Learner Voices in the Primary Industries

Insights into what learners think about their qualifications

Dr Anne Alkema July 4, 2024



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Introduction

This research explores the knowledge and skills learners are getting through their qualifications. It complements a wider programme of work being undertaken by Muka Tangata (2023, p. 6)¹ on a new approach to learners pathways which is looking to streamline qualifications so they are "more responsive to diverse needs - of employers, ākonga, and iwi and hapū Māori". To support this Koopmanschap and Murray (2024, p. 4)² developed a draft framework that simplifies the "qualification structure ... that maximises flexibility and transferability, while remaining meaningful to industry and allowing opportunities for specialisms".

This draft Food and Fibre skills framework jointly developed by Muka Tangata and the Food and Fibre CoVE incorporates:

- Core transferable skills learning to learn (learner agency), learning for work, and learning for life. ... Transferable skills are "portable skills" [and] 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.
- Core technical skills the generic or underpinning technical or work-related skills that are common to all (or most) of the food and fibre sectors.
- Industry specific skills specialised technical skills; industry specific knowledge and skills, and specialised technology and equipment skills, which are unique to the relevant industry (ibid, p. 6).

The thinking behind the draft framework has been tested in interviews with stakeholders (Koopmanschap & Murray, 2024), not including learners. Therefore, this research used the skill classifications of the draft framework to explore learners' views on the extent to which the qualifications they are studying for are providing them with:

- the knowledge and skills they are getting and the transferability of these
- content relevant to their working (or intended working) situation
- flexibility in the qualification and its content.

Gathering workplace learner voices

Getting workplace learners' views is important given the insights they have into: studying while working; the connections between what they are learning in their qualifications and the application of this to their jobs, possible other jobs, and their lives generally. But gathering on its own is insufficient. Listening to what learners say has to be done in more than tokenistic ways and for more than compliance purposes (Angus, Golding, Foley & Lavender, 2013).³ It also has to go beyond what

¹ Muka Tangata. (2023). *A new approach to learner pathways*. Author.

² Koopmanschap, K., & Murray, N. (2024). A new approach to learner pathways. Muka Tangata & Food & Fibre CoVE

³ Angus, I., Golding, B., Foley, A., & Lavender, P. (2013). Promoting 'learner voice' in VET: developing democratic, transformative possibilities or further entrenching the status quo? *Journal of Vocational Education and Training, 65 (40),* 560-574.

is happening at provider level (Guthrie & Waters, 2022)⁴ which is often where feedback is asked for, and it needs to be gathered in authentic ways so that it leads to better outcomes for them (Golding, Angus, Foley, 2013).⁵ Learners should and need to have their voices heard alongside other stakeholders so they can have input in to qualifications which have the potential to determine their current and future working lives.

However, the rapid literature review found limited research that uses the voices of workplace learners. Precedence is given to industry stakeholders, employers and education providers. For example, Alkema, McDonald and Murray (2016)⁶ found in their scan of 39 pieces of literature, only 13 included data from trainees. More recent work by the Ministry of Education (2019)⁷ overlooks workplace learners in their student voice work, and in relation to the value of student voice generally does not talk about it in relation to qualifications.

Where learners' voices in workplaces have been gathered in Aotearoa New Zealand, the focus has not been on qualifications. Rather it has been on, for example, how learning and assessment happens, learning and development at work, and the conditions that make for successful learning. (See later in this report.)

Research Approach

The intention of the research was to gather primary data through 8-10 face-to-face focus groups. As it was challenging to find and reach learners given they are in workplaces and dispersed in rural and urban areas it was not feasible to keep entirely to this method. Therefore, data were collected from a convenience sample of 38 learners through four focus groups (25 learners), 12 interviews (seven via phone, three via Zoom, two in person), and another learner completed a written questionnaire as their preferred option.⁸

Two are studying animal care; 15 are studying agriculture (dairy, livestock breeding, milk harvesting); 20 are studying for various horticulture qualifications and one has completed a qualification in aquaculture. Overall, the levels of study range across, pre-entry, L2, L3 (full qualifications, and micro-credentials), L4, and L5 non-formal learning that includes assessments. One learner had completed a post-graduate diploma. The learners were spoken to between April and June 2024.

⁴ Guthrie, H., & Waters, M. (2022). *Delivering high-quality VET: what matters to RTOs?* NCVER.

⁵ Golding, B., Angus, L., & Foley, A. (2013). *Learner voice in VET & ACE: What do stakeholders say*. AVETRA 2012 Conference paper.

⁶ Alkema, A., McDonald, H., & Murray, N. (2016). *Learning, life and work: Understanding non-completion of industry qualifications.* Ako Aotearoa.

 ⁷ Ministry of Education. (2019). We want your view on student voice in tertiary education. Retrieved from https://conversation-live-storagesta-assetstorages3bucket-jsvm6zoesodc.s3.ap-southeast-2.amazonaws.com/public/TES/Tertiary-Student-Voice-Discussion-Paper2.pdf

⁸ Getting to learners in this sector is challenging. This research required working with intermediaries and then using a data collection method that suited the learners. Any future work needs to be mindful of this. Where learners came in for courses or study focus groups were a viable option. Where learners were dispersed, phone calls were an effective and efficient way to collect data.

Data were also gathered through a rapid literature review on Australasian research which included learner voice or the importance of taking their voices into account. The literature is used to support or qualify the primary data. Detailed information on the research approach is in the Appendix.

Strengths and caveats

A strength of this research is that 38 learners, undertaking a range of qualifications in primary industries, had the opportunity to talk about their qualifications. This provides insights into what learners think about their qualifications, the knowledge and skills they are getting, and where these might lead them.

However, given the proposed approach was focus groups, demographic data were not asked for. Therefore, it is not possible to determine the extent to which there are similarities and differences between age groups, genders and ethnic groups. The second caveat is the sample is made up of learners who are actively engaged with, and supported in, their learning and data show this is not the case for around half of trainees and apprentices across all industries.⁹ The third caveat is the data are gathered and interpreted from a te ao Pākehā perspective. There are recommendations at the end of this report related to future research to address these matters.

Given the nature of the sampling process and the sample itself the research findings are not generalisable. Rather they provide insights into what learners think their qualifications are providing them with.

