

Final Report

Developing Nursery Career Pathways

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Developing Nursery Career Pathways (NY19006)

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Summary

The pilot project “Developing Nursery Career Pathways project” (NY19006) developed an integrated approach to form the foundation for workforce attraction, development and retention in the greenlife industry with a focus on career development for people in horticulture, other related industries and those making career changes.

The overall project objectives were to:

1. Enable the targeted design and delivery of education and training programs (formal and informal) that support the upskilling and development of people in the greenlife industry at several levels, and
2. Define, develop and showcase jobs and career pathways that demonstrate dynamic career opportunities within the greenlife sectors.

The outputs from the pilot project NY19006 set solid foundations to address the above two strategic objectives (pillars) identified as essential to improve workforce development by project ‘NY17002 Review of Nursery Industry Career Pathways’. They complement the three additional and essential strategic objectives developed within Project NY17002: (i) Industry promotion, (ii) Policy parameters, and (iii) Human resource management practices. The latter three are currently being addressed outside of NY19006 by Greenlife Industry Australia (GIA).

The target audience for NY19006 were industry members, education, and training providers, as well as current and future employees of the industry.

Key Activities

- Recruitment of industry and education provider representatives to form a Project Reference Group (PRG)
- Scan of education providers to short list a group that offered nursery qualifications and were keen to better connect with industry and delivery partners to work towards courses that meet industry needs
- Scan of industry for a diverse range of potential case studies to highlight the breadth of jobs available in the industry
- Planning and delivery of an industry and education provider workshop to discuss relevant skills sets and competencies for VET and higher degree courses and qualifications
- Online survey of industry regarding the key subjects needed for an entry level course aimed at attracting new employees, especially young people, and career changers so they, and employers, can both have an easier start when commencing a new job and employing new staff respectively
- Development and implementation of a new Greenlife Industry Australia (GIA) Careers Hub – housed in a completely redesigned GIA website that has a focus on highlighting the importance of the greenlife sector and attracting people to the industry
- Development of a train-the-trainer resource for use by employers and trainers also housed on the GIA Careers Hub
- Development of a Careers Guide housed within the web hub, aimed at career counsellors, teachers, parents, students and career changers.

Key Outputs

- Project logic and detailed work plans for the project:
 - M & E plan,
 - Stakeholder engagement and communication plan
 - Risk register
 - Terms of reference for the PRG
- Four meetings with PRG held, aligned with timing of Milestone reports
- Industry and education provider workshop delivered in Nov 2020
- Appealing GIA website designed to attract people to the Careers Hub (Careers Hub only funded by this project)

- Careers Guide
- Suite of case studies available for promoting the industry which are incorporated into the Careers Guide and available as standalone pieces on the GIA Careers Hub
- Train the Trainer short course resource housed on the GIA Careers Hub, reminding employers and trainers of important aspects of employing and supporting people in their work environment
- Outline of an introductory training course to showcase opportunities in the industry, give people an opportunity to ‘check it out’ and provide employers with staff who had a solid induction to the industry i.e., they are work ready and can build on the initial training either full time or while working
- Follow on introductory training course outline based on VET skill sets as a next step from the above course to provide a base for TAFEs to consider for a formally accredited course
- A collated list of best practice examples showcasing approaches to training, and industry promotion from nursery industries and other industries around the world.

Key Outcomes

- Relationships with six training providers across the Eastern States who are now engaged with GIA via the project making it easier to recommend courses that are a) still running and b) of an adequate standard, to discuss industry training needs into the future and ensuring relevant courses are taken up e.g., by employees
- GIA can now continue to actively engage:
 - With industry via state bodies and direct networks
 - With key training providers
 - With ‘gatekeepers’ (such as career advisors, schools/teachers and parents)
- Strengthened links and focus between state peak bodies
- Industry, training providers, school leavers and career changers now have an accessible and easy to navigate website including the Careers Hub, developed by GIA. The ‘Careers Hub’ provides a one stop shop for networking, training, and job opportunities. It helps newcomers to the industry to be inspired and explore the types of careers available. It is also an example to other industries on how to inform potential employees and the public about the industry, its value and how to have a rewarding job or career.
- GIA can follow up on best practice examples from around the world showcasing training and industry promotion approaches
- An induction course outline tested and approved by the PRG, ready for use and further development i.e., improvement based on feedback and development of further short courses that build on it.
- Feedback from industry confirming the need for targeted short courses that are easily accessible and delivered or co-delivered by technical experts.

Recommendations for future R & D and practical application to industry

Having set the foundations in the one-year pilot project NY19006, it is now important to ensure continued progression of its outputs and outcomes to achieve a measurable improvement in workforce attraction, retention and training attainment levels. ‘Nursery careers, training and development’ has been identified as a critical area for attention through the levy funded research paper Nursery Industry Statistics 2017-18 to 2019-20 (NY17008), and in the recently released PESTLE analysis conducted under NY17008 to develop and ensure a productive workforce that supports future sustainability of the Greenlife Industry, which is important for other industries as well public and environmental health. These critical areas of workforce development form part of GIA’s strategic plan.

The greenlife industry is an essential service in Australia contributing 2.6 billion to the annual farm gate value. It has an aging workforce; only 15% of full-time employees are under the age of 39. It therefore needs ongoing positioning as a career of choice. Greenlife Industry Australia has the foundation and knowledge to undertake this role and provider leadership on behalf of the industry, working cooperatively with state peak bodies.

Key recommendations include:

1. Funding for the employment of a dedicated resource by Greenlife Industry Australia to advance all priority areas, building on the foundation of this pilot NY19006
2. Continued engagement with key RTOs, universities, informal training providers, 'gatekeepers' (schools, parents, career advisers) to ensure the required, relevant training is delivered and sufficient people from all backgrounds are taking it up
3. Development of a training support framework and platform to address the knowledge and skills gaps identified within the industry, fostering the development of existing workers in the industry and retaining a skilled workforce
4. Development of careers advisers' networks through state government / private schools / careers advisors' associations and provision of a careers promotion toolkit – informational packs on the horticultural industry with downloadable and printable industry information to deliver specific industry career education, career pathways and work/life roles
5. Work with government and other peak bodies for Horticulture to be added to the National Skills Needs List (NSNL)
6. Work with the Australian Apprentice Support Network in updating qualification summaries for Horticulture, Production & Retail Nursery and work with government to include Horticulture Under its fee free apprenticeship initiative currently being undertaken
7. Develop work experience programs – integrate our member businesses with horticulture VET providers and develop downloadable material for local school work experience programs
8. Continue to support and train employers to be preferred employers and engage with apprenticeship, cadetship, and work experience programs
9. Assist employers to develop staff/worker training plans or at least a structured approach to 'in-house training' (this is especially important for smaller scale businesses which make up the majority of the industry)
10. Continue to foster cooperation between the training sector and technical experts so that relevant training is of a high standard
11. Address issues around the identified lack of soft skills (employability skills, people management skills, emotional intelligence)
12. Re-establishment and implementation of the promotion of greenlife careers based on and fostering the outputs, benefits, and future of the horticultural industry.

