tool to elicit feedback. The qualification team, and their review process, remains responsible for the creation of skill standards, micro-credentials, and changes to qualifications.

Example 1: NZ Certificate in Agriculture

This is an example of introducing a generic learning outcome and removing strands, giving more flexibility to providers to set the appropriate context (see Figures 13 and 14). We highlighted this qualification, as there were over 5,500 enrolments in 2022, across both ITP and ITO delivery. This was the highest enrolment in a qualification, with over 20% of all enrolments.

Feedback was generally supportive, as it would enable learning to be targeted for the specific farm environment more easily – where things may not always fit into the strands, and not all plans are required.

However, there was concern if a person did one set of learning for a particular sector (e.g., breeding livestock) and then moved sectors and required some learning about another type of farm – they would be unable to re-enrol in the same qualification. This concern highlights the tension between the transferability of the skill, and how the learner is equipped to do this, and the potential need for additional formal training to enable the learner to adapt to the second (or subsequent) sector.

Figure 20: Current configuration of NZ Certificate in Agriculture

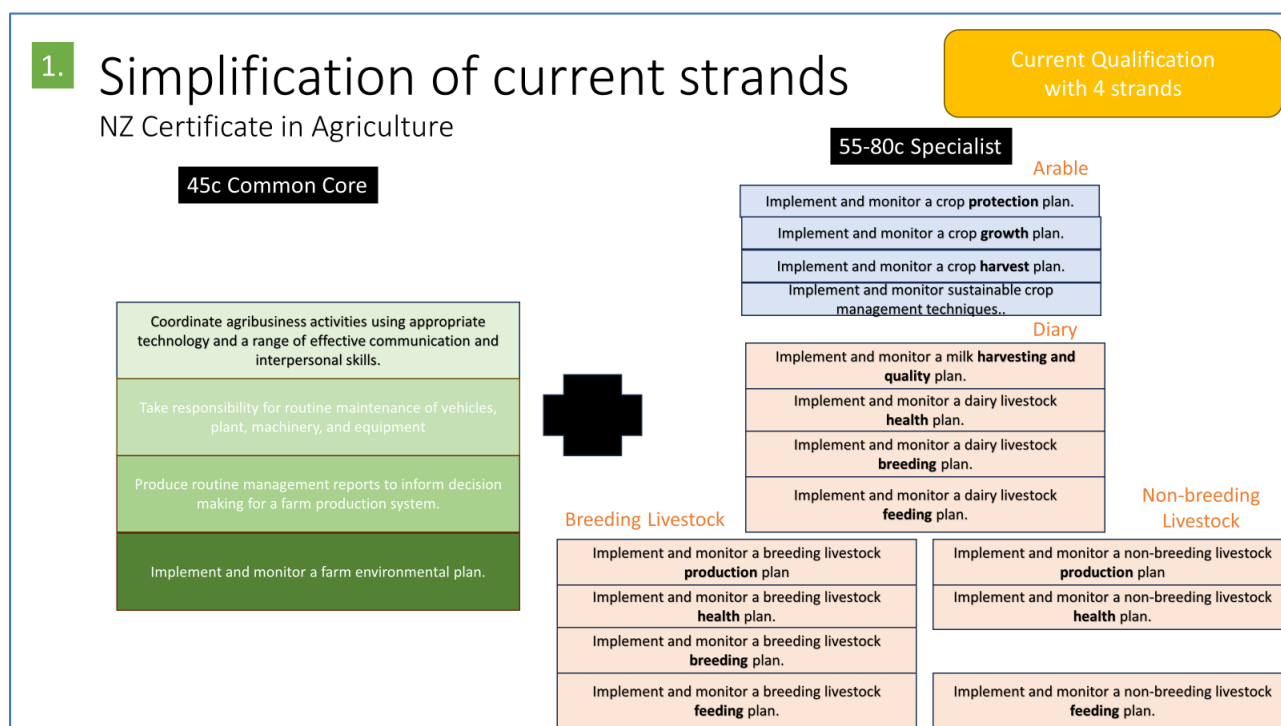
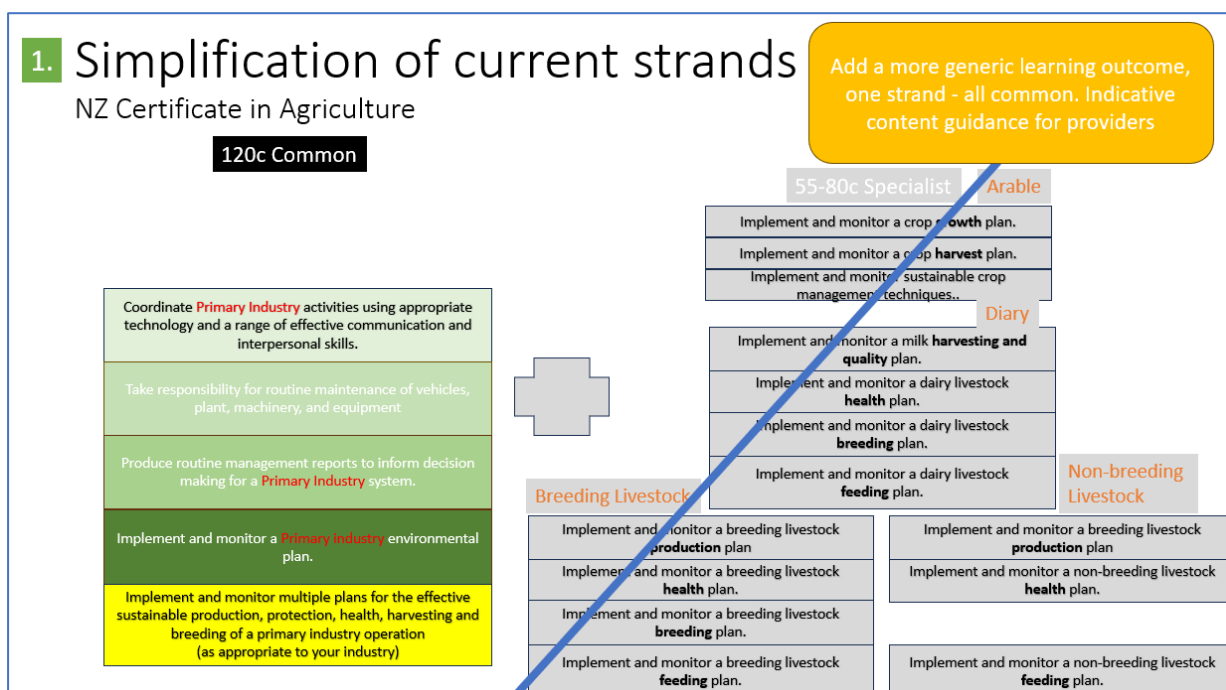


Figure 21: Simplified configuration



Example 2: Rural Land Vehicle Operations

One of the largest enrolment topics is the driving or operation of four categories of vehicles on farms. There are 16 unit standards, across four vehicles, and two levels, of varying sizes. In 2022 there were over 13,000 enrolments in these standards, equating to 14% of enrolments. At level 2, these enrolments account for 24% of total enrolments.

This example aimed to show two different approaches, using a more generic approach, and focused on the skill level of the learners, i.e., removing the ‘demonstrate knowledge’ level and focusing on “can operate” instead (see Figures 15, 16 and 17).

Feedback on this example was more mixed, mainly around the need for learners to learn about multiple vehicles and the importance of proper training given the safety elements. However, most respondents agreed that the current system was overly complex, and potentially doing a disservice to the industry by having too many credits involved (and funded).