Key Point Summary

- The division of skills into core transferable, core technical, and industry specific appears to work as a way of talking with learners about their qualifications.
- Learners say they are getting core transferable skills to a certain extent, and core technical and industry specific skills.
- There is some work to do on getting learners to understand the transferability of their skills within their industry and to other industries/sectors.
- The qualifications appear to be relatively inflexible in terms of content but, work in with farming and growing seasons and/or the order in which learners want to study depending on what they are working on. This lack of flexibility in content did not concern learners who are accepting of this and the way in which their qualifications are structured.

Findings

This section of the report describes what the learners say about why they are doing their qualifications, the knowledge and skills they are getting, and where they think the qualification

⁹ The most recent Ministry of Education data show in 2023, 51 percent of trainees complete a qualification in three years and 47 percent of apprentices complete qualifications over five years. Both numbers of enrolments and completion rates have declined since 2022. See https://www.educationcounts.govt.nz/statistics/new-zealands-workplace-based-learners#:~:text=The%20number%20of%20trainees%20completing,percentage%20points%20to%2051%20percent.

might take them. It also includes comments on the findings and where possible references relevant literature.

Why learners study

Why learners study is important for helping to understand the extent to which their qualification is of value to them and the extent to which they are getting the skills and knowledge they are expecting to gain. Research shows when learning experiences are designed intentionally, they "allow adults to prepare for current and future occupational requirements (Choy & Le, 2023, p. 323).¹⁰

Those in the pre-workforce learning group saw their participation in horticulture in terms of building their transferable skills, particularly as these related to wellbeing. They were gaining confidence to re-enter learning and/or apply for jobs. They were also getting life skills in relation to horticulture – how to grow plants for cooking and eating and for the benefit of the environment.

For those preparing for the work force and undertaking L2 qualifications, along with getting out of school which they didn't enjoy, it is a way of trying out vocational subjects that are of interest to them. For example, two started studying L2 horticulture with a view to working in the industry. One has decided to progress and will look for a job in a garden centre next year or return for L3 study. The other has not, because of the "shit pay". While the latter does not see her L2 qualification in horticulture as being of much use to her, she does think it will show future employers she can study and achieve. The same applies to the two learners completing L2 animal care unit standards. One has decided to progress to veterinarian nursing, as was her original intention, and the other has moved from the idea of being a Vet to another field.

Learners in the workforce undertake qualifications for a range of reasons. What they have in common is the knowledge required for their current and future work, "I wanted to understand the things we do on the farm [and] started L3 as soon as I started working on the farm." (L3 Dairy)

Overall, their reasons encompass both ambition and aspiration in relation to developing their skills and knowledge for the types of jobs they have now in their chosen occupation, and may have in the future, including management or running their own businesses. Of note in relation to the latter are whānau affiliations with many learners working in family run businesses, including farms, and having parents who have gone through qualifications in their sector.

I want to help dad run the place, get better understanding of plants, how the business runs and know more about fruit. (L3 Nursery Production)

I am doing the landscape construction course because I want to improve my skills and progress to eventually being able to run my own jobs. I am a very practical person and these qualifications will allow me to apply the practical skills I have learnt to contribute to future landscape projects. (L4 Landscape Construction)

¹⁰ Choy, S., & Le, A. (2023). Workplace practice that support learning across working life. *Australian Journal of Adult Learning*, *63(3)*, 320-342.

There is an indication full qualifications may not be required by all learners. This is seen with those who have very specific roles for example, in milking sheds, and for this the learners deemed a microcredential is appropriate. It also seen in those who are already qualified for the jobs they are doing and are looking to move into management. These learners are looking for very targeted knowledge and it is this, rather than a full qualification, that is of interest to them.

I have ambition to go contract or share milking. I currently manage someone else's cows [so it's] the next step. I want to gain knowledge - get to the nitty gritty of the paper work side. (L5 non formal, Dairy)

Being in the outdoors, "not behind a desk" is something that very much appeals to those working in horticulture and agriculture. One describes his purpose as being able to learn at "an accelerated rate" while working in a "physical and exciting" role. Another as loving to be outdoors, "around people and learning something new". And another as loving working with animals.

Other reasons given by the L4 focus group of orchardists and the L3 and L4 apprentice farmers included: helping them to better understand what they were doing; for more money (the orchardists said this was unlikely and the farmers that it was likely); that it looks good on their CVs; to be recognised as professionals; to increase their value in the industry; and for their personal lives.

I figure if I have this qualification and the next one, I can get higher rate of pay. Also, I get professionally recognised and I'm not some hick who comes from the farm and can milk cows. (L3 micro-credential Dairy)

Another reason is the portability of a qualification in the primary sector, meaning it can be taken to other employers in the industry with the potential to also take it to other sectors, both in primary industries and outside of this. Those who have been working for a while were more aware of this than those new to the workforce.

Comment

Learners are clear about why they study for a qualification and have both extrinsic and intrinsic reasons for this. Their reasons are similar to those found in the literature. Billett, Le, Smith, and Choy (2021, p. 323)¹¹ report that from a gaining skills perspective, "What these learners are doing, without terming it in this way, is navigating pathways to sustainable employment, seeking ways for advancement while improving their competencies to do this". This aligns with Griffin (2017)¹² who found learners undertake qualifications to get skills to get a job or a better job. In addition, Scarlatti (2023)¹³ report learners want to validate their learning through formal certification.

An applied research project completed with iwi on the Whanganui awa also found learners in preemployment and employment were joining programmes to grow their skills. They did this on an individual basis, but also as a way of contributing to iwi development and aspirations. "For instance,

¹¹ Billett, S., Le, A. H., Smith, R., & Choy, S. (2021). The kinds and character of changes adults negotiate across worklife transitions. *International Journal of Lifelong Education*, *1*-15.

¹² Griffin, T. (2017). Are we all speaking the same language? Understanding 'quality' in the VET sector. NCVER.