Keywords

Greenlife, nursery, landscapes, training, courses, careers, skill sets, employers, pathways, school programs, workforce development, workforce retention, industry promotion, industry development.

Note:

In this document and project, we will use the term 'greenlife industry' in preference to 'nursery industry' or 'nursery & garden industry' because it provides a better representation of the sector that includes the production and retail of a vast variety of plants from grasses for turf, over vegetables, flowers and ornamentals to shrubs and trees for gardens, parks and landscapes.

Introduction

Nursery production occurs in all states and territories of Australia, with the majority of production happening in Victoria, Queensland and New South Wales.

Attracting, developing, and retaining a skilled workforce is a pressing challenge for all Australian agricultural industries, not just the nursery sector. Several recent studies provide evidence of skills issues and shortages in horticulture, including nursery production in Australia. The collective findings of these studies identify key issues contributing to the availability and retention of skilled workers in horticulture and the nursery industry. The findings can be found in Appendix A: NY17002 final report with a summary provided below.

“The current skill gaps identified by the industry are mainly soft skills based, related to people development and staff supervision (employability skills, people management skills). Many nursery businesses believe they have the ability to train staff in-house to achieve the required technical competency. Value is placed on access to quality training facilities and study exchange opportunities, largely from a networking and peer learning perspective. Selection of potential employees is driven by their willingness and attitude to work as well as previous experience in the industry. Subsequently, a continuing challenge the industry faces is a focus on developing existing or ‘poaching’ staff, rather than external recruitment of employees new to the industry. The lack of focus on technical skills of new employees may lead to the industry missing out on using new technical developments and effective adoption of R&D.”

This feedback shows the importance placed on ‘on the job training’ and the ‘right people’ but also highlights the importance of developing a culture that values training as essential to further industry development and attracting, retaining, and developing newcomers to the industry. While industry feedback referred to ‘in-house’ training, this mostly means telling people how to do a certain job, it does not mean that employers have an in-house training or staff development plan and skills. Larger scale businesses are more likely to have a planned approach to staff development while smaller scale businesses, i.e., most employers, would require help in targeted employee development.

This project addressed 2 out of the five strategies identified within Project NY17002 – those being Strategic Pillars 3 and 5 identified by NY17002 with focus on:

- Facilitating the targeted design and delivery of education and training programs (formal and informal) that support the upskilling and development of people in the greenlife industry at several levels, and
- Defining, developing and showcasing jobs and career pathways that demonstrate dynamic career opportunities within the greenlife sectors.

The outputs from these two activities complement the three other strategies developed within Project NY17002 Review of Nursery Industry Career Pathways. Those strategies, namely (1) Industry promotion, (2) Policy parameters, and (3) Human resource management practices are being addressed outside of this pilot project by Greenlife Industry Australia who are currently seeking alternative funding to progress the outstanding strategic pillars which were not included in this project.

The outputs from this project have created a foundation for further industry development initiatives that directly align with one of the five industry outcomes identified in the Nursery Strategic Investment Plan (2017-2021); ‘Better career development’. They also align with the Greenlife Industry Australia strategic imperative for careers, i.e., to develop industry skills and career opportunities.

Methodology

This project was one of co-design and collaboration to maximise addressing industry needs so the resources, relationships and tools can be used subsequently used by the national industry peak body (GIA), industry members and future members. To that end the following methodology was used:

1. Project planning – developing a project logic and detailed work plans:

- M & E plan
- Stakeholder engagement and communication plan
- Risk register
- Terms of reference for the PRG

2. Recruitment of Project Reference Group (PRG) members.

Members were selected through an Expression of Interest process to establish an industry group representing both the greenlife industry and horticultural education providers, covering all sectors including University, TAFE and Registered Training Organisations (RTOs). A Nursery Pathways PRG Terms of Reference document was drawn up prior to the inaugural PRG meeting with PRG members meeting via video conference with the delivery partners four times throughout the project to add their feedback and advice on the resources, relationships and tools being developed. PRG members were also interacted with via email consultation when required.

3. Identification and strengthening of linkages with education and training sectors.

Information from the previous project NY17002 on education providers offering nursery courses plus PRG and GIA knowledge of education providers was used to short list six education providers who were offering courses and were open to working with the industry to tailor and promote their courses to industry.

A workshop bringing together the nursery industry state bodies, PRG members and education sector representatives to discuss the design of training programs as a base to develop and enhance further professional career pathways for the nursery sector was held. Discussions around the new Skills Impact training package and what key skills the industry requires for entry level staff was held. These discussions highlighted the requirement of a follow-up skills gap survey to industry members which then directly contributed to the development and outline of an introductory training course to showcase opportunities in the industry and provide employees with basic training. This process has been instrumental in advising various bodies such as AGSkilled 2.0 on the horticultural courses required under the funding package in New South Wales.

4. Development of a Train the Trainer package '**Training your employee for the Greenlife Industry**'.

It was identified that industry employers, when training employees and especially apprentices, lacked the skills and / or confidence to effectively train on site. An industry 'Train the Trainer' slide deck (MS PowerPoint) was developed to show contemporary adult learning principles with industry specific examples to guide and support industry professionals to train up the future greenlife industry professionals. The resource is also useful for training providers e.g., at RTOs

5. Development of a greenlife Careers Guide 'Smart people grow plants – A guide to careers in Australia's greenlife industry'.

A career pathways guide has been developed for the greenlife industry targeted to and written for millennials to highlight the benefits of a career in horticulture that includes an overview of the horticultural industry and what a horticulturalist does. It is also suitable for career changers. It provides:

Guidance in how to start a career in horticulture with:

- A careers pathways flow chart demonstrating the different education pathways and important roles within the greenlife industry
- Other non-horticultural pivotal roles that keep the industry running and,
- Case studies of greenlife industry professionals across a range of jobs - outlining their role, the pathways taken across their career, and career loves and highlights.

6. Development of a new website for Greenlife Industry Australia (not funded by this project) incorporating a Greenlife Careers Hub www.greenlifecareers.com.au (funded by this project).

A new accessible and easy to navigate GIA website incorporates the recently developed greenlife Careers Hub which has its own URL of www.greenlifecareers.com.au for direct promotion of the Hub. The new website design was essential to showcasing the industry and encouraging people to explore the Hub.

The greenlife Careers Hub provides a one-stop-shop highlighting the horticultural industry, the benefits of working in the greenlife industry and the careers and learning pathways available to newcomers to the industry (such as school leavers and their guardians and career changers). The aim of the Careers Hub is to inspire potential newcomers to the industry with videos and imagery and to explore the types of careers available in horticulture.

The greenlife Careers Hub includes information on careers and learning pathways, education and training, industry professional development, a job search board and GIA's Certified Nursery Professional (CNP) accreditation program, a professional recognition scheme for individuals, acknowledging members for their skills and knowledge along with their ongoing commitment to professional development.