Figure 22: Current Rural Land Vehicle standards

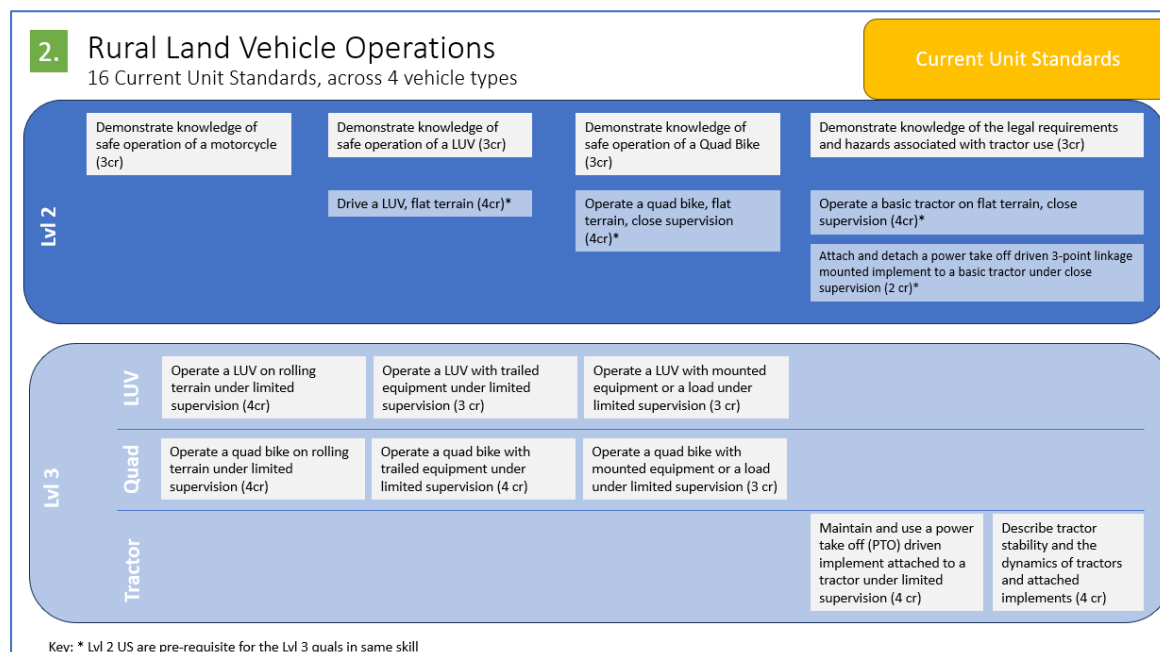


Figure 23: Simplified skill standard

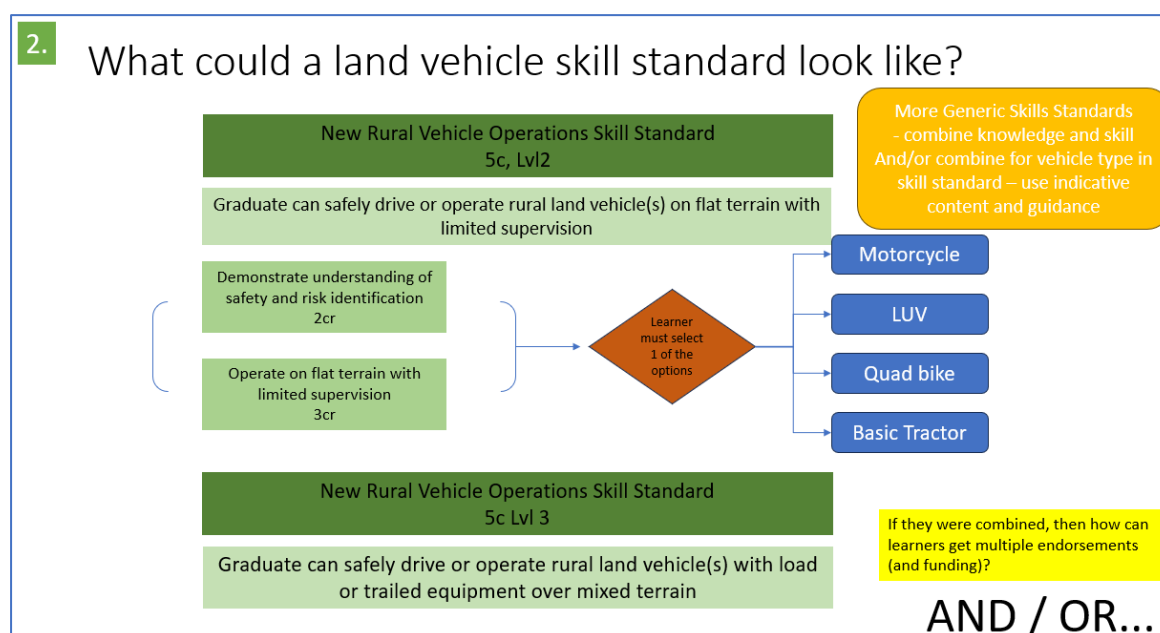
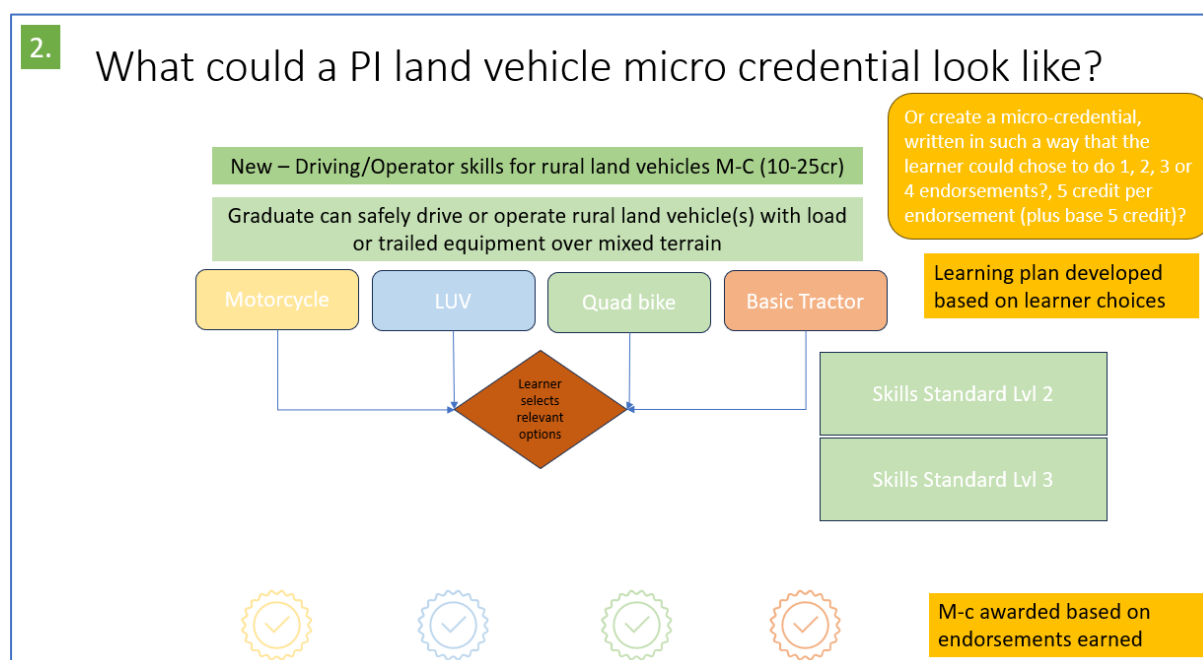


Figure 24: Simplified micro-credential



Examples 2a and 2b: Chainsaws and pruning

Two more examples were created – about chainsaws, and pruning, to have examples in a couple of different sectors for our feedback sessions. These have not been used to date for feedback.