¹³ Scarlatti. (2023). Non-formal and informal learning in the food and fibre sector: market research report. Food & Fibre CoVE.

a butchery course was run, as well as pruning skills, a permaculture programme, civil defence and basic health and safety to complement what happens in and around the marae" (Julian, Farrell, Ranginui, 2021).¹⁴

What learners know before they start their qualifications

While learners are clear about why they are undertaking their qualifications many knew little about what they were to undertake. The few who knew what the qualification was about had actively sought out the information about the topics by "googling" or logging into websites with the information.

While providers supply information on websites, booklets, pamphlets and through personal contact with tutors/advisers, it seems most learners do not/cannot take in the information and do not appear too concerned given it is an industry they want to go into or in which they have work experience.

I didn't study what the qual was about. I knew from the team leader that it was learn while you play type of thing - experience while learning. [So] I had a vague idea before I got the booklets - climbing, felling, species, but nothing specific. (L4 Arboriculture)

It was basically a certificate to prove you know what you are talking about in dairy farming. If you apply for jobs people would look at you [consider you]. ... to gain experience and knowledge and know the basics. (L3 Dairy)

I didn't know much before the course [just that] it was to do with plants and stuff ... how long it takes, that there are four units you have to do one by one. (L3 Horticulture)

In addition to information from providers, some find out about the qualification through personal contacts such as "dad", "the boss's wife", "a level 4 apprentice working alongside me" to know what the qualification might deliver for them. For some it was a follow-on from a previous qualification, e.g., L3 to L4 apprenticeships.

Before I started this course I knew a fair amount of what was involved and expected as there was a level 4 apprentice also working alongside me. I would ask him for information and sometimes looked at his books to see what was needed. I knew there was a fair amount of theory work to the course which I wasn't very keen on but I've chipped away at it and hasn't been too bad after all. (L4 Landscape Construction)

Comment

Many learners had direct contact with advisers who had talked with both them and their employers, so it is not clear from the data why they said they knew so little. It may be the driving force is the end goal, as talked about in their reasons for undertaking the study, and it has not bothered this sample of learners that they did not know the content of the course or what was involved.

¹⁴ Julian, M., Farrell, M., & Ranginui, T. (2021). *Tū te ngana hau* | *The breath of endeavour.* Ako Aotearoa.

However, it may be something that needs attention given the numbers enrolled in vocational education in the primary sector have been dropping (Muka Tangata, 2023).¹⁵ In addition there is high turnover in the industry within the first year. "Overall, across all Muka Tangata industries, 42% of those who entered an industry for the first time in 2015 remained working in the industry 12 months later or accumulated at least 12 months of work experience between 2015 and 2020."¹⁶ The extent to which learners know little about the qualifications before they start and the extent to which this contributes to short tenure in the industry could be worth exploring further.

How learning and assessment happens

For learners who are pre-workforce learning happens in classrooms and in practical spaces that replicate workplaces – e.g., nurseries, gardens, and animal care settings. There are opportunities for both theory and practice which is appreciated. "We get bookwork and then instructions or demonstrations and then we do the practical, such as working with the animals in the [X]." (L2 Animal Care)

Everyone wants to learn [here]. ... There is a shared interest, team work/active learning. I love how they teach. ... You learn something and then go and do the practical rather than being just in front of a book. (L2 Horticulture/Animal Care)

For those in the workforce, learning happens through work experience combined with learners working their own way through learner guides and assessment booklets. This is usually in their own time. While there are issues for some given "50 hour plus weeks and family", most seem to accept this is the way things have to be done. "I do the work in my own time. I've have been offered time at work, but have a home office and can do this at night." For some this is not always easy. "Dad keeps saying, "Come on, come on". I just need to be a bit more motivated."

We do book work in own time - online and paper based. On wet days we may get the opportunity to do the book work on farm. ... My manager [dad] might help. ... We have study nights once a month and can bring work to the group. ... The practical is verified on the farm [by on farm verifier] ... through observations/photos. (L3 Dairy and Live Stock Breeding)

I do all the practical work and tasks, gather all the pictures and evidence required for the assessments then I print them out and into my books. I have to write about the jobs and what was involved. For example - calculating materials - health and safety - measurements everything related to the job. Once the book is completed my foreman who supervised the tasks being completed signs off my book ready for the ITO trainer to mark. (L4 Landscape Construction)

I do have practical aspects, but I can do some work in classes [theory]. You can go through the booklet with tutors. The physical aspects the team leader can sign off. A lot of the time it is by yourself (at my work) but it differs where you work. We have course days and specific booklets are left for these days. It's all paper based. I answer questions in an answer and learning booklet. We also

¹⁵ Muka Tangata. (2023). *A new approach to learner pathways*. Author.

¹⁶ See <u>https://mukatangata.workforceskills.nz/highlights/retention/</u>

have stuff like logs of doing things - e.g., climbed tree, how did it and how to improve ... (L4 Arboriculture)

Everything is online. Get a guideline and study material is online. I read the material, do the assignment and submit it. If you need to redo parts you get seven days to do this. When papers are marked you get constructive feedback from assessors. There is a chat section on online - so if you are stuck you can message, privately to the tutor or to the study group. (L3 Horticulture).

For most, block courses and or study sessions are also part of the ako process. These run for a few hours in the evening or as full day courses. The number vary depending on the qualifications and providers. Block courses are used to:

- teach content/theory
- provide learners with opportunities to ask questions as they work through their assessment booklets
- get signed off on certain knowledge and skills
- prepare learners for the next set of course work
- provide learners with access to subject matter experts and to peers.

The tutor explains different terms in contracts. She introduces us to bankers, accountants. They come in and talk and tell us how they can help us with our future goals. We have assessments on VMR - value managed relationships, budgets for contract milking ... (L5 non formal, Dairy)

There are study nights once a month – I try to get to most of them. Everyone goes there to get work done - there are less distractions [than home]. [PrimaryITO adviser] and a couple of tutors are there usually and they help you finish the niggly bits. (L4 Dairy)

All the learners see the connections and understand the place of the qualifications in terms of knowledge acquisition. "I wouldn't of got the knowledge as in-depth, [well] I might've but it would've taken longer" (L3 Dairy). "I can honestly say that if not for doing the study I wouldn't be where I am today" (L4 Dairy).