The greenlife Careers Hub also provides information for careers advisers and employers with a downloadable greenlife career guide and promotional flyers.

7. Ongoing communications and engagement.

Throughout the project communications were planned and then delivered (Appendix B) to inform industry and keep industry engaged in the project. The resulting outcomes are showcasing dynamic career opportunities and the benefits of upskilling, engaging industry in discussions on skills knowledge gaps and to encourage the use of outputs and resources developed under the project.

Further communication and engagement planned will reference www.greenlifecareers.com.au and adopt marketing collateral developed throughout the project, professional development courses available through the greenlife Careers Hub and the Certified Nursery Practitioner (CNP) accreditation program.

Outputs

Project outputs are as listed below:

1. Project logic and plans for the project
Please refer to Appendix C: Project Plan for project logic and other plans for the project.
2. M & E, stakeholder engagement and communication, risk register
Please refer to Appendix C: Project Plan for M & E Scope, stakeholder engagement and communications and risk register.
3. Terms of reference for PRG, please refer to Appendix D
4. Four meetings with PRG held, aligned with Milestone reports
Please refer to Appendix E (x3): minutes from meetings with PRG.
5. Industry and education provider workshop delivered in Nov 2020
Please refer to Appendix F: Nursery Careers Pathway Workshop Summary.
6. New GIA website (developed by GIA, <https://www.greenlifeindustry.com.au>) with embedded Careers Hub (developed through this project www.greenlifecareers.com.au)
7. Suite of case studies available for promotion of the industry
Please refer to Appendix G: Case study example. More case studies can be found on the website listed above
8. An outline of an introductory training/tester course to showcase opportunities in the industry and provide employers with people who have an understanding of the industry and the jobs they may have to do
Please refer to Appendix H: Outline of introductory training/tester course
9. Links to support resources for industry including Train the Trainer for employers and trainers
Please refer to Appendix I: Train the Trainer PowerPoint
10. Professional development opportunities for industry
This can be accessed from the GIA website under <https://www.greenlifeindustry.com.au/greenlife-careers-hub/certified-nursery-professionals>
11. List of national and international best practice examples of career pathways and their promotion, links to employment and careers centers, professional development and ideas for promoting the industry. Please refer to Appendix J: National and International recommendations and ideas.
12. Updates on the communications and engagement undertaken during this project. Please refer to Appendix B: Engagement tracking.
13. A downloadable Careers Guide for careers advisors, students and parents highlighting careers pathways, case studies and information on beginning a career in greenlife. Please refer to Appendix K.

Outcomes and Discussion

1. Relationships with interested and competent training organisations established.

The scan of the education sector conducted under the previous project NY17002, revealed that although many education institutions had nursery qualifications listed on scope to train, most were not running horticulture courses due to lack of competent trainers and or lack of enrolments (given RTOs do not commonly advertise courses). Through the networks of the delivery team, we have contacted six training providers (2 in Victoria, 2 in Queensland and 2 in NSW) who are interested in working with industry to develop and promote targeted courses. Three of those training providers attended the workshop in Nov 2020 to hear directly from industry and discuss the limitations and opportunities within the current qualifications and courses.

Following the skills training workshop, and the subsequent industry skills knowledge gap survey, we worked with various education professionals including NSW TAFE to develop the outline of an induction course for those new to the industry and the opportunities for further training (see Appendix H). Development of this induction course helps provide education providers with an understanding of the knowledge required by industry and the importance industry places on particular topics. Delivering the short course will provide primarily trained, inducted employees to employers. We also used the feedback from the workshop and subsequent survey to begin to map out potential subjects from the existing list of subjects to draft a formally recognised Certificate course. See Appendix L: Draft course subjects for key nursery needs.

These relationships provide a sound base for future development and promotion of courses to industry and future conversations between industry and education providers to tweak the courses in line with industry needs. It was recognised that it must be a two-way relationship where industry needs to be confident in the content of formal training from education providers when sending their staff to training or employing staff with a qualification, which may require tweaking of courses and the way they are delivered by education providers. Education providers also need to feel confident that if they update their courses, nursery employers will send employees to the courses to keep them viable. Both have to work together to ensure training is relevant and provided in engaging ways, including short courses.

2. With ongoing support, GIA can now continue to actively engage:

- With industry via direct networks and NGI state bodies
- With key training providers to ensure they understand industry needs and how they can utilise existing skills sets, competencies and technical experts to deliver relevant training (content, locations, length of courses, timing, quality, delivery style)
- With 'gatekeepers' (such as careers advisors, schools and parents) to get in front of them and promote the greenlife industry as a career of choice, highlight the benefits of working in the greenlife industry, inform them of the learning pathways, career opportunities and pathways in the multifaceted greenlife industry
- With trainers to ensure they have the required subject knowledge or know where to find it (e.g., involving technical experts)
- With training providers to explore and initiate accredited and non-accredited training options to upskill newcomers to the industry and staff in technical and soft skills filling skills and knowledge gaps
- With employers to foster apprenticeships, cadetships, traineeships, and work experience initiatives.

3. Strengthened links between state nursery and garden peak bodies.

The project has provided more opportunities to engage the State peak bodies through involvement in the November 2020 Workshop and various calls to action as we tested our thinking and gained feedback on the subjects required and potential education providers. These links will continue to be strengthened as the project goes forward.

4. Accessible and easy to navigate one-stop-shop website for industry, training providers, school leavers, career changers and careers advisers.

Coordinated and collated information in the one place will help the industry promote itself into the future. The website includes a 'Greenlife Careers Hub' developed by this project for newcomers to the industry to be inspired and explore the career opportunities available that includes the following features:

- Video about the horticulture industry
 - Video for school leavers about bring your career to life choosing horticulture
 - Comprehensive information for newcomers to the industry whether they are school leavers, parents and guardians, career changers or career advisors
 - Information for employers
 - Careers and Learning pathways opportunities
 - Education and Training opportunities through RTO's, TAFE and University
 - Career Pathway Case Studies of Industry Professionals
 - Industry Professional Development
 - Job Boards
 - Certified Nursery Practitioner (CNP) accreditation program
 - Links to scholarships.
5. A collated list of best practice examples from other industries or nursery industries around Australia and the world for training, promotion and follow through in the future.

Throughout the project research on best practice examples of promotion, training etc. were sourced. A list of the most relevant are attached in Appendix J. This information can be used by GIA in further supporting workforce development.

6. An induction course outline with input from the PRG is ready for further delivery and development as required.

The new VET Horticulture and Nursery Training Package with updated units, skill sets, and qualifications was published on the training.gov.au website on 24 December 2020, within the AHC Agriculture, Horticulture and Conservation and Land Management Training Package.

These updated courses are required to be used by TAFE and Registered Training Organisations (RTOs) following the period of transition from the previous courses.