Figure 25: Chainsaw exemplar

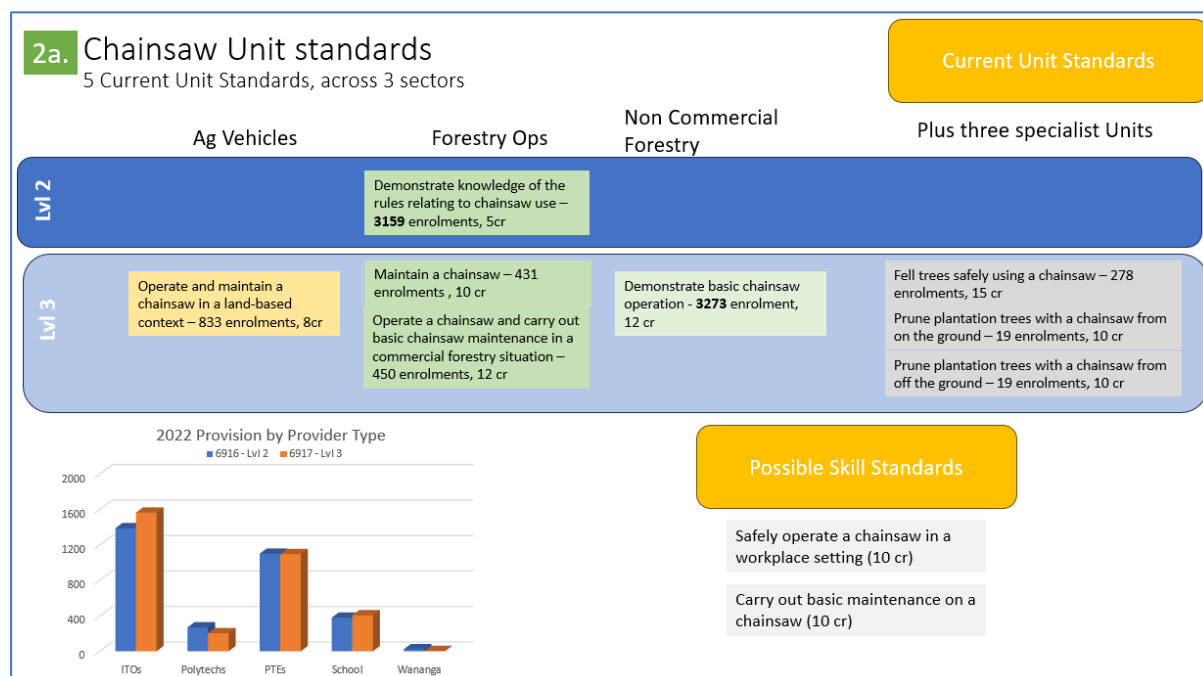


Figure 26: Pruning exemplar



Example 3: Iwitanga micro-credentials

This example (see Figure 18) was created to show how a progression of learning could be designed through stackable micro-credentials. It also shows how an iwitanga micro-credential could be designed without impinging on iwi Intellectual property rights.

This was only discussed a couple of times, but the concept received positive support.

Figure 27: Iwitanga micro credential exemplar

Iwitanga micro credentials / link to learner agency			
Level	Micro credential	Context	Learner agency outcomes
5	Iwitanga MC <i>Flourishing</i>	Acknowledging their iwi perspective as they develop their Māori leadership skills.	Using iwi-based principles (like tuakana-teina) to support the development of learner agency within those they are leading.
3-4	Iwitanga MC(s) <i>Growing</i>	Understanding the perspective of their iwi on food and fibre skill clusters. <div> <p>Key</p> <p>Potential food and fibre skill clusters</p> <p>Te Taiāo outcomes</p> </div>	Understanding the iwi perspective gives ākonga a strong base to develop their learner agency. They become confident to use and explain mātauranga Māori in their workplaces.
2	Iwitanga MC <i>Grounding</i>	Where do I stand? – the tikanga, kawa, and pūrākau of their iwi.	Understanding who they are and where they come from helps ākonga build learner agency (the ability and confidence to take charge of their learning journey).

Example 4: NZ Certificate in Food and Fibre

This progression of examples aimed to investigate using more common language in qualifications at the same level, through to the hypothesis of creating a family of generic NZ Certificates in Food and Fibre. These would be based on common core topics, and then electives from the specialisms to build a qualification to suit individual learners' requirements (see Figures 19 to 21).

Feedback was generally positive – simplification was seen as a key benefit. The major concern was for there to be sufficient information for future employers to understand what a graduate had achieved, and what they knew and could do.

Figure 28: Aligning learning outcomes across a qualification family

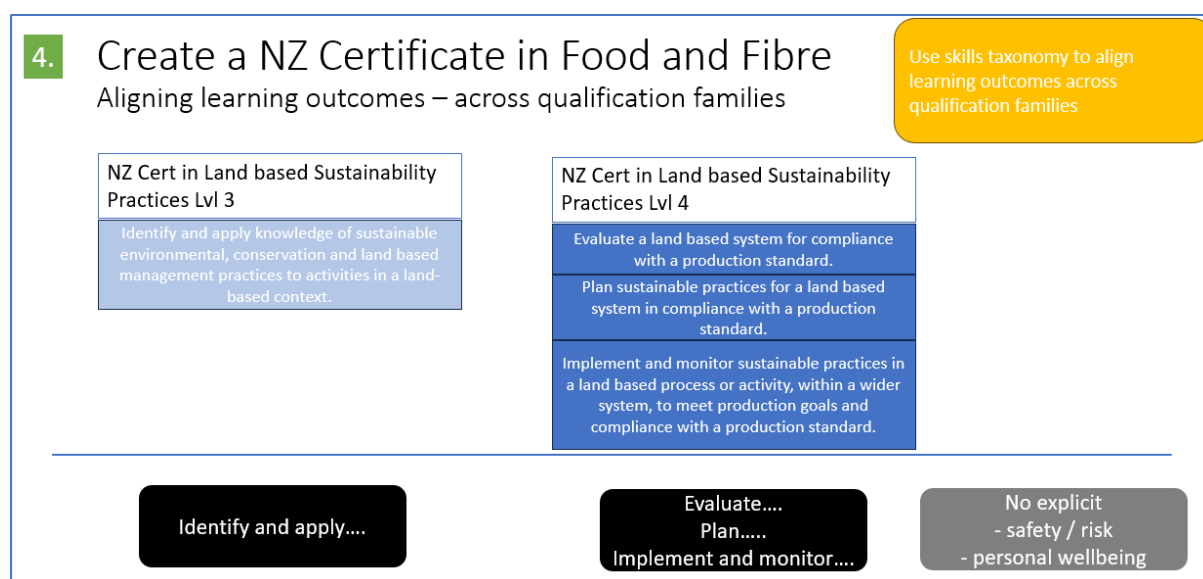


Figure 29: Aligning learning outcomes across multiple qualifications

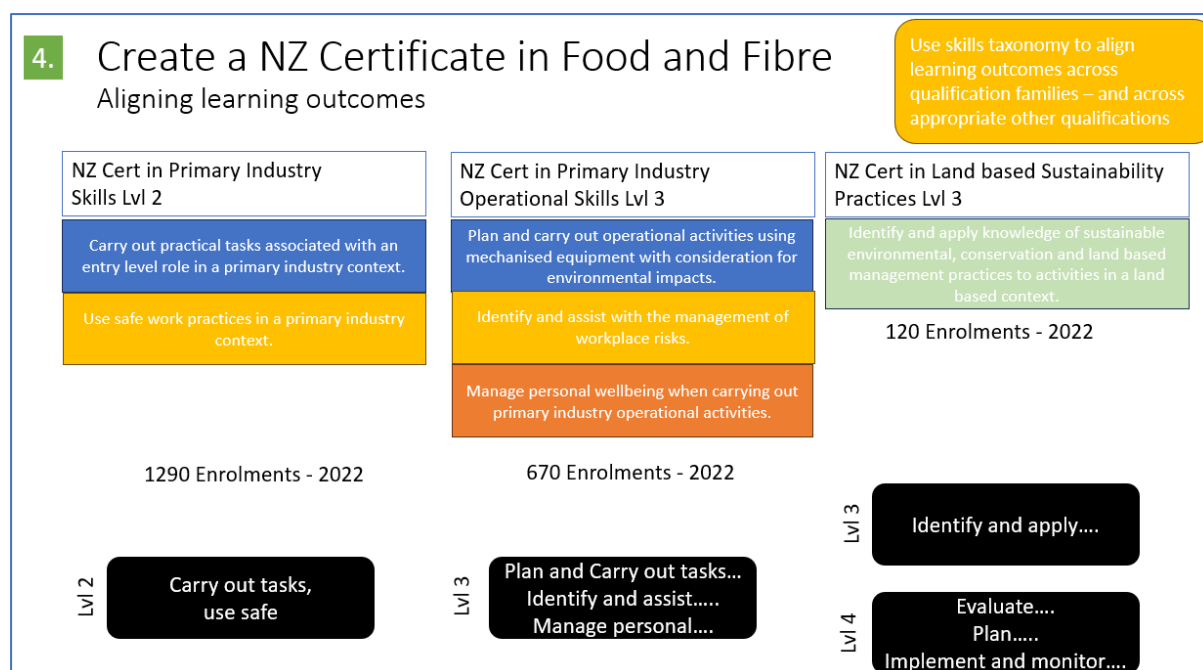


Figure 30: NZ Certificate in Food and Fibre exemplar

4. To enable a NZ Certificate in Food and Fibre
Core general skills with specialised qualifications for specific technical skills

Pathways for core and elective
Plant, Animal, Aqua, Forestry

Keep separate, or
combine?