Support for learning

There is both formal and informal support for learning. But it is worth noting not all learners said they required support and this was particularly the case for those in the L5 non formal space. Formal support comes from tutors, advisors, verifiers and assessors and there is an indication in the data that if learners need help they can just ask for it. "I feel pretty supported. If I need help I get it oneon-one. They are easy and comfortable to reach" (pre-qualification).

There is support from the tutor and other people - e.g. assessors [feedback]. They comment where you've gone wrong, tell you where to look, put you in the correct way. If you don't understand the tutor will help ... [he] emails and puts in photos of his garden - the posts are generally friendly. (L3 Horticulture)

Employers are also part of the formal process, through allowing time off to attend courses, opportunities for practical experience and providing the documentation/information required for

learning and assessment. Learners in L4 Horticulture cited examples of documentation/records on maturity reports, residue testing, and spray diaries. Those in the L5 non formal learning needed access to farm budgets.

There is new stuff in the course, so you have to have an employer who will allow you to have this experience. They are happy to do this if it benefits or is not an inconvenience to them. (L4 Horticulture)

Some learners talked about the availability of employers and their willingness to answer questions.

The boss is a great help. If I have questions I can go straight to him. He makes time to help me [because] we're the next generation. Train us right and we might get it right. (L3 Dairy)

Alongside block courses and study time, support is also provided informally through whānau, workmates, other learners in classes/block courses, team leaders, managers, and employers (some of whom are whānau). "Some have the qualification and some not, but they have the knowledge and want to pass it on." These can be seen as tuakana-teina relationships and comfortable spaces for conversation and learning (Kerehoma, Connor, Garrow, & Young, 2013).¹⁷

Comment

One of the challenges for this research was to tease out the learning that happens through the qualifications and the learning that happens on the job. Choy and Le (2023, p. 322) report "some 70% of learning arises from experiences in the workplace, 20% from interactions with others and only around 10% from formal courses. The 70:20:10 model refers to work-related learning that workers can apply immediately".

The immediacy of application is allowed for by the order in which the content of courses or qualifications are delivered. It seems from what learners say courses are organised around, for example, farming, dairying and growing seasons. "The course [units] is based around what we are doing at the time – we have calving coming up so we're working on that – it's really good." (L3 Dairy). There is more about this in the section on flexibility of qualifications.

The findings in this section are not that surprising and highlight that this sample of learners are engaged, well supported and have the conditions for learning that have been researched previously (Alkema, McDonald, & Murray; 2016; Chan, 2011; Kerehoma, Alkema, Murray, & Ripley, 2019; Kerehoma, Connor, Garrow, & Young, 2013; Vaughan, O'Neil, & Cameron, 2011).¹⁸

¹⁷ Kerehoma, C., Connor, J., Garrow, L., & Young, C. (2013). *Māori learners in workplace settings*. Ako Aotearoa.

¹⁸ Alkema, A., McDonald, H., & Murray, N. (2016). *Learning, life and work: Understanding non-completion of industry qualifications.* Ako Aotearoa; Chan, S. (2011). *Belonging, becoming and being: First year apprentices' experiences in the workplace.* Wellington: Ako Aotearoa; Kerehoma, C., Connor, J., Garrow, L., & Young, C. (2013). *A model for successful Māori learners in workplace settings.* Ako Aotearoa; Kerehoma, C., Alkema, A., Murray, N., & Ripley, L. (2019). *Hīnātore: Empowering Māori and Pacific people through workplace learning.* Vaughan, K., O'Neil, P., & Cameron, M. (2011). *Successful workplace learning: How learning happens at work.* Industry Training Federation.

Knowledge and skills

Given this work sits alongside the Muka Tangata work on learner pathways (Koopmanschap & Murray, 2024) the questions on skills were divided into the categories of the draft Food and Fibre Skills Framework – transferable, core technical, specialised industry. All of these terms needed to be explained to learners with examples of the sorts of things that were being asked for.

Core transferable

Skills in this area were the most problematic to draw out of learners. The draft Food and Fibre skills framework refers to these as "learning to learn (learner agency), learning for work, and learning for life ... and the cognitive, social, and emotional skills" (ibid, 2024, p. 6). Questions about learning to learn and the extent to which they saw themselves as being agentic learners were not asked, rather they are inferred by what learners say about their positive approaches to learning at work and through their qualifications and what they are learning.

Those in the pre-qualification group talked about the confidence they were gaining as a result of their programme where they were deliberately taught social and emotional skills as part of their learning about wellbeing. Confidence develops as learners recognise they have learning skills and this can lead them to develop their self-learning skills (Whitten, 2020).¹⁹ Learners in this research show working and gaining confidence is an iterative process

Going through the qualification I have more confidence about what I'm doing. When I first started I didn't know anything, I was totally green as I hadn't been in the workforce for a while. ((L3 micro-credential Dairy)

When I am constantly building timber features I always pick up more knowledge which makes me more confident in my work. (L4 Landscape Construction)

Where social and emotional skills were deliberately taught, e.g., wellbeing in the pre-qualification course and wellbeing as a unit in L3 Dairy and Stock Breeding, learners were able to talk about these skills, appreciated the focus on this, and understood the importance to their work and everyday lives.

The first booklet was on wellbeing - making sure you are looking after your physical and mental health. Farming can be a draining and stressful job. It was valuable... there is a lot going on and you need to know how to deal with issues... . It's really good to reflect if things are a bit tough. (L3 Dairy)

It helps you stop and think about things – managing stress, work life balance. Sometimes you brush these things off. (L4 Dairy)

Social skills such as communication – written and spoken were deliberately taught in the L2 Horticulture qualification where learners get literacy credits for the National Certificate of Educational Achievement (NCEA) by writing in the context of their learning, such as, "How to

¹⁹ Whitten, D. (2020). *Exploring adults' lifelong-learning capacity, through the integration of learner agency, language, literacy and numeracy.* Ako Aotearoa.

propagate a plant. This is really good - otherwise it's just boring". Communication is also covered in some of the L3 horticulture courses and some of the L3 dairy courses.