RTOs have 12 months to adopt the new training package; we are unsure which RTOs will either continue to deliver or cease horticultural training, understanding they may not have the capacity to deliver the updated units (i.e. TAE unit qualified trainers). Discontent by some industry representatives with the new package overshadowed some discussions about engaging with RTOs to develop a relevant training design for delivery. However, the package and other skill sets and competencies will provide the necessary training opportunities for the industry. Industry and RTO's have to work together to develop and deliver the training opportunities.

In response to the above, an induction training course outline was developed showcasing opportunities in the sector. This together with the Train the Trainer resource, can be used by industry when onboarding new staff to an Induction / pre-apprenticeship course to encourage career changers to consider greenlife industry. This Induction Training course can be found in Appendix H.

Whilst developing the induction training course outline, we used the feedback from the November 2019 workshop and subsequent survey to produce a draft list of potential subjects for a follow on formally recognized Cert. course at that introductory level. This was done with the help of NSW TAFE, a member of the PRG. This outline can be found in Appendix L.

7. Train the Trainer and capacity building resources.

It was identified by industry that while supervisors and managers are experts in their subject areas, not all are proficient in managing, mentoring and developing staff. To address this, a Train the Trainer resource based on contemporary adult learning principles was developed and is available on the Greenlife Careers Hub for those employers who are supervising and training staff. This will be complemented by information on an employer's obligations and responsibilities when hiring and registering an apprentice as well as the responsibilities of training and supervision. The next step is for GIA to encourage employers to engage with the resource or potentially deliver a training course for employers, based on the resource.

Monitoring and evaluation

The aspirational, long term outcome is that *greenlife jobs are a professional career choice, providing clear pathways from entry level to skilled experts, in the variety of job roles that the industry offers.*

This project has taken a huge step towards reaching that outcome in providing a strong platform of tools, promotional resources and relationships across industry and education providers so that the industry can continue to build even stronger awareness and intention to take up jobs and careers. While the foundations are solid and encouraging, there still is a way to go to reach the overall aim. GIA is well positioned to lead this.

The following outlines how this project has met its outcomes according to the key evaluation criteria.

Effectiveness – To what extent has the project achieved its expected outcomes?

GIA and the greenlife industry now have the base tools (one-stop-shop website, Careers Guide, case studies, train the trainer, professional development and more) and strengthened relationships from the PRG, interested education providers and state nursery & garden peak bodies from this project to be able to increase awareness and intention of people to take up greenlife industry jobs and, increased awareness and intention of current industry employees to take up scholarships and staff development opportunities.

The Careers Guide identifies and promotes the varied career paths possible within the greenlife industry and outlines the training pathways suggested to reach those goals. The case studies (in the Careers Guide and located in the Greenlife Careers Hub) build on this by illustrating the different pathways industry professionals have progressed their careers in the industry.

Training support tools for employers such as the ‘train the trainer’ resource, links to relevant education providers give the career searchers a tangible next step to follow when pursuing a nursery career and the greenlife Careers Hub provides a central location for all information relating to the greenlife industry with opportunities for education providers to promote their courses and employers their vacant positions to industry and newcomers.

Relevance – How relevant was the project to the needs of intended beneficiaries?

Data collected through the previous project NY 17002, industry knowledge through the partners and the PRG reinforced the importance of the nursery industry having a central location for promotion of the industry, attraction of young people and career changers to the industry and support information for professional development, employers and employees. The updated GIA website provides this tool with the Greenlife Careers Hub.

As highlighted in NY17002, employers needed help in knowing where and how to train their staff. The Greenlife Careers Hub now hosts tools such as the ‘Train the trainer’ resource (under ‘for employers’ section), an outline of the introductory course and links to education providers providing this information.

The project utilized feedback from industry (November 2019 workshop, industry survey, Skills Impact information and GIA connections) to draft a formal course outline using the subjects available in the present system.

Process Appropriateness – How well have intended beneficiaries been engaged in the project? To what extent were engagement processes appropriate to the target audience/s of the project?

The communications and engagement plan (included in Appendix C) clearly outlined the target audiences and how they were to be engaged in the process. This was tested with the PRG and then followed through as the project progressed. The details of what was delivered can be found in Appendix B. There are several items planned to be rolled out at the end of this project to inform the stakeholders and target audience members of the outcomes of this project which will take place after the submission of this report.

At several points in the project, it was necessary to modify the original plans to recognize the stresses the industry was facing at the time

- The industry workshop was shortened, moved to later in the year and to an online workshop to accommodate industry needs and the COVID situation
- We developed an extra industry skills knowledge gap survey when it was necessary to check specific preferred inclusions in the Introductory course so we could hear these preferences from Industry professionals
- The upcoming change in the relevant training package cause some uncertainties in the industry and influenced some feedback from industry.

Efficiency – What efforts did the project team make to achieve efficiency of delivery?

The project team utilized the combined skills, experience and networks to:

- Source training organisations and industry representatives who were interested and motivated to work on the project as part of the PRG and for future continuation of this project's activities
- Source examples from other industries in Australia and abroad to lead into the development of the collateral such as the outline of the induction course, the GIA website, involvement of Skills Impact and design of the Careers Guide
- Ensure that all meetings and workshops were well organised and that minutes were recorded and distributed
- Due to the restrictions of the COVID-19 year and the extra pressures that this placed on the nursery industry, the team was flexible in their approach and utilised online tools to continue to engage through the project and chose times and durations of the workshop and other meetings to accommodate those attending.

Recommendations

The recommendations below are to ensure this work, which underpins the progress in the attraction, development, and retention of human resources to the industry, continues uninterrupted. These recommendations include (in order of priority):

1. Funding for the employment of a dedicated resource by Greenlife Industry Australia to advance all priority areas, building on the foundation of this pilot NY19006
2. Continued engagement with key RTOs, universities, informal training providers, 'gatekeepers' (schools, parents, career advisers) to ensure the required, relevant training is delivered and sufficient people from all backgrounds are taking it up
3. Development of a training support framework and platform to address the knowledge and skills gaps identified within the industry, fostering the development of existing workers in the industry, and retaining a skilled workforce
4. Development of careers advisers' networks through state government / private schools / careers advisors' associations and provision of a careers promotion toolkit – informational packs on the horticultural industry with downloadable and printable industry information to deliver specific industry career education, career pathways and work/life roles
5. Work with government and other peak bodies for Horticulture to be added to the National Skills Needs List (NSNL)
6. Work with the Australian Apprentice Support Network in updating qualification summaries for Horticulture, Production & Retail Nursery and work with government to include Horticulture Under its fee free apprenticeship initiative currently being undertaken
7. Develop work experience programs – integrate our member businesses with horticulture VET providers and develop downloadable material for local school work experience programs
8. Continue to support and train employers to be preferred employers and engage with apprenticeship, cadetship, and work experience programs
9. Assist employers to develop staff/worker training plans or at least a structured approach to 'in-house training' (this is especially important for smaller scale businesses which make up most of the industry)
10. Continue to foster cooperation between the training sector and technical experts so that relevant training is of a high standard
11. Address issues around the identified lack of soft skills (employability skills, people management skills)
12. Re-establishment and implementation of the promotion of greenlife careers based on and fostering the outputs, benefits, and future of the horticultural industry.