Specialisms grouped more
tightly into skill clusters

As an enabler to
share common
standards across
qualifications

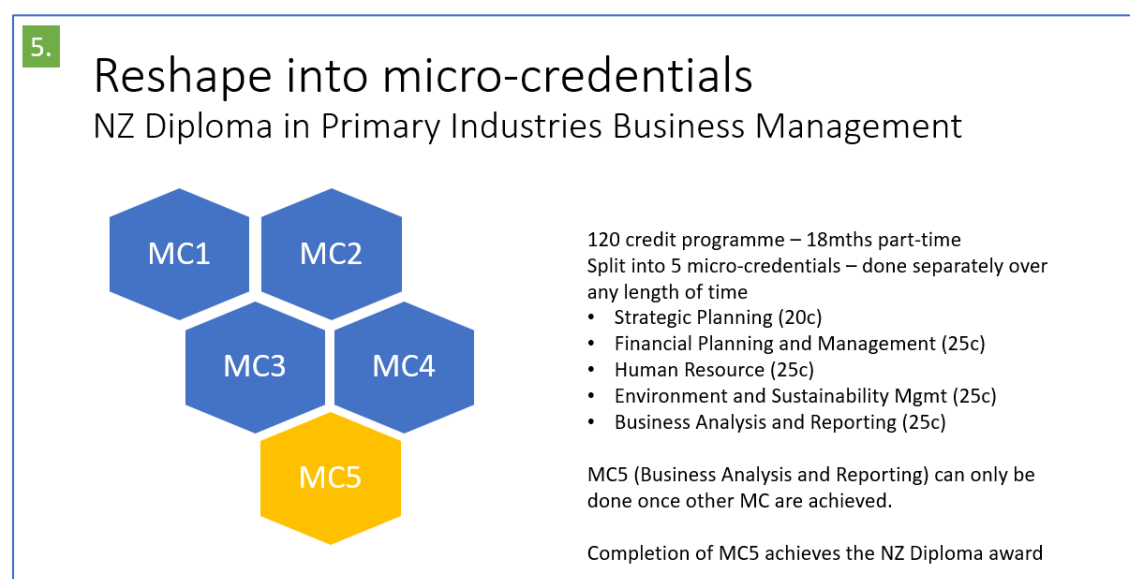
Level	Food and Fibre	Specialist Management	Specialised Diplomas & Programmes
2	NZ Cert in Food and Fibre (L2)	n/a	n/a
3	NZ Cert in Food and Fibre (L3)	n/a	NZ Cert in Agriculture NZ Cert in Apiculture NZ Cert in Horticulture NZ Cert in Forestry Operations
4	NZ Cert in Food and Fibre (L4)	n/a	NZ Cert in Horticulture Production & Services NZ Cert in Forest Harvesting NZ Cert Seafood Processing NZ Cert in Animal Management
5	NZ Diploma in Food and Fibre (L5)	NZ Cert in Primary Industry Production Management NZ Dip in Primary Industry Business Management Māori Leadership	NZ Diploma in Horticulture Production NZ Cert in Cellar Operations NZ Diploma in Landscape NZ Diploma in Field Hydrology NZ Cert in Irrigation System Design NZ Cert in Arboriculture NZ Certificate in Animal Technology
6	NZ Diploma in Food and Fibre (L6)		NZ Diploma in Environmental Management NZ Dip in Forest Management
7	Bachelor in Food and Fibre		

Example 5: NZ Diploma in Primary Industries Business Management

In this example (which was developed in response to feedback within the Arable Workforce Development Plan), an existing qualification of 120 credits is broken into 5 micro-credentials, four of which could be done at a time and in the order that suited the learner, with a fifth capstone micro-credential (see Figure 22).

There was generally positive feedback about this approach, especially from a learner's perspective. The main concern was about the bureaucracy for both the learner and provider for the enrolment process. (i.e., five separate enrolments). For the provider, a concern was expressed over the level of administration required for five micro-credentials, rather than a single qualification.

Figure 31: NZ Diploma, with micro credentials



Appendix 5: Key informants list and interview schedule

Muka Tangata		
Jeremy Baker	Chief Executive	
Lester Hoare	GM Assurance and Quality	
Mitzi Austin	GM Engagement and Partnerships	
Moerangi Vercoe	Manukura	
Muka Tangata Council		
Paul Crick	(Sheep, Beef, Deer Industry)	
Geoff Taylor (with Hamish Hodgson)	Chief Executive Manager	Dairy NZ Dairy Training Ltd
Cathy Webb	GM Seafood Standards and Market Access	Seafood NZ
Food and Fibre CoVE		
Paul Hollings	General Manager	Food and Fibre CoVE
Providers		
Andrea Leslie	Ako Lead – Food and Fibre	Te Pūkenga
Julie Thorburn	Academic Change Programme Director	Te Pūkenga
Matiu Julian	Māori Engagement and Equity Manager	Primary ITO Te Pūkenga
Tony Hall (with senior leaders)	Founding Director	Community Colleges
Non-formal providers		
Jo Loe	Programme Manager	Growing Future Farmers
Lisa Sims	General Manager	Agri-Women's Development Trust
Marie-Clare Andrews (with Jane Cooke)	Head of Growth Head of Operations	Agricademy
Lisa Rogers	Chief Executive	Rural Leaders
Others		
Vic McLelland	Chief Executive	IT Professionals
Ceri McLeod (with Ana Bremer)	Regional Lead Senior Advisor	Southland Murihiku RSLG
Megan Clayton	Director, Pathways and Quality	Lincoln University
Gabrielle O'Brien	Chief Executive	Rural Women NZ

Key informants interview schedule

- Introductions / mihi and thank you.
- Background of project and purpose of interview.
- Permission to record, for notetaking purposes.

Background

This project has been established jointly by Muka Tangata and Food and Fibre Centre of Vocational Excellence (Food and Fibre CoVE) to test the ideas suggested in the New Approach to Learner Pathways paper.

Muka Tangata aims to create a food and fibre skills framework, and a suite of products, that maximises flexibility and transferability, while remaining meaningful to industry and allowing opportunities for specialisms.

This research project seeks to develop and test the concepts of **flexibility** and **transferability** in the development of qualifications, micro credentials and skills standards within a **Food and Fibre Skills Framework**. We are keen to get your perspective as a key informant on these concepts.

Themes

Theme 1: The concept of a food and fibre sector skills framework

Theme 2: The incorporation of mātauranga Māori into learning

Theme 3: Bridging to non-formal and informal learning

Theme 4: Exploring exemplars to highlight impact on qual development

Theme 5: Defining and prioritising flexibility

Theme 6: Defining and prioritising transferability

Theme 1: Food and Fibre Skills Framework

Our thoughts to date:

- A high-level framework that will provide an articulation of core, generic and specific skills.
- How these skills are conceptualised and represented will be drawn from existing qualifications, current and future needs that industry have identified in their Workforce Development Plans, and from synthesising ideas from other sources.

The Framework will provide:

- A roadmap for the review of current qualifications and the design of future qualifications
- In discussions and the review process to identify skill gaps and incorporate future skills
- A tool to articulate the value of training to stakeholders, e.g., the importance of 'soft' skills
- A way to provide guidance to providers (programme design and delivery)
- And it will provide a **consistency of approach** that will enable flexibility and transferability.

T1 questions

1. Do you have any initial thoughts?
2. What else do we need to take into consideration?
3. We have visualised mātauranga Māori as underpinning or being at the core of the Framework? How do you view this?
4. How else might The Framework be used? What else would it need to be used in this way?

Theme 2: The incorporation of mātauranga Māori into learning

We need to acknowledge Māori perspectives on skills, and how they should be developed, recognised, and valued.

- How do we keep mātauranga Māori at the forefront of our thinking and approaches?
- How might the Framework support Māori to flourish in the food and fibre sector and allow better insight into te ao Māori?

Theme 3: Bridging to non-formal and informal learning

We hypothesise that by having a skills framework articulated, different providers and even employers can see how any training fits into the framework.

- How do you see this working?
- What benefit (if any) would there be for your organisation by having alignment.

Theme 4: Exploring exemplars to highlight impact on qual development

We have created a series of examples that hope to highlight different aspects of the proposed change and would appreciate your comments for that ones that are relevant to you.

- NZ Cert Ag – simplified
- Skill standard - Rural Land Vehicle & chainsaw
- Iwitanga - stackable m-c
- NZ Cert in Food Fibre – generic v specific.

Theme 5: Defining and prioritising flexibility

What do we mean when we talk about flexibility? Food and Fibre CoVE provides a definition: 'when someone can move along a pathway in the way that meets their needs and preferences'. We've been thinking about what flexibility might look like for different groups of people.

1. What do you think flexibility means for these groups in the food and fibre sector?
2. What are some the barriers to flexibility across the system?
3. How do you think a Food and Fibre Skills Framework could contribute to 'flexibility' for these groups of people?