I have learnt a lot about communicating with others on site through the communications assessment in level 3. (L4 Landscape Construction)

I have to run a team meeting - and even though this is only with my dad [as the employer] I could do this with a larger group at another place. (L3 Horticulture)

In class you learn about what places, organisation you can go to socialise - Federated Farmers, Young Farmers, discussion groups ... where you can meet other farmers, talk to other people such as at the pub ...- take a bit of a breather. A lot of farmers just work and work. I learnt the skills of introducing myself, how to start a conversation. (L3 Dairy)

Recognising the social and emotional skills of others in order to manage people is part of L4 qualifications. The L4 Dairy farmer talked about learning that not everyone works in the same way and how to work to peoples' strengths managing staff. He gave examples of learning about how to manage junior staff during the busy calving period and working with them on protocols and dealing with difficult situations.

Where social skills are not part of the qualification they seem to happen accidentally and opportunely. As one learner said, "it just happens". In the level 2 horticulture and animal care programmes, teamwork and communication happen in group work. In workplaces it naturally happens when working with others. Those in workplaces see the attainment and development of these skills occurring naturally as they interact with other employees.

In the line of work, you have to be in an effective team. ... You learn this at work, day to day. You may touch on comms [in the qualification] but the majority is just on the job. (L4 Arboriculture)

I don't think I necessarily get these [in the qualification], but I know how to communicate. I always ask questions, - "why do we have to do this a certain way"- even prior to the apprenticeship. ... Teamwork, I've picked up how a small team works - how each of them likes things done. (L3 Sports Turf)

The extent to which transferable skills cross over to everyday life was not fully canvassed with learners but there are indications it does happen. For example, the pre-qualification group developed the skills to grow and cook food; a L2 horticulture learner wants to have "a cool garden"; a L3 Dairy learner said the wellbeing unit had included a meal planner and "I'm starting to eat well now."; and a L4 Horticulture learner sees his skills being useful in his own or others' back yards. "There'll always be a shitty beech tree that needs chopping down".

Digital skills are not taught but need to be used and developed by some learners. Where photos are required as evidence, and assessments are online, learners develop the skills to do this. While this was not an issue for those new to the workforce, some of those who had been in the workforce for longer and not worked very much with computers "find it really challenging" and "it was hard at the start as I'm not tech savvy".

Core technical skills

These skills were more easily understood and able to be talked about by learners given they are essentially the subject matter of qualifications. Koopmanschap and Murray (2024, p. 28) describe these as, "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".

In relation to these skills learners talked about machinery. Learners in the pre-workforce programmes talked about learning to use strimmers, hedge trimmers and lawn mowers, including ride-on mowers and the fuel/fuel mixes required for these. Those in the workforce learn how to use machinery mainly on the job, "taught by the employer". ... [but] there were little bits about machinery [in the first two papers] and the tasks to do in preparation for using the machinery – tractors and mowers." (L3 Sports Turf). The L3 learners studying agriculture also said this was the case. Tractors, motorbikes, fencing, milking and farming equipment, and shearing hand pieces were provided as examples of what they learn about at work and through the qualification. Noting that separating what is learnt in which place requires further teasing out.

Not too much on machinery is learnt through the qualification, apart from the milking plant. Things such as tractors are a work thing ... in farming you are part electrician, part Vet, part mechanic. You get a lot of experience. (L3 Dairy)

How to use the [milk] plant, a bit about the machinery and how it works is in the qualification and you're also shown how to use it at work. It took a while as I wasn't familiar with it. I don't use any other farm machinery. I'm mostly in the shed. It's nice to work and then do the qualification. I found it easier. (L3 micro-credential Dairy)

In higher level qualifications learners progress from using machinery to having responsibility for it and its maintenance.

The first unit in L4 was a maintenance unit. You had to figure out what every piece of machinery needed and how to safely service it - this had to be documented. ... I probably wouldn't have been as aware of this from just farming. Some things just go unnoticed. (L4 Dairy)

In the pre-qualification and Level 2 and 3 qualifications Health and Safety (H & S) appears to focus on learners developing the knowledge to protect themselves and others physically. This includes assessing the risks and hazards in the environment and the use of machinery. It includes the use of PPE, "masks with soils, protection when spraying are in the qual. ... Also, the reg stuff with chemical use." (L3 Hort).

We also do a lot around Health and Safety - have tool box talks related to the equipment ... know about 5x5 risk matrix. ... I didn't know there would be so many hazards. We make maps of work areas in relation to this. (L2 Horticulture)

Those who have been in the workforce longer and are studying at L5 non formal are learning about H & S in terms of the legislative and regulatory requirements where they look at the liabilities and responsibilities they have as part of their contracts.

It's more about health and safety and how to manage the responsibilities for the financial side – for example accidents and ACC. You are fully committed if you contract, solely responsible. ... And risk management ... the different terms and conditions of contracts. It's similar to the L4 qual - but this is more about the financial skills - e.g. risk factors. (L5 non formal, Dairy)

Quality management is also a core technical skill and was mentioned by the orchardists and the dairy farmers. With the latter this relates to milk quality which is covered in L3 qualifications and management of this in L4, "making sure others are putting it into practice".

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" (Koopmanschap & Murray (2024, p. 29) and learners were easily able to list these. For example, the L3 Dairy and Stock Breeding learners talked about milk quality, mating, reproduction, effluent, soil management, calving, lambing, pasture management. The L4 horticulture learners talked about crop protection, complying with market needs, botany of plants and the biology of the growing environment.

Others studying horticulture talked about propagation, plant types, plant names (common and botanical), soil types, fertiliser, weed identification and treatment, "the weed one was an eye opener - so many different ones!", pest identification, diseases, "it's a bit technical and biological" spraying – "it happens on the course - but this might be also coming up in the qual".

Going through the qualification provides learners with industry specific knowledge and skills beyond what they are exposed to in their workplaces. While this can be frustrating for some who say they don't need some things as in-depth as they get them, others say this is of value to them as they can take new learning back to their workplaces. For example, one learner talked about cow viruses she'd not seen on her farm, "how to treat them and make cows healthy again and get them back into the milking shed" and had talked about these with her boss.

While the industry specific skills, as with the core technical skills, are learnt about in the qualification, they are applied in the context of the workplace where there may be differences and some learners are aware of this.