Refereed scientific publications

N/A

References

All references are listed in Appendix J: National and International Recommendations and Ideas.

Intellectual property, commercialisation and confidentiality

No project IP, project outputs, commercialisation or confidentiality issues to report.

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We also want to acknowledge the input industry members and training providers more widely and the time they generously gave in support of developing the foundations for an ongoing active workforce development initiative.

Appendices

- Appendix A: NY17002 Desktop review final
- Appendix B: NY19006 Engagement tracking
- Appendix C: NY19006 Project plan 200724 final
- Appendix D: PRG terms of reference
- Appendix E: Minutes PRG
- Appendix F: Nursery career pathways workshop – summary final
- Appendix G: Carole Fudge careers case study
- Appendix H: An introduction into working in the Australian Greenlife industry
- Appendix I: Train the trainer powerpoint
- Appendix J: National and international recommendations and ideas v2
- Appendix K: Career’s guide v6
- Appendix L: Draft course subjects for key nursery needs

Appendix A: NY17002 Desktop review final

RMCG

JANUARY 2019

Nursery industry career pathways

Desktop review

Hort Innovation

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1 Introduction

1.1 PROBLEM STATEMENT

The nursery industry supply chain is a significant sector of the Australian horticultural industry. It employs almost 27,000 (19,000 full time equivalent) staff in around 1,800 small to medium enterprises (SMEs). The value of production for the year ending June 2016 was \$2.29 billion; encompassing plants grown for horticulture including, fruit and vegetables, landscaping and ornamental retail supply chains as well as forestry. Yet the industry, like many other agricultural and horticultural industries, faces major challenges around high staff turnover and an ability to attract and retain qualified people via offering attractive career pathways.

Industry training and development has been identified as a significant priority of the Australian nursery industry. This is documented in the Nursery Strategic Investment Plan (2017-2021) with better career development, one of the five industry outcomes identified in the SIP. Strategies to achieve required outcomes are identified as:

- Promoting the industry as a professional career choice
- Identifying future skill sets needed in the industry
- Collaborating with institutions about industry training and development needs
- Implementing a young leader and development program
- Using future innovators and young leaders to promote and adopt R&D and marketing outcomes within the industry.

1.2 BACKGROUND

Nursery production occurs in all states and territories of Australia, with the majority of production happening in Victoria, Queensland and New South Wales.

Attracting, retaining and developing a skilled workforce is a pressing challenge for all Australian agricultural and horticultural industries, not just the nursery sector. Several studies (Growcom, 2013; AgriFrood Skills Australia, 2015; RMCG & GVFGSWG, 2013) provide empirical evidence of skills issues and shortages in horticulture, including nursery production in Australia. The collective findings of these studies identify several driving issues contributing to the availability of skilled workers in horticulture, including:

- Low number of people attaining specific agriculture and horticulture qualifications
- Availability of training courses / services that are relevant, accessible in production regions, and cater for people in the workforce
- Labour competition from other sectors, including mining and coal seam gas
- Poor promotion of the industry as an employer of choice, including lack of clear career pathways within the industry
- Poor promotion of horticulture to people trained in relevant related disciplines such as logistics, business management, IT, engineering
- Small to medium enterprises cannot afford to employ several specialists; they require multi-skilled staff in management positions

- Seasonal and casual/part time nature of the work, inhibiting job security, on-the-job training and career progression as well as potentially requiring long working hours during the peak season
- Lack of regional level collaboration to build skilled and adaptive labour pools
- Industry image, employment conditions including remuneration and skilled supervision, work place conditions
- Remote locations affecting the ability of partners of those employed to find adequate work, quality of infrastructure (e.g. schools, childcare, hospitals, transport)
- The predominant disinterest of local unskilled labour to work in horticulture, and
- Reluctance by the local industry to engage skilled migrant labour or participate in seasonal worker programs due to factors including costs, the length of time seasonal workers may stay, facilities they have to provide for them, language and cultural barriers, and minimum work hour requirements.

1.3 OBJECTIVE OF THIS STUDY

This desktop review seeks to identify the necessary skills for nursery production in Australia, identify the skills shortage and establish an understanding of the inhibiting factors to attract, retain and develop an appropriately skilled workforce for the current and future needs of the industry. The desktop review aims to assess the characteristics of the Australian nursery industry, identify the universal challenge of a skills shortage in horticulture in Australia and address key review questions as outlined in Table 1-1.

Table 1-1: Desktop review questions

THEME	REVIEW QUESTION
Skills	<ul style="list-style-type: none"> ▪ What are the skill needs of the Australian nursery industry? ▪ What are the position and role types in the nursery industry and how do they form a career path (identify stepping stones)? ▪ What are the skill gaps?
Training	<ul style="list-style-type: none"> ▪ What are the sources of skilled/trained staff for the nursery industry? ▪ Who is providing these skills / training? ▪ What relevant courses (tertiary and VET*) are offered in: <ul style="list-style-type: none"> – Nursery / Amenity horticulture? – Production horticulture? – Agriculture? ▪ What are the enrolment and graduate trends? ▪ Are the training services offered meeting the needs of the nursery industry in relevance, ease of access, responsiveness, flexibility and capacity/skills/knowledge of trainers? ▪ What is required to include relevant training skill sets in VET training packages? ▪ What is required to provide training services that build on VET training (professional development)?
Attraction, retention & development	<ul style="list-style-type: none"> ▪ What are the current attraction, development and retention initiatives of the nursery industry? ▪ What are the comparative attraction, development and retention initiatives of other agricultural industries? ▪ Are there shared lessons / experiences from other industries that should be considered by the nursery industry?

2 Industry characteristics

The Australian nursery industry is a multi-billion-dollar sector that plays a vital part in the human, environmental and economic well-being of Australia. The diversity, uniqueness and significance of the sector, however, make it challenging to adopt a one size fits all model to attract, develop and retain a workforce.

The industry provides the plants that underpin two key areas of horticulture:

Urban and Environmental:

- Residential, commercial, industrial and public gardens, green space and developments
- Environmental and ecological restoration for land management, revegetation, natural area rehabilitation and erosion control
- Cut flower production

Rural and Agriculture:

- Production horticulture for fruit, nut and vegetable production
- Forestry spanning large scale plantations to agro-forestry
- Livestock production properties for forage and animal welfare management
- Medicinal, herbal and remedial products

2.1 INDUSTRY STATISTICS

In 2015-2016, Australia's nursery businesses produced \$2.29 billion of green life from the sale of 1.6 billion plants. There are around 1,800 production nursery businesses that employ almost 27,000 full and part-time and casual employees. The plants were produced across a variety of regions and environments with outdoor production and indoor production totalling 6,229 ha and 1,273 ha respectively.