Theme 6: Defining and prioritising transferability

We've been thinking about what transferability might look like and require for different groups of people, thinking about transferability both in terms of people being able to transfer their skills and components of learning that are transferable between and across qualifications, workplaces, and sectors.

1. What do you think transferability means and requires for these groups in the food and fibre sector?
2. What are some of the barriers to transferability across the system?

3. How do you think a Food and Fibre Skills Framework could contribute to 'transferability' for these groups of people

Appendix 6: Internal feedback review

This section presents findings from three online internal workshops held in January 2024.

Aim

The aim of the workshops was to bring the Muka Tangata team up to date on The Framework, and to tap into their combined expertise across the multiple internal teams, especially the Qualifications and Standards team. It was especially to understand how The Framework could be used by the teams, and what level of detail would be required to make it useful.

Structure

Three 2-hour workshops were outlined, and attendance was encouraged for any workshop of interest and where availability allowed. All three workshops had a good level of attendance and participation. The agenda was similar, but the focus was on the different skill sets – Core, Technical and Specialist. For the usage discussion, the previous workshop content was shared, and built on. This document will focus on the combined outputs, rather than chronological representation of the workshops.

How could The Framework be used?

This section was split into various audiences and built on in each subsequent workshop. This is a summary list of the various comments (duplicates removed), along with the key insights from each section which may be built into the recommendations of this project.

Audience: Muka Tangata

- Possibly could be applied as additional reference for levels of standards or quals. i.e., Entry level or preparatory focusing on core skills, then grading up as the content moves more towards technical and specialist skills.
- In Qual design and review - used as a consistent approach across MT with unpacking the transferable skills / shared language and way to focus discuss on the learner, help describe the skill rather than the task / think how they can be transferable
- Help show what the gaps in current graduate outcomes
- Input into Skills Forecasting
- Skill identification for TEC Advice
- A guiding framework for future research and how we communicate about our research
- Technical skills – the basis for guidance info for product development
- Presumably really helpful for mapping transferable career pathways across quals
- Developing specialised qualifications.

Insight: The recommendations should detail how to best incorporate the framework into standard operating procedures in the teams as appropriate. Start with the Qualifications and Standards team requirements, and then adapt for other teams as usage dictates.

Audience: Industry Groups

- Using this in the initial planning and scope with industry
- Understand where the current workforce is at, and development needs are located

- More transparency and understanding: an easy way to understand what training produces what skills
- Can help identify theme discussions about mega trends, and why building those core skills can help people adapt / help them understand, value, and focus on skills needed that are beyond technical skills
- Shows responsiveness to issues identified in workforce development plans
- Enable discussion about commonality of skills across sectors / support cross industry conversations about things like health and safety
- It could help identify working group membership, as we can see the overlaps across different industry groups.
- It is sometimes quite hard to maintain higher-level discussions with industry experts, this framing may be useful for keeping that conversation going
- Highlight to industry where the basic focus needs to be
- Potentially reduce development costs
- Support regional planning and maximise employment of seasonal workers.

Insight: The key use appears to be aligning industry thinking around the transferability of core skills. This would need to be considered in the qualification review and other discussions where cross-industry collaboration is required.

Audience: Employers

- An easy way to identify skills obtained and training needs
- Employers can feedback back on core skills – so it captures what they consider core
- A way to talk with employers about how to support their learners to learn
- Help employers to understand what “level” their incoming employees are at, so they can provide more targeted/differentiated training
- Help employers recognise skills that employees bring that have been gained in different settings
- Help them understand and value a wider range of “soft” skills
- Have “work ready” employees available, able to self-manage / have employees who come to the workplace with a wide range of skills
- Will enhance NZ Inc in meeting export standards if employees have the right technical skills
- How can employers recognise these core skills?

Insight: Theoretically useful to employers, the next step would be to test this, and to work out an effective mechanism to disseminate and encourage take-up of the concepts in The Framework to impact employer-employee training.

Audience: Employees / Learners

- Support learners to be able to articulate what skills they already have / capitalise on the experiences of the learners/employees
- Helps them value themselves and their ability to learn more
- Having learners equipped with better learning to learn skills will help them get better results
- Show learners their current knowledge is valued in more than one context / Employees can easily move within seasonal industries or career change / selection of skills that may open multiple pathways across sectors
- Understand where they are and what they need to learn/improve

- Add value to learners and employers for skills that have not been recognised before
- A higher level of appreciation of technical skillset will open options for learners /employees - both within existing career pathways and into other pathways.

Insight: Theoretically useful to employees/learners, the next step would be to test this, and to work out an effective mechanism to disseminate and encourage take-up of the concepts in The Framework to impact on the employer-employee training.

Audience: Iwi / Hapū

- I think several of the aspects of The Framework will be compelling for our iwi Māori communities and learners – particularly around participating, interacting, and knowing self – good bridge into training
- Support iwi and hapū to understand what high-level skills look like in industries that may be new to them
- Incorporating mātauranga Māori, including iwitanga in a way that is respectful, appropriate and adds value to how rangatahi learn
- Caring for the whenua
- Acknowledge other knowledge systems
- Providing an entry point for involvement in training/development for rangatahi. E.g. Could provide wananga that focus specifically on core transferable skills with a shared understanding of what these expectations are.
- Help to build a profile of what skills are needed and where the gaps might be to support iwi businesses
- Incorporating ngā mātāpono / Māori values into guidance for our products.

Insight: Theoretically useful to iwi/hapū so the next step would be to test this, and to work out an effective mechanism to disseminate and encourage take-up of the concepts in The Framework to impact rangatahi training.

Audience: Providers

- Send a consistent message to providers what we are targeting through the core skills e.g. throughout the duration of the project from kick off, during consultation
- To highlight good practice in the delivery of essential skills
- Help validate what is already been done by good providers and encourage others
- Linking transferable skills to other programmes
- Helps to develop foundation skills and easy transition to higher level quals/programmes
- Help them design programmes that focus on skills / may help focus on the core skill, and make the context adaptable
- Providers can include transferable skills in their programmes to prepare ākonga for a variety of careers
- Providers can give their learners a way to articulate / understand their own skills
- Help rationalise resource development within and across providers
- Guidance information
- Programme designed to support specialist roles
- Enable shared training between employers i.e. in apprenticeships where an employer is unable to provide certain required aspects to meet qualification/programme requirements

Insight: Providers are a key stakeholder in the application of The Framework. More work will be required to understand how The Framework could be incorporated into qualifications and standards, so that it has the desired impact on delivery and in learners' skill development.

Refining the elements of the draft Food and Fibre Skills Framework

Core Transferable Skills Matrix

Refinements to the matrix: There were some useful points raised in this discussion. These changes have been incorporated into version 4 of the matrix.

Figure 32: Core transferable skills (V4)

Core transferable skills V4 (after internal feedback sessions – Jan 24)				
Domain	Skill sets	Mōhio (understanding)	Mātua (expertise)	Mārama (enlightenment)
Collective	<i>Participating and contributing</i>	Participation Empathy Respect for diversity Cultural capability Kaitiakitanga (sustainability) Iwitanga	Leadership and social influence Civic responsibility Mātauranga-a-iwi Global perspective Integrity Ethics	Leadership
Social	<i>Interacting with others</i>	Communication Empathy and active listening Interpersonal skills Wellbeing Building inclusivity Teamwork	Customer service Co-operation Negotiation Collaboration Teaching, mentoring, and coaching Provide instruction and supervision Managing conflict	Service Management Business
Individual	<i>Knowing self</i>	Resilience Motivation (initiative) and self-awareness Dependability and attention to detail Flexibility and agility Adaptability Self-control	Leading self Active self-care and development	Quality assurance Innovation Entrepreneurship
Cognitive	<i>Thinking critically</i>	Problem solving Decision making Creative thinking Sense making Trouble shooting	Transdisciplinary thinking Intuition	Developing people Kaitiakitanga (Environmental stewardship)
Lifelong learning	<i>Learning to learn</i>	Curiosity Multiple literacies Learning agility Learning strategies Reflective practice Focusing	Digital fluency Reflexive practice Openness – growth mindset	Supply chain-Global perspective

Desired level of detail: In this exercise, four frameworks were given as examples for the participants to consider, to stimulate their thoughts on what level of detail would be required for The Framework to be useful and useable.

Singapore Skills Future

- I like the skills categories, and the skills to build skills
- Too wordy
- I find the language too 'education-y'
- This level of detail is probably what would be accessed by the majority of users - with increasing detail needed for users with specific needs e.g. qual review (or the ideal world for skills forecasting project)
- VERY rigid and prescriptive- Potentially more helpful for providers or similar in their planning for delivery?
- This model would be more help for providers and Qual development
- Con - wordy as / Pro - once you waded through it, gives the audience a clear idea of the level of skill competency.