The plant - a lot of cow sheds are different, but can definitely take [what you know] to another shed. There would be variations, but you'd have a damn good idea, how to work, how to do things. It's actually really involved. (L3 micro-credential Dairy)

What became clear in the discussions with learners was their appreciation of the science behind the learning and work they are doing. They talked about botany, biology, the impact of chemicals, "calcium, nitrogen - how these interact with the grass" – science in practice

The use of chemicals ... it's an actual science to look after a playing surface. For example, chemicals that kill weeds. ... I have a new appreciation for those who run courses and those who look after other sports grounds. ... It takes time and effort ... (L3 Sports Turf).

Comment

These core transferable skills are important (as are the other skills), but getting learners to develop agentic learning behaviours or a "a curious mentality" as noted by one learner, may well be a challenge given the ako approach used in their qualifications - self-study using learning resources while working. Learners in the class-based learning environment show where there is direct teaching, this can happen. "I love how they teach. You learn something and then go and do the practical - rather than being just in front of a book. ... it's helping with confidence" (L2 Horticulture). Confidence is important as research with employers found confidence results in increased engagement and participation in the workplace which in turn results in, for example, improved health and safety, active problem solving and improved workplace efficiencies, (Skills Highway, 2018).²⁰

The issue with further developing these core transferable skills, as noted by a tutor, is where they are not part of the graduate profile and assessed, their value is often over looked by learners. It is not sufficient from a skills development perspective to leave social and emotional skills to be "ticked off" at L3. But in saying this, the data from learners suggest they accept the development of social and emotional skills happens on the job without the need for deliberate teaching and this is particularly the case for those who have spent time in the workforce, some of whom had acquired these skills in previous roles.

In relation to the core technical skills the learners talked about the interaction between the learning of these in the qualification and the practical reinforcement of them in the workplace. This separation had to be teased out as a learner says, "it is a blur of learning". For example, they learn about machinery and then use it in the workplace, and it is the latter where they see the learning mainly happening. What is also seen in the data is the progression of technical skills from the entry level qualifications through to the higher-level qualifications.

From what learners say it seems some knowledge and skills fall into the core technical area, but context tips them in to the industry specific. For example, the L4 Horticulture learners learnt about diseases, spray programmes, pest management and irrigation in relation to apple orchards and the L3 Sports Turf learner learnt about these things in relation to sports' turf growing. The specificity of context is likely to require some knowledge tweaking.

Overall, the data show learners are getting skills and knowledge in each of the areas of the draft skills framework. They may not necessarily have the language to describe them in this way, and possibly don't need to. What matters to them is they are getting knowledge and skills that are relevant and useable in their jobs.

²⁰ Skills Highway. (2018). *Reach of workplace literacy and numeracy fund 2017 and impact of the employer-led strand.* Industry Training Federation.

Transferability

Koopmanschap and Murray (2024) incorporate the Toi Mai (2023) definition related to the cognitive, social and emotional skills that are transferable and add that core technical skills are also transferable. They note the ability to recognise these skills as transferable is "a relatively complex process" and learners may need support to do this. For the most part, learners in higher level qualifications or who had been in the workforce longer recognised the transferability of their technical skills more readily than those undertaking the lower-level qualifications who had been in the workforce for less time and had not had the exposure to other jobs or people in them.

The former are able to make connections as they are more aware of the skills required in other industries and have mates working in them. For example: the landscape construction apprentice sees he could transfer to a building apprenticeship: the orchardists see they could move to jobs at their local port given their ability to use machinery, or jobs on farms given their knowledge of fencing and soil health "but would need to learn about animal biology".

Comment

The data from learners indicate the concept of transferability needs to be articulated in the qualification process so they understand the extent to which skills are transferable in the primary industries. Yu, Bretherton, and Buchan (2013, p. 30)²¹ found this does happen. Participants in their research

... readily identified a vocational body of knowledge and skills supporting many related occupations. This included animal science and husbandry, plant and crop science, production systems (for example, irrigation and fertilisers), operation of machinery and technology, sustainable practices (for example, water, land and carbon management), and agribusiness (for example, financing, marketing and economics) (Yu, Bretherton, & Buchan, 2013, p. 30).

In the long run this may contribute to learners seeing a career path in primary industries and a skilled workforce being maintained. Given the low retention rates reported by Scarlatti (2022)²² this may help retain people in the wider sector if they recognise the transferability, particularly of technical skills, to move into a related sector.

Flexibility

The Food and Fibre CoVE defines flexibility at the macro level as, "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".²³ However, for this research, 'flexibility' is used at the micro level as it relates to the qualification content and the timing/order of content – the 'what and when'.

²¹ Yu, S., Bretherton, T., & Buchanan, J. (2013). *Defining vocational streams: insights from the engineering, finance, agriculture and care sectors. NCVER*

²² Scarlatti. (2022). Attraction and retention research programme: Situational analysis – implication for the upcoming retention pilots. Food & Fibre CoVE.

²³ Training and Careers Framework: Summary (Dec 2022). Food and Fibre CoVE.

For most of the learners the content is set, although L3 Stock Breeding did have some elective units available to suit their working context. However, while the content is set, it fits in with the seasonal nature of work in the primary industries, fits in with work learners are doing, and for the most part does not seem to bother learners.

You can choose which standards and you don't have to go through in order. ... Just do what you are working on. [Advisor] has a calendar of what we should be doing and you can pick what to do and I picked the ones that are relevant to what we have to do here. ... (L3 Horticulture)

The course is rather flexible, usually I can pick and choose what assessments I want to complete first. I decided to complete the timber projects first in both level 3&4 as that's what interested me most. (L4 Landscape Construction)

Level 3 and level 4, you get a big heavy booklet and you need to do this stuff [but] they tell you what to focus on. It's reasonably flexible. You can do it as fast as you want. You could smash out a lot of stuff in a few months [if you wanted to]. ... You can identify what you want to do based on your work. (L4 Arboriculture)

[The courses] correspond to what we're working on. For example, there is a large section on milk quality and we talk about different parts of the job and why quality could be poor related to milking the cows. Hygiene is really, really important - a lot of that is invaluable. (L3 Dairy)

Flexibility also applies to learners having choices about what they need for their current or future jobs. For example, while most of the learners saw the need for a whole qualification, two are undertaking micro-credentials as that is sufficient for their current roles. One also noted that if she went on to a full qualification the micro-credential would contribute to this.