The production nursery industry businesses cover the length and breadth of Australia and no two businesses are the same. On average, businesses nationally employ 15-16 people but this ranges from single operator organisations to those with more than 200 employees.

Business diversity in the Nursery Industry is vast with more than half of businesses considered 'micro businesses' with turnover of \$500K or less. Twenty seven (27%) of the industry has a turnover of between \$500,001 - \$2M and 10% of growers are turning over greater than \$3.5m.

Businesses nationally report that operating costs as an average percent of turnover are 28% and wages are 32%.

2.2 INDUSTRY WORKFORCE DEMOGRAPHICS

The key demographics of the current industry workforce, as provided by the NGIA (2018), are outlined as follows.

Gender split

- 72% male
- 28% female

Workforce age

The average age of a person working in the Nursery Industry is 54 years old.

- 15% - 18-39 years
- 49% - 40-59 years
- 36% - 60 and older

Employment type

27,000 people (or 19,000FTE) are employed by the Nursery Industry on a full time, part time and casual basis

- 50% - Full time
- 17% - Part time
- 32% - Casual/Seasonal roles

Employment role

- 78% - Nursery labouring
- 13% - Administrative
- 9% - Other

Location

83% of the Nursery Industry operates from the eastern states of Australia.

- 29% - Queensland
- 28% - Victoria
- 26% - New South Wales/ACT
- 8% - Western Australia
- 9% - South Australia, Tasmania, Northern Territory

3 Skills shortage in horticulture

3.1 THE NEED FOR SKILLS IN HORTICULTURE

Over the past decade, horticulture, the third largest agriculture sector in Australia behind livestock and grains, has moved beyond a 'market garden' mentality, to focus on business acumen including supply chain management, technology, product innovation and export competitiveness (RMCG, 2015). Pratley (2012) presents an argument that horticultural operations of today operate at levels of complexity that did not exist 20 years ago. Horticultural businesses are faced with a range of compliance responsibilities in the areas of biosecurity, workplace health and safety, pesticide management, food safety, customer relationships (ACCC Horticulture Code of Conduct) and environmental sustainability. Managing carbon emissions due to increasing concern over climate change is a further responsibility that may become compulsory.

More than just plant production and horticultural skills are required for the nursery industry in Australia. However, small to medium enterprises cannot afford to employ several specialists; subsequently they require multi-skilled staff in management positions. Additionally, business principles require greater attention through regular business activities including an increasing need for data capture and management for compliance and business efficiency. Marketing is increasingly becoming the responsibility of the business for products and processes including quality assurance, accreditation, logistics and supply chain relationships. To remain viable, horticulture businesses have to be technologically adept and remain 'cutting edge' e.g. with automotive processes across the production system, a plethora of precision agriculture application as well as data monitoring and management systems.

There is broad recognition that to remain internationally competitive and equipped to capitalise on opportunities, the horticulture industry needs to attract the best educated people (Pratley, 2012). There is also a need to secure a continued pipeline of well-trained experts to support the capacity of the industry into the future. Presently, horticultural businesses are struggling to attract and retain the necessary skilled workforce; this is forecast to cost the Australian horticulture industry \$1.55 billion in lost profit by 2020 (Horticulture Australia Ltd, 2008).

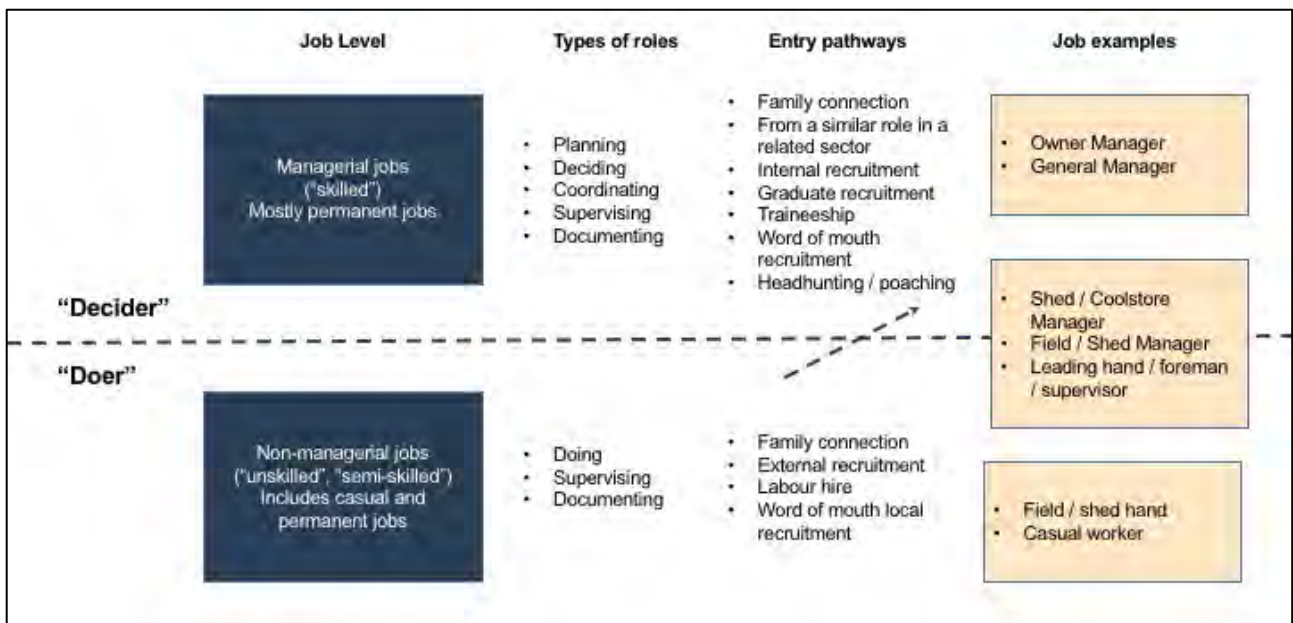
3.2 JOB LEVELS IN HORTICULTURE

A study by Santhanam-Martin and Cowan (2017) into skilled workforce issues provides a two-tier classification of job levels within the horticulture sector in Australia. This includes jobs which involve independent decision-making as managerial jobs ('deciders'), and jobs which are mostly about carrying out instructions provided by others as non-managerial jobs ('doers').

The classification of jobs as either a decider or a doer means different skill sets are necessary to perform tasks. Deciders are engaged in managerial jobs that rely on strategic thinking, risk management and business planning skills, combined with a sound technical knowledge to make decisions. While doer workers need to demonstrate competence in listening, understanding and completing required tasks; have the capacity to identify urgent problems or risks associated with tasks; and the ability to communicate and supervise other staff in implementing day-to-day tasks combined with the required technical knowledge. The level of technical knowledge required varies for both groups, depending on the level of responsibility and complexity of tasks.

This classification refers to employees, and their required skill set, as either being a decider or a doer as summarised in Figure 3-1.