SFIA

- Very wordy but also quite loose/vague? Lots of room for interpretation (good) but feels like certain words need clarification (define 'sequence' 'complex' etc.)
- Seems very complex at first glance. You would need to spend time unpacking it to explain to others.
- I like how the levels tell the audience what the learner is capable of at their level.
- Con - would need interpreting, not intuitive.
- Suited for developers and providers - not so much for learners.
- A bit hard to follow for someone who doesn't know what to look for
- Quite a lot to navigate unless you know what you are looking for. Language is too educational.

UK Skills Builder

- I like the opportunity in this framework for pre-assessment and building learning plans based on the learner's existing skill level / mōhiotanga
- Good visuals, easy to follow
- Pro - clarity of the different levels = easy to follow, easy for employers to see the skill level of the employee
- Has broader skill areas than Singapore, but like how they have thought about the progressions within each skill area.
- Seems to work for self-assessment and personal development - would it be hard to assess with such fine grain increments?
- I think this is good from a learner perspective - also that it has 'I' to make it less impersonal
- My preference for learners, employers, iwi, industry
- It is very similar to qualifications language currently.

Australian Job Classification

- Would need to know more, but this looks a bit like a series of standards - perhaps too detailed, from my perspective
- PRO: Really clear description of what the criteria actually mean
- CON: A lot of work to develop this level of detail across industries - essentially re(re)writing standards
- It would only be useful for providers with that level of detail.
- This is super detailed but would probably be more 'recognizable' for current participants in the system
- This one is very complex and would be best suited for qualification & programme development.
- Less level-y and more tell-y - not as useful as others
- Pro: linking to other industries etc.
- Pro: task specific skills relevant to industry.

General comments about level of detail

- I have a strong feeling about transferable skills - giving people credit for the skills that they already have and building on them, so I like the potential in the UK approach.
- I would avoid the level of prescription in the AUS framework - if the skills in question were much higher level (like the one in the SSF model) I would be more comfortable with it.

- I like the scaffolding of skills and knowledge from one level to the next that we have in several of the models - pathway for learner and for employer interested in supporting learner. Also helpful for providers, I should have thought.
- Simplified and plain English language
- Like the skill categories of Singapore with the skill progression of the UK.
- Different levels of detail for different audiences.

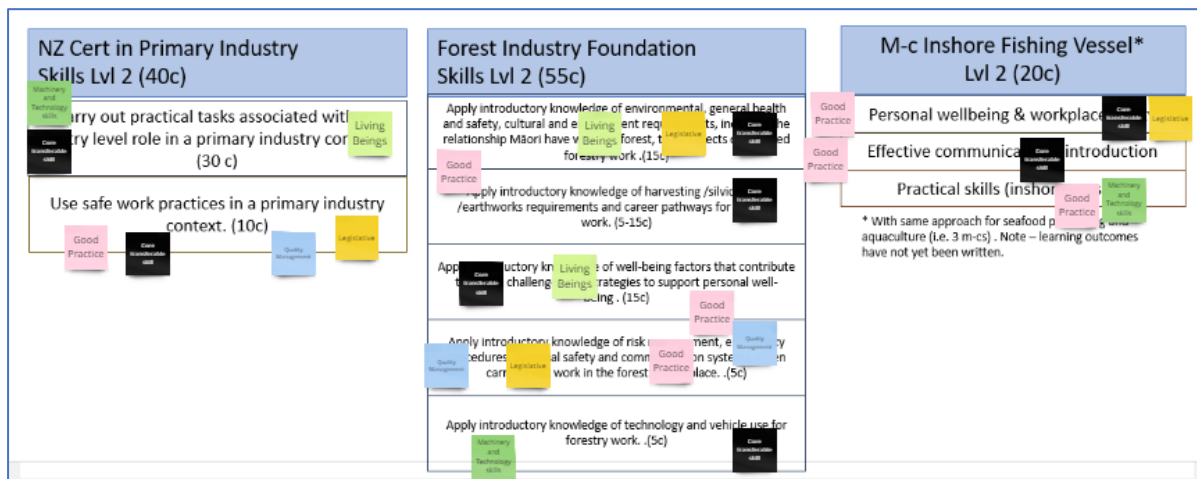
Insights:

- The level of detail required in The Framework would vary, depending on the audience – provider more detailed, less detailed/prescriptive for employers.
- There was good support for the learner approach taken by the UK Skills Builder, and the skill categories of the Singapore Future Skills. The level of resources contained in the UK Skills Builder could be leveraged where applicable.
- To start, a simple, descriptive statement per skill, per level could be drafted, and tested in the upcoming reviews. Where possible adapt from the UK Skills Builder, so that more of those resources can be utilised (rather than creating from scratch).

Core Technical Skills Matrix

Refinements to the matrix: A mapping exercise was undertaken to test the categories against draft micro-credentials, to see if there were gaps in the five skill sets.

Figure 33: Mapping exercise



Insight: There was agreement that the five skill sets were appropriate – however there was significant overlap, where a single learning outcome could be attributed to multiple skill set categories. This wasn't seen as an issue.

Desired level of detail

There is a continuum from generic through to workplace specific, and in this exercise, we were seeking to explore where The Framework skill descriptions would sit on that spectrum.

Three examples of current standards were presented for the participants to consider, to stimulate their thoughts on what level of detail would be required for The Framework.

- Thinking about the be, can and do, I like not having too much detail - like the chainsaw US above
- I think it depends on whether we create the framework based on what we already have, or create classifications first and then see what we tag against it
- Skill standards, well developed, will likely decrease the level of duplication and context specificity
- The more detail you put in, the more it will need to be maintained
- I think perhaps headings e.g. Rural vehicle operation then listing e.g. includes tractors, quad bikes etc. No need for operation of.
- Some of the core technical topics may be level dependent (I'm thinking quality management might kick in at L3 or 4 in a lot of industries)
- Putting in a lot of detail narrows the focus too much.
- I think it needs to remain reasonably generic to allow for change, and for use / integration across-WDCs
- A higher level of detail allows more room for futureproofing.
- Question: what do we think the relationship between 'levels' (i.e. proficiency/ competency) is and the difference between core and specific skills - e.g. can you have a level 5 core skill?
- For some it is a continuum from core to specific technical skills – and so in some respects it doesn't matter where the line is drawn, you must do the complete 'strand' anyway.

Insight: In general, the feedback was that limited detail is required in The Framework for technical skills. It will be a useful tool to guide the creation of generic skills standards, where the context could contain industry specific detail.

Specialist Business Skills / Bodies of Knowledge

Refining: There was a mix of discussion with these outcomes:

- Combine Specialist Business Skills and Bodies of Knowledge together
- Removal of specialist skills which are central in the core transferable skills (i.e. Leadership)
- The list of Bodies of Knowledge will be fluid, and really be driven by industry needs. The Framework will just indicate some examples.
- The Bodies of Knowledge area is a combination of formal and informal qualifications combined with ongoing growth and development of expertise and mastery. They may also be cross-sector fields, with professional body governance. (e.g. Sustainable Business Network, Institute of Directors).

Connecting with Non-Formal and Professional Bodies: This discussion raised more questions than answers. To be explored further.

- Could the UK Skills Builder approach of self-assessing help here?
- Is it enough to just articulate? Does it need a mechanism to bridge?
- Is there a place for recognition of prior experience (professional conversation)
- What is the value proposition for employers? And existing professional bodies

How and when could we build this framework category out? Some ideas for how we could approach any next steps were:

- We could perhaps build a pathway example, perhaps one vertical and one horizontal progression. Pathways are very rarely linear so it would be great to see a wobbly one, or a spider web with threads, and junctions (decisions)
- Posit these as examples rather than as “the framework” (noted above)
- How would the bodies of knowledge be of use to industry, learners, and providers
- Perhaps think of these as “tags” rather than their own category. Could skill sets (bodies of knowledge) be represented visually to learners, in their record of learning, so the clusters are formed and shown based on the tags.

Insight: There was agreement that Bodies of Knowledge is a useful category, but it could be left undefined in The Framework – as it naturally occurs as people progress through to expertise and mastery in a given field.

Some general comments

In each workshop, there was a blank page for people to leave other comments.