Getting the knowledge and skills they want and need

While most learners did not know much about the qualification before they started, the majority say they are definitely getting what they need and in some cases more knowledge and a greater depth of knowledge. "Getting more than I thought. I wasn't really interested in school, but am interested [in this]." While a few say they would have got this over time, or from a team leader, they acknowledge the accelerated pace of learning that comes with qualifications. The reason for learners saying they are getting what they need appears to be the relevance of the core technical and industry specific content and subsequently the application to their jobs. The timing of units and the way in which programmes are run contribute to this.

Of those not sure about whether they were getting what they expected and needed it was because of how far through their qualification they were. "We won't know until the course is finished." There was also a concern from some that some areas were covered too much in depth and some not enough for what they needed for their jobs. "It would be nice if we did something about soil. We are going through so soil issues - trying to fix our soil up – so it would be nice if we did something about soils, such different soil types." (L3 Horticulture)

While the learners appreciate the knowledge and skills they are getting for themselves they also realise the impact on others and the future.

Employers see the value The boss is a great help. If have questions I can go straight to him. He makes time to help me [because] we're the next generation. Train us right and we might get it right. (L3 Dairy)

... I learn new things that are covered in class that I've never heard of before ... viruses and how to treat them and make cows healthy again and get them back into the milking shed. ... I told my work mates. ... You can gain stuff and teach others (L3 Dairy)

Changes

Learners suggested changes in three areas, assessment, content and processes such as logins. Some did not think any change was required, but some also acknowledge the challenge of fitting in assessments while "managing time, exhaustion and kids".

Assessment changes relate to the nature of questions, timing, and the need for more practical assessments

With the booklets – the questions and booklets need to be updated. Questions are so open ended - you could say anything. It's frustrating when you're asked to name six different types of ladders to use [for different jobs]. Could just say "same as above". (L4 Arboriculture)

Questions seem repetitive - how to achieve health growth and then one on how to help healthy growth. The questions sound the same. It took dad and I a while to figure it out. But this might be a good thing as they do want to know if you know things. (L3 Horticulture)

Assessment needs to be a little bit more simpler. It's tricky ... It needs to be simple to fill in the information. We could do assignments in class. (L5 non formal, Dairy)

Content changes relate both to further content that should be included and some that could be eliminated. The rationale behind these comments is driven by the knowledge needed or not needed at work. For example, in L3 horticulture there were soil issues in the workplace and the learner wanted to know how to fix these. In L 4 horticulture some learners said having to learn about plants and weeds in-depth did not apply in their work.

The only thing I would change about the course would be eliminating the assessments that aren't relevant to hard landscaping like plant identification. I have no interest in plants and I struggle to even open the book. It's hard work for people who are practically minded like me. (L4 Landscape Construction)

Weeds - we don't need to know all of these. We just need to know where we don't want them to be but don't need to identify them exactly - just need to identify [say] broad leaf and then how to control or kill. But we are assessed on weed knowledge. (L4 Horticulture)

It would be better if we got some contract milkers to come in to talk to us, give their personal experiences, and challenges. This would be better than case studies. (L5 non formal, Dairy)

One group would like access to different workplaces, yet another said this was not an issue and she was able to visit another workplace to access what was required for her assessment.

Where to for learners

Learners are unanimous in saying the qualification is helping them in their current job, "I don't have to ask questions all the time". It will look good on their CVs for future jobs, "[employers] see you've done the course and respect this". And having a qualification will pathway them through to the next stages of their careers where some will look to further qualifications and others to higher level roles in their current workplaces, for example as a team leader. Some will look to roles outside where they currently work, including moving to contracting. In whānau run businesses learners are looking to help run the business. As one said, "the opportunities are limitless".

Learners say going through and/or completing a qualification means they have been able to step up more quickly.

Just able to step up quicker - get my head around feeding animals, feeding properly, advance faster. I can work things out myself and the farm owner is not always holding my hand. In the future it could lead to Level 5 - that's my goal ... I quite like how the tutors work- they teach and all have farming backgrounds and I might think about that down the track. (L4 Dairy)

In relation to opportunities the fact of being an apprentice provides chances to work on "big projects which allow me to learn and enhance my skill set". Another learner said employers recognise the value of having a qualified workforce and this impacts on reputation and to the charge out rates for individuals.

Conclusion

The rapid review of literature highlights two things in relation to this research. Firstly, the lack of literature that includes learners' voices and secondly the lack of literature on what learners think about their qualifications. Even recent work that brings together key pieces of research on vocational education in Aotearoa New Zealand (Chan & Huntington, 2022)²⁴ includes very little research incorporating learner voice. This finding is similar to earlier Australian research in the VET sector where Griffin (2017, p. 12)²⁵ found little literature on what learners think about the quality of the VET system, and that "the Australian Skills Quality Authority suggests that learners cannot be expected to fully understand what constitutes quality in the sector".

This research using learner voice contradicts the above statement about learners. The learners in this study have their measures of quality – not at the system level, but certainly at their study level and the extent to which qualifications meet their needs and provide them with the skills and knowledge they require for current and future work.

As noted though, there is a challenge differentiating between what is learnt through the qualification and what is learnt through work. But the data suggest learners do separate this when they are asked about it and that what they are getting in the qualification applies in the workplaces.

²⁴ Chan, S., & Huntington, N. (Eds). (2022). *Reshaping vocational education and training in Aotearoa New Zealand*. Springer.

²⁵ Griffin, T. (2017). Are we all speaking the same language? Understanding 'quality' in the VET sector. NCVER.

The qualifications accelerate the learning and allow for a greater depth of knowledge to be gained. Theory and practice overlap.

Finally

This research looked to find out:

- the knowledge and skills learners are getting and the transferability of these
- the relevance of qualification to their working (or intended working) situation
- flexibility in the qualification and its content.