Figure 3-1: Classification of horticulture job level (Adapted from Santhanam-Martin and Cowan, 2017)



3.3 CURRENT SKILL SHORTAGES IN HORTICULTURE

The range of tasks and skill requirements for both decider and doer jobs within horticulture businesses is diverse. A comparative study of the Australian vegetable industry, undertaken by RMCG (2015) identified gaps in skills as well as gaps in education and training offered to vegetable producers. The summary is presented in Table 3-1. With no equivalent study for the nursery industry identified, many of the issues identified for the vegetable industry are also representative of the amenity horticulture sector. It is important to note that the identified skills gap, as perceived by the industry, is actually a skills shortage or a shortage in the delivery of these skills.

Table 3-1: Identified horticulture industry skill shortages (RMCG, 2015)

KNOWLEDGE AND SKILL AREA	SKILL GAPS
Technology	Information technology, machinery & equipment, precision horticulture, spatial technology, remote sensing, GPS/GIS, vision/sensing technology (e.g. for grading or in the field), robotics, irrigation technology, spray application technology, waste management, energy efficiency
Production environment	Climate/climate change, landscape / land capability / site selection, natural resource management / sustainability, water resources / quality, resource use efficiency, emission management, carbon farming, environmental sustainability, site selection
Field production and advanced crop management	Soil management, crop nutrition / fertilisers, plant health and crop protection, machinery & equipment, irrigation management, integrated crop management, agronomy, sustainable production, variety selection, on-farm research methods (farm trials)
Protected Production/Hydroponics	Structures/crop covers, hydroponics, greenhouse soil / substrate management, nutrition management / fertilisers, plant health and crop protection, climate and atmosphere control, machinery & equipment, irrigation management, integrated crop management
Postharvest Management	Grading, cool chain management, post-harvest physiology, packaging, storage, temperature and atmosphere control, logistics, transport/shipping, distribution, food safety, waste management
Managing the Business	Strategy, financial management, business planning/management, cost of production, record keeping, investment decisions, commercialisation, managing growth, compliance (legislative / regulatory), quality systems, managing risks
Products to markets	Understanding markets and consumers, marketing / promotion / selling, exporting, product development, supply chain management, product development
People	Leadership & management, conflict management / negotiation, WH&S / OH&S, managing staff, mentoring, people development, managing apprentices, labour management, communication
Information transfer	Adult learning, consulting, extension methodologies, facilitation, communication e.g. via public media, public speaking

3.4 SKILLS GAP OUTLOOK

In addition to existing skills shortages within the production horticulture sector, several emerging issues have been identified that may challenge future skills and skill development in horticulture. An assessment by the Australian Industry Skills Council (2016), identified several drivers and potential future skill gaps as relevant to horticulture as summarised in Table 3-2.

Table 3-2: Skills Outlook (Australian Industry Skills Council, 2016)

DRIVER	SKILLS OUTLOOK
Transition to ongoing implementation of new processes and technologies in irrigation.	Skills required around various types of irrigation such as pressurized irrigation operations and gravity fed irrigation systems.
The National Agvet Chemical Task Force working group harmonisation to chemical training requirements, including a review of state based regulatory frameworks and future developments in managing spray drift risks.	Skills required in the industry are required to reflect the recommendations of the Task Force.
Transition to new technology and processes used in conservation and land management.	New knowledge and operational capacity to optimize technology.
Recent deaths on Quadbikes has led to concern over the safety of operation. New Machinery may be used instead of quads (drones).	Concern regarding the level of skills of quadbike operators. New and emerging skills will be required for the use of new technology such as drones.
Over reliance on chemicals to manage pests is causing concerns environmentally with increasing resistance to chemicals requiring new variants of chemicals to be developed. A holistic approach of balancing chemical use with a greater use of introducing beneficial insects and use of organic rather than chemical agents will be more environmentally sustainable benefitting the overall ecosystem.	Industry requires skills in botanical knowledge, pruning techniques, grafting techniques, plant identification, pest identification, integrated pest management, and identifying soil/media composition.
Free trade agreements have opened opportunities for market access to Australian farmers.	Skills required in how to export food to emerging markets and global logistics.
Investment in integrated technology, such as robotics and digital and wireless technology to monitor farm operations and detect crop issues.	Need for skills in strategic planning, risk management, mergers and acquisitions, online marketing business development and financial planning to respond to the dynamic and changing operating environment, with increased competition and opportunities to reach global markets.
Increasing market demand for innovation in product development to ensure viability of enterprises.	New knowledge and operational capacity related to innovation and product development.
Growing investment in integrated farm technology, quality standards and data analysis are expected to influence the roles of farmers. Continuous development of biotechnology with new discoveries providing the potential to support farmers with emerging challenges, including those arising from climate change, pressure on global food supplies and fresh water, and the management of pests and diseases, will add to the vocational outcomes of agricultural work sector.	In response to climate change and government policy, knowledge of relevant science, digital and analytical skills, assessing crop health, data capture from a range of devices, and strategic planning and business management.

4 Skills

4.1 SKILLS SHORTAGE IN AGRICULTURE

Detailed studies assessing industry specific skill shortages are limited, and where available, are based on high level, cross industry aggregated datasets. Despite this, there is a rhetoric around the factors that are seen to contribute to skill shortages, particularly in regional Australia, which include structural changes to the economy, ageing workforce, environmental factors including prolonged drought, labour competition from other industries, migration of workers from regional areas to metropolitan centres and suitability of regional infrastructure. The availability of regional infrastructure is particularly important to ensure an adequate level of facilities to attract and retain a skilled workforce, and may consider services including schools/education, hospitals and health services, telecommunications, transport, council services, housing, after hours/holiday activities and shopping. The perceived poor image of agricultural industries also plays an important role.

"I have to say that industry works very hard on not portraying a very attractive profile, to be frank, so it is somewhat understandable that careers advisers perhaps are not breaking their necks to recommend careers in agriculture and horticulture to young people when the industry itself says the things about itself that it does. That needs to be corrected, and some of us are working on that at the moment." - Cornish, 2007

The impact of skill shortages has been widely identified, including lower levels of production, higher production costs and loss of competitiveness, and in turn lower opportunities for economic growth.

There is broad recognition for government intervention to address the risks associated with skills shortages through a variety of measures. These include improving and increasing vocational training and targeted training initiatives to meet the need of horticultural businesses, skill immigration programs, and the employment of skilled workers on temporary work visas. In addition to direct programs to support skills development, there is also recognition of the need for indirect support to attract skilled workers to regional areas, through developing and upgrading regional infrastructure and services to meet workforce needs. The National Farmers Federation (2013) for instance, argues that better access to health, education, transport and telecommunications infrastructure will help retain and attract skills to regional areas.

There is recognition of the national barriers to meeting industry needs for labour and skills include low levels of industry involvement in formal education and training, poor promotion of agricultural pathways and the limited capacity of the current education and training system to deliver relevant and innovative training solutions (Industries Development Committee Workforce, 2009).