- Employers' sentiment – you can't teach "qualities"
- Some qualities are innate, but others are a behaviour set that can become habitual with enough repeats.
- It gets away from the idea that things are innate, or not.
- Professor Antje Barabasch's work in this space might be of interest 😊
- People don't recognise skills unless they are called out
- Core (to a qual) versus core transferable skills
- Knowledge passport – experience, attendance, and attestations
- Build an example of levels of detail - from UK Skills Builder, for our employer focus groups
- Do we use The Framework at this level in reviews - and the reviews build out the level of the detail?

Appendix 7: External feedback focus group notes

Focus group detailed notes

Focus Group 1:

Introductory comments:

Primary concern right now is about the uncertainty in vocational education sector and wider. This is impacting on decisions and plans.

Delivery – really helps for learners to do practical first, then have exposure to theory later, then helps it all make sense. Have an Aha moment when it gels.

The Food and Fibre Skills Framework

Yes, it makes sense and aligns with how they are developing and delivering their programmes. E.g. Wellbeing – use a base in the first year about personal wellbeing, then extend it in the second year to look at more workplace wellbeing.

Have created documents to share with liaison officers and employers that have guidelines that help with identifying the skills required to be evidenced, have conversations with learners, provide situations that examples can be shown.

Do employers see the value in these core skills: hard to know, but initial feedback on the approach is positive – good to have resource/checklist, set expectations, explore teachable moments. Passed from Farm Manager to Stock Manager to explore with the learners

Have progression in their rubric – familiar with, competence at skill, understanding etc. Different rubric based on frequency, competency and understanding.

How did they get there – they identified the graduate profile vision and sought feedback from employers. From there worked back to build what is needed at each year with the learner.

NZ Cert in Food and Fibre

It would really help if each level in qualifications is consistent, so from the regard, it could help.

Had difficulty with the Level 3 Sustainability programme as it was difficult to put into practice. Economical sustainability is different from environmental sustainability – they shouldn't be mixed until the second year. 2 separate micro-credentials could help.

Using Rabobank for the delivery of the financial literacy modules. Building up from personal finances, through to introduction to farm financials – including employment and tax, loans, and interest modules etc.

What is in a name? It is really hard to explain to employers the skills involved in a generic name, whereas the NZ Cert in Agriculture is clearly understood. It would need good communication to get understanding in the sector. Would need to have a system to support which is farmer focused – so they know what skills a learner has, if it wasn't clear in the name.

Need elements in the qualification where providers can react to changes, and also have a point of difference from other providers – so generic qualification would assist.

"How the hell do you do it" - get buy-in across the multiple sectors, employers, providers etc. Needs to be a ground-up approach, rather than government led

Flexibility and Transferability

Really needed – as the sector is constantly changing, and we are constantly updating our thinking on the best way for learners. Must meet changing needs.

It would be good to have credits that could be changed for certain cohorts/needs. Some things are no longer relevant, needs to change in a matter of weeks – not years.

Surprise that the bite-sized training is not more highly ranked, otherwise in line with what I would think. Transferable – sometimes employer would rather have someone green and mold them.

Focus Group 2:

Introductory comments

Dairy and Forestry were predominantly areas of focus, but crossovers into other sectors. Some formal and some non-formal provision. Wide range of employer types.

Simplification is really important – recognising there is a tension between transferability and having guidelines/boundaries. A good example is of an employer with manufacturing and logistics – one qualification is suitable for both areas of business, but NZQA/TEC funding is only for the manufacturing employees.

The Food and Fibre Skills Framework

The core transferable skills approach at the heart was good.

There was a question about how to provide training for these though, as it is difficult.

It is really encouraging to hear the skills focus and not necessarily an upward progression through NZQA levels. Important to support mobility across sectors, and not focus on a linear progression. It could be good to have nano-credentials which accumulate over time and are not linked to the NZQF levels. People need a variety of skills, rather than a set programme, that progresses up through levels.

We are currently working on some Pacific projects which are agnostic to levels. NZQA is not keen. Credits matter -funding and recognition. E.g. Preparing for retirement or preparing for home ownership – focus on learning.

Right now, it is difficult to separate the core transferable skills, intertwined with the qualification, which is funded. Credits for specific outcomes. Not a focus on core transferable skills value.

Some consistency over time with funding is also important. Mixed messages with TTAF – now employers are waiting for the next allocation. Sometimes the same programme gets double, sometimes nothing – depending on the strategy of the day. Really hard to work with and confusing to employers. Need more clarity on what is funded by the government, and what needs to be privately funded by employers or learners.

For the core technical skills, this framework will be useful in conversations with employers. Technical skills get very specific very quickly, it would be good to have something to identify the core skills within technical topics to help with the transferability of skills.

Tough to decide when specific is appropriate, and when a generic approach is useful. Sometimes you have to teach the specific skill before learners can understand the broader approach.

NZ Cert in Food and Fibre

The simplification approach is good. And appreciation that the context is important and what skills people are bringing with them. Currently our technical qualifications get specific quickly. NZQA will hate a more generic approach, they want a checklist tightly defined.

The issue is if you have done a NZ Cert in Food and Fibre, how will employers know what context you have gained, and what skills it includes.

It is positive that someone could have movement across sectors while completing this qualification, and it wouldn't need to re-do, repeat or pull-out.

How can we market it, and attract learners for something that sounds very generic? Understand that the cohorts could be specific, but how could we sell it? Need something that is learner-centered, and accepted by employers – somewhere between the qualification name (too high) and the Record of Achievement (too detailed)

In the past, there was a "skills bank" concept where core transferable skills were separated, awarded differently from the main qualification.

Flexibility and Transferability

With flexibility for learners, the key is how to ensure it is still viable for providers. Currently there is a focus on bums on seats for a period, rather than the outputs of learning.

With industry changes, we need to understand what they bring with their experience. Huge focus – especially in rural NZ who have more need to change employment.

We should be able to share the good stuff around NZ – learn from each other, save duplication.

Refreshing to hear the focus on transferability, two key drivers:

- Employees to stay connected to the workforce as our population ages
- Mobility of workforce.

Introductory comments:

There were a range of providers in this focus group, with experience from both formal and non-formal, campus and work-based, foundation to higher level learners. There was a range of sectors covered including Amenity, Horticulture Agriculture, and viticulture. Some participants came from a sector/farming background, others through academic pathways. All were interested in hearing about The Framework and how it could impact them and their learners.

The Food and Fibre Skills Framework

Generally good feedback. They were especially pleased it aligns with the NZ Curriculum for consistency.

Question about how these skills can be assessed? Mixed answer – some will be, i.e. micro-credential in leadership, some not, rather embedded in delivery. There are some tools for self-assessment. But it does provide a common language to build on.

Comments that this tends to happen naturally. Some in the curriculum formally (i.e.. Wellbeing and resilience) and others in delivery. Like the look of The Framework – nice to be able to align with something and have something to point to in discussions.

In the foundation space, any qualification is just a vehicle to teach these life skills. Ingrained in how things are done.

I still find that while employers are keen to talk about some of these life skills, in reality they are gruff old orchardists, who believe in the road of hard knocks. We try to prepare learners and support them. Clearly ask employers what they are expecting of learners – always core transferable skills – initiative, reliability, honesty.

The Framework could be useful in those conversations, and as a bit of a checklist. Could ask learners to rank themselves. And employers could do the same.

I am capable (out of Otago Poly) provides this ability within a portfolio approach.

NZ Cert in Food and Fibre

The simplification approach is good. It would differ at the different levels though. More appropriate at level 2-3, by the time learners are at level 4 – need more specialist knowledge. We are trying to prepare them for what we think they need, rather than what industry actually needs now. Learning needs to be at the right time for each learner.

PI Skills (lvl2) is a good example that exists today. Different topics depending on the cohort/need. Really just teaching core transferable skills, with a flavour of practical skills. Then they move on to Level 3 for more technical skills.

Concern that industry will not understand or support. Reservations at level 4 and above. May risk good work already done (i.e. In Arb/Landscaping, it took some time, but now have the qualifications in line with what industry needs).

Core Transferable Skill - teaching

What more could be done to assist with teaching Core Transferable Skills?

- More time, they are really hard to squeeze into a 12-week course
- Really hard in a work-based setting, would need employer upskilling and support
- Funding to recognise the benefit. This happens in foundation, but learners need lots of support (i.e. mentor after the course is completed). It's intensive support at the beginning, and then eases as learner settle into jobs.
- Perhaps TEC and MSD funding could work in collaboration – TEC for the training and MSD for the mentoring/work ready support

Examples of progression and support materials (UK Skills Builder and Singapore Future Skills)

- Like the 'I statements' of the UK Skills Builder, less "teachy", more learner-centred
- Singapore is more observant from the outside
- Self-assessment is difficult, some people have inflated ideas of themselves.
- Perhaps adapt statements so that it can be 360degree – peers and employers complete as well. Then becomes more like an attestation, could be useful.