From the data it is possible to say in relation to this sample of learners:

- The division of skills into core transferable, core technical, and industry specific appears to work as a way of talking with learners about their qualifications.
- They see themselves as getting core transferable skills to a certain extent, and core technical and industry specific skills.
- There is some work to do on getting learners to understand the transferability of these skills within their industry and to other industries/sectors.
- The qualifications appear to be relatively inflexible in terms of content but, work in with farming and growing seasons and/or the order in which learners want to study depending on what they are working on. This lack of flexibility in content did not concern learners who are accepting of the content and the way in which their qualifications are structured.

Possible Next Steps

- 1. Learners need to be provided with more opportunities to have input into their qualifications, learning and development. Such research could include gathering the voices of:
 - Māori, Pasifika and learners for whom English is an additional language
 - learners from a wider range of primary industries
 - learners for whom the qualification is not working
 - iwi and communities to find out the extent to which qualifications meet collective needs.
- 2. Learners appear not to know much about the content of their qualifications. The impact of this and ways to improve it could be worth exploring.
- 3. The concept of transferability does not appear to be fully understood by learners so knowing more about this and how to talk about it with learners would be of benefit.
- 4. Getting to learners in the primary industries needs to be done in ways that work for them. Focus groups work where learners are together for blocks of study are ideal, but the time is limited and precious to them. Working through intermediaries to contact learners through text messages and follow phone calls seems the most pragmatic way to reach them.

Appendix: Research Approach

Gathering learners voices in work place settings is challenging and especially so in the primary industry sector where workers are distributed across both urban and rural sectors. The sample in this research came from Mid-Canterbury, Canterbury, Wellington, Horowhenua, Rangitikei Wairarapa, Hawke's Bay, and the Bay of Plenty.

Muka Tangata used their networks to provide a list of providers and industry stakeholders to approach. While this was moderately successful, not all of the providers had the time to participate or to provide access to learners, so personal networks were also used. This resulted in a convenience sample of 38 learners.

The overall approach included the gathering of primary data through groups and interviews and secondary data through a rapid literature review of Australasian research. The literature review data has been used to confirm, or not, the findings from the primary data.

Sample and sampling

Convenience sampling has two meanings here. Firstly, the traditional meaning of a sample that there is the opportunity to access. Secondly, the learners were spoken to at their convenience. This meant they were spoken to in block course time, in work time, or in their own time.

The original intention was to run 8-10 focus groups so ethnographic data (gender identity, age, ethnicity identity) were not asked for. The focus group approach was not possible for all the sample, hence interviews were added. Data were gathered through four focus groups (25 learners), 12 interviews (seven via phone,²⁶ three via Zoom, two in person), and another learner completed a written questionnaire as their preferred option. The learners were spoken to between April and June 2024.

Of the 12 learners interviewed individually:

- Two non-formal level 5 courses in contract milking
- One level 3 horticulture general
- One level 3 apprenticeship horticulture nursery production with a view to progressing to level 4
- One level 3 apprenticeship horticulture sports turf with a view to progressing to level 4
- One level 4 horticulture -landscape construction
- One level 4 arboriculture
- One level 4 dairy
- Two level 3 micro-credentials dairy
- Two level 3 dairy
- One has a post graduate diploma in aquaculture.

²⁶ At the outset of the research this was the least preferred option, but it transpired learners were happy to be interviewed this way and found it an easier option than a video call via Zoom.

From the four focus groups:

- Three were in pre-qualification, non-formal learning that included horticulture. They are included in the sample given the potential for garnering information on core transferable skills and pathways to the future
- Four were in level 2 qualifications, 2 in horticulture and 2 in animal care.²⁷ These learners were in a trades academy
- Eight were in level three agriculture qualifications
- 10 were in a level 4 horticulture qualification

Participants hold qualifications ranging from level 1 NCEA through to degree level. As might be expected most of them held a qualification at one level lower than that they were studying, which suggests there is a pathway in their various sectors.

Given the nature of the sampling process the research findings are not generalisable. Rather the findings provide insights into what the sample say their learning and qualifications are providing them with.

Interview approach

Given the specificity of data required and the need to use learners' time well, structured interviews were used. While the approach is advantageous in relation to both of these matters it does limit what interviewees had the opportunity to talk about. However, learners were provided with an opportunity to provide additional information. Most did not. Individual interviews took around 20-30 minutes and focus groups up to 45 minutes.

Data analysis

An inductive analysis approach was used.²⁸ This entailed looking across the learners' data to identify commonalities and differences in their thinking and experiences. This was done by qualification as demographic data were not gathered. Of note is the original analysis was of data from 32 learners. Post this analysis six more learners expressed an interest in being interviewed. The addition of their data did not change the findings so there is a suggestion that while the number of learners in this study is relatively small, data saturation has been reached.²⁹

Validity/validation

Given the qualitative nature of this study, the focus is on descriptive and interpretive validation. This means:

²⁷ Note, there is no animal care qualification so the unit standards were contributing to Level 2 NCEA.

²⁸ Creswell, J., & Creswell, D. (2018). *Research design: Qualitative, quantitative & mixed methods approaches:* 5th edition. Sage Publications Ltd.

²⁹ The point at which no new information or themes occur. Research says this becomes evident at around six in-depth interviews and definitely evident at 12 when interviewees come from similar backgrounds or work in similar fields. Boddy, C. (2016). Sample size for qualitative research. *Qualitative Market Research: An International Journal, 19*(4), 426-432; Marshall, B., Cardon, P., Poddar, A., & Fontenot, R. (2015). Does sample size matter in qualitative research?: A review of qualitative interviews in IS research. *The Journal of Computer Information Systems, 54*(1), 11-22.

- being factually accurate about what the participants say, interpreting their data and giving it the meaning that the participants themselves would
- ensuring the right data have been captured³⁰ and questioning the interpretation of the data in the coding process, while being mindful of subjectivity in the process.

Ethics

Learners were provided with an overview of the research, were told about the confidentiality of their information and that they would not be identifiable in the report. They gave their verbal consent to be interviewed. The learners who were interviewed individually were given the opportunity to have their notes sent to them.

Reciprocity

Participants in focus groups in block course time received a koha of food and others interviewed in their own time received a \$50 Prezzy card. Interviewees were also offered copies of the notes taken during their interview.

 $^{^{\}rm 30}$ Note some interviewees took the opportunity to receive their interview notes.