Focus Group 4:

Introductory comments:

This focus group was more of a policy/workforce development flavour, both generally for the industry and for a specific part of the food and fibre processing industry. The key interest was to see how this work could be applicable in their fields of interest, but they also brought some different perspectives to the discussion.

One key point was about getting communication out to the employers, who are not aware of all the good work happening in the education sector.

The Food and Fibre Skills Framework:

Strong support for the concept of skills first and The Framework. Captures work that is being done in isolation around the sector. Will really help unlock potential.

The infused with Te ao Māori is important – to Māori, but also to NZ Inc – it is a key point of differentiation. This message needs to get to leadership within the sector employers, who don't prioritise or value it, even when it is an important part of their own workforce.

Will rely on the employer's skill, to provide a safe place for employees to develop their skills.

Question: Is climate a skill area, or a mega-trend right now.

What detail is required to support The Framework?

What can we learn from the NZQF not working for employers right now? It was educator down, and it needs to be individual up.

Keep things simple and learner centered. Then it can recognise skills people already have, and they can recognise where they are on a journey.

Recognise that digital technology can support The Framework – collaboration between learners, feel like they are taking part of something.

Reference: Sue Suckling – no NZQF if we do the job right.

<https://www.youtube.com/watch?v=56FwkZ7olak>



2016: Day of the qualification is over. Quality assure and verify what we have done.

Verification - Blockchain technology can't be tampered with. Quality assurance – blockchain, is it about rating? Different to paradigm of control that we have now. Move from highly regulated system, to enable permissionless participation.

Consider stick versus carrot in our process design. It's all been stick to date. Need to change from obligations to emotions – how to tap into emotions/feelings.

Flexibility and Transferability:

There is a real cost to consider for flexibility. Many employers will not release people for training. However, when there is a shut-down, they want tools/training on hand, so that time can be used productively for training.

There needs to be flexibility in the system, regulation should be supportive, rather than a driver. Regulation shouldn't be the ambulance at the bottom of the cliff. WE need to harness the potential of people, rather than restricting them.

Focus Group 5:

Introductory comments:

This was a provider focus group, with representatives from work-based, polytechnic, and non-formal providers. They had industry experience in Hort, Wine, Amenity, Diary, Sheep/Beef.

The Food and Fibre Skills Framework:

General nodding from the group. Like that it mirrors the progression that they were taught when learning to teach. From unconsciously incompetent, through to unconsciously competent – four steps.

A couple of questions

How big is the demand for transferability?

- We know from stats that industry changers make up 30-40% of new entrants – bringing skills we need to tap into.
- Discussion that young people are more likely to want to try other industries in their careers. A way of getting some experience without a hefty commitment would be great.

Where is business and financial skills – without it the businesses will not survive

- All through The Framework from Literacies in Core Transferable Skills, through to Bodies of Knowledge. However, we could make it more explicit. Perhaps use it as an example of how skills build up through The Framework.

NZ Cert in Food and Fibre:

In general, participants like the concept. Especially if it will help level out the credit allocations within qualifications now. I.e. 125cr for part of Hort Prod, and 90c for a second. Created in isolation too much. And there is a desire for Transferable Skills

However, two concerns strongly voiced

- If a learner completes a qualification in one context/strand, but then wants to do another – there is no way to get funding under current rules.
- The name is important to learners and employers, to understand what the qualification means. It is very hard to communicate to learners the benefit of a qualification, without that clarification.

Also noted, that the split today in qualifications, especially in Horticulture, is not what happens in the real world. There can be no split between Hort Production and Hort Services in the workplace, and a worker may have to move between both.

Noted that no one in the industry uses the term Food and Fibre. So, that title wouldn't mean very much either.

How to teach core transferable skills:

Some are in the learning outcomes (e.g. communication), and need assessment, and get recognition. However, the majority are just in the actual learning process. Good learning design, active learning with reflection, using experienced farmers as mentors etc. Don't get credit or recognition for these skills.

May need support to explain why the skills are important.

Work-based learning is hard for learners to learn through osmosis. Especially if there is a manager with limited core skills to pass on.

There is a need in the Foundation Skills area for this type of framework. For priority learners, level 1 is necessary.

Appendix 8: Employer poll tables and comments

Q1 How important to you are the following characteristics of flexible training?

	VERY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	NOT APPLICABLE / I HAVEN'T THOUGHT ABOUT THIS	TOTAL
I can tailor "when and where" my employees train to fit family, business and seasonal cycles	73.33% 11	20.00% 3	0.00% 0	6.67% 1	15
I can clearly see and understand what skills my employees will gain in any course or programme outline	86.67% 13	6.67% 1	0.00% 0	6.67% 1	15
I can select different providers and delivery styles for different employees and skills	46.67% 7	40.00% 6	6.67% 1	6.67% 1	15
I know the skills and training are checked and approved for quality	73.33% 11	20.00% 3	0.00% 0	6.67% 1	15
Regardless of where the qualification is gained, graduates will have the same skills	56.25% 9	37.50% 6	0.00% 0	6.25% 1	16
The "size" of training (and investment) is appropriate to the skill gained	46.67% 7	40.00% 6	6.67% 1	6.67% 1	15
I can make selections from a range of topics to tailor training to my needs	40.00% 6	53.33% 8	0.00% 0	6.67% 1	15

Q2. Would improved flexibility in the vocational education and training system increase the likelihood of you investing in vocational training for your employees?

ANSWER CHOICES	RESPONSES
Yes	68.75%
No	6.25%
Unsure	12.50%
Not applicable	12.50%
TOTAL	

Q3. Do you have any other comments about flexibility in vocational education and training?

- 1 As long as it doesn't create issues with learners who change sub sectors and want to enroll on the same parent programme of study from a Studylink or TEC funding perspective
- 2 Quality and consistency must be maintained
- 3 More workshops
- 4 This is important to our orchard staff who struggle at certain parts of the season and with spray rotas etc. due to current staffing levels

5 We already run multiple options so we wouldn't invest more, but we would certainly support the need for it. Not all learners are happy to go back into the classroom environment, and for others, it's where they want to be.

Q4 How important to you are the following aspects of skill transferability?

	VERY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	NOT APPLICABLE / I HAVEN'T THOUGHT ABOUT IT
I can understand what skills an employee bring from other training / work environments	33.33% 4	58.33% 7	0.00% 0	8.33% 1
I can understand what additional training may be required for employees changing from another industry	66.67% 8	25.00% 3	0.00% 0	8.33% 1
I have confidence that an employee will be able to adapt skills from another industry to my workplace	41.67% 5	41.67% 5	8.33% 1	8.33% 1
I would only need to provide limited support so that employees from a different sector are able to adapt to my workplace or industry	25.00% 3	58.33% 7	8.33% 1	8.33% 1

Q5 Emphasising transferable skills during training might have a range of benefits for employers. If it was clear which skills gained in a different setting would transfer to my workplace...

	YES	POSSIBLY	NOT FOR ME	NOT APPLICABLE / I HAVEN'T THOUGHT ABOUT IT
I could reduce the induction process	41.67% 5	25.00% 3	25.00% 3	8.33% 1
I could reduce the workplace training required	33.33% 4	50.00% 6	8.33% 1	8.33% 1
I could recruit from a wider range of employees	66.67% 8	25.00% 3	0.00% 0	8.33% 1
It would be easier to promote staff internally	50.00% 6	41.67% 5	0.00% 0	8.33% 1

Q6. Would improved transferability of skills gained in the vocational education and training system increase the likelihood of you investing in training for your employees?

ANSWER CHOICES	RESPONSES
Yes	66.67%
No	0.00%
Unsure	8.33%
Not applicable	25.00%

7. Do you have any other comments about transferability of skills in vocational education and training?

1 being mindful of transferring from other sectors, for example a diesel mechanic moving into outdoor vege production will already be able to manage machinery, a plumber can work as a landscaper installing irrigation, a nursery person can move into garden retail

2 Competence must be determined

3 More workshops

4 A clear and consistently structured training would be an asset to both employer and staff as it provides confidence that the training is worthwhile

5 The key transferable skills are about being a good person, reliability, ownership & responsibility for self. If we can get those, we can teach the technical stuff on the job. Attitude matters!