4.2 SKILL NEEDS OF THE NURSERY INDUSTRY

An assessment of common positions in the nursery industry was undertaken in regard to the technical (hard) and interpersonal (soft) skill needs as presented in Table 4-1. Relevant qualification levels are also identified (Industry Training Australia, 2018).

Table 4-1: Career pathways for the nursery (production and retail) industry (Industry Training Australia, 2018)

POSITION	SKILLS (HARD)	SKILLS (SOFT)	QUALIFICATIONS
Production Nursery Assistant	<ul style="list-style-type: none"> ▪ Application of chemicals under supervision ▪ Operation of large machinery ▪ Undertake various nursery propagation activities ▪ Plant identification 	<ul style="list-style-type: none"> ▪ Communication skills ▪ Ability to work in a range of environments ▪ Punctuality ▪ Strong work ethic ▪ Ability to accept feedback ▪ Work effectively in a team environment ▪ Reliable 	Certificate II in Production Nursery
Nursery Sales Assistant	<ul style="list-style-type: none"> ▪ Maintain health of nursery stock ▪ Plant identification ▪ Assist with sales tasks ▪ Manage finances 		Certificate II in Retail Nursery
Production Nursery Tradesperson	<ul style="list-style-type: none"> ▪ Conduct a range of tasks relating to safe storage and transportation, preparation, and application of chemicals ▪ Identify and control pests, weeds, and diseases ▪ Construct and maintain irrigation systems ▪ Understand a range of issues relating to plant health 	<ul style="list-style-type: none"> ▪ Strong work ethic ▪ Critical thinking ▪ Experience dealing with a range of different personalities ▪ Team building ▪ Decision-making skills ▪ Interpersonal skills ▪ Enthusiastic 	Certificate III in Production Nursery
Retail Nursery Tradesperson	<ul style="list-style-type: none"> ▪ Engage with customers on a daily basis ▪ Maintain health of nursery stock ▪ Have an in-depth knowledge of various plants and their growing conditions ▪ Identify and control pests, weeds, and diseases 		Certificate III in Retail Nursery
Production Nursery Supervisor	<ul style="list-style-type: none"> ▪ Supervise nursery production teams ▪ Develop a range of soil and plant health monitoring plans. ▪ Supervise and monitor the performance of employees ▪ Effectively communicate and interact with employees and customers ▪ Implement and maintain work place health and safety programs 	<ul style="list-style-type: none"> ▪ Highly organised ▪ Strong work ethic ▪ Critical thinking ▪ Logical thinking ▪ Problem solving ▪ Resourceful ▪ Willing to learn ▪ Cooperative 	Certificate IV in Production Nursery
Retail Nursery Supervisor	<ul style="list-style-type: none"> ▪ Supervise nursery logistics ▪ Manage an effective work team ▪ Supervise and monitor the performance of employees ▪ Effectively communicate and interact with employees and customers 		Certificate IV in Retail Nursery

Production Nursery Manager	<ul style="list-style-type: none"> ▪ Effectively coordinate and complete production tasks that will increase the productivity of the business ▪ Apply extensive knowledge of plant taxonomy to business operations ▪ Implement a range of plant, water and nutrient management plans ▪ Lead and manage a production team in an effective manner ▪ Management of machinery and equipment 	<ul style="list-style-type: none"> ▪ Sufficient verbal and written communication skills ▪ Make deadlines ▪ Business etiquette ▪ Decision making ▪ Dispute resolution 	Diploma of Production Nursery
Garden Centre Manager	<ul style="list-style-type: none"> ▪ Manage finances and nursery logistics in a safe and profitable manner to increase the profitability and sustainability of the business ▪ Understand the fundamentals of business management ▪ Apply extensive knowledge of plant taxonomy to business operations ▪ Manage employees in an effective manner ▪ Monitor and manage store facilities 	<ul style="list-style-type: none"> ▪ Conflict management ▪ Leadership ▪ Ability to deal with difficult managerial situations 	Diploma of Retail Nursery Management
Horticulture Business Manager	<ul style="list-style-type: none"> ▪ Analyse and develop business management plans ▪ Manage human resources ▪ Analyse and manage a range of tasks relating to business performance ▪ Implement planning and budget monitoring programs to effectively sell stock 	Logical thinking	Advanced Diploma of Horticulture Bachelor of Horticulture Master of Urban Horticulture

5 Training

5.1 EDUCATION AND TRAINING PROVIDERS

The current Australian institutional and organisational structures supporting education and training in agriculture include state and federal departments of agriculture and natural resource management, private extension providers, private agricultural businesses, vocational education and training (VET) providers, the national training authority, state training authorities, industry training advisory bodies, research and development corporations, universities, farmer organisations, and other non-government organisations (RTOs and non-registered organisations). Increasingly, online training services are offered for agricultural audiences. These online providers may not always be Australian based.

Most formal education and training providers are government (plus fee) funded on a 'throughput of students' basis; there are no rewards attached to outcomes on farms or impacts on profitability of the industries serviced. Some VET providers work closely with industry e.g. with an industry controlling content and, to a degree, delivery mechanisms (e.g. the cotton or dairy industry). This provides a closer link between industry needs and training services.

5.2 NURSERY TRAINING (PRODUCTION AND RETAIL)

There are currently two streams of nursery courses offered, Retail Nursery and Production Nursery, with qualifications ranging from Certificate II to Diploma level (Commonwealth Department of Education and Training, 2018) as outlined in Table 5-1. The design and structure of the training programs are conducive to providing clear career pathways for potential students and a comprehensive skill development framework.

There are currently limitations on the offering of these courses in Australia. As outlined in Table 5-2, offered courses include one grafting course, six Certificate III in Retail Nursery, five Certificate III in Production Nursery, and one Diploma in Retail Nursery. There were also no courses offered in Queensland Western Australia, South Australia, or Tasmania.

Table 5-1: Available VET Courses (ACH10 Package) in retail and production nursery in Australia

CODE	TITLE
AHC20816	Certificate II in Retail Nursery
AHC20716	Certificate II in Production Nursery
AHC31216	Certificate III in Retail Nursery
AHC31116	Certificate III in Production Nursery
AHC40716	Certificate IV in Retail Nursery
AHC40616	Certificate IV in Production Nursery
AHC50916	Diploma of Retail Nursery Management
AHC50816	Diploma of Production Nursery Management

Table 5-2: Registered VET institutions to deliver nursery courses (production and retail)

COURSE	CODE	INSTITUTION
Certificate II in Production Nursery	AHC20716	<ul style="list-style-type: none"> ▪ Australian College of Agriculture & Horticulture ▪ FITEC Australia ▪ Horticultural Training Pty Ltd ▪ Kangan Institute ▪ Riverina institute of TAFE ▪ TAFE NSW
Certificate III in Production Nursery	AHC31116	<ul style="list-style-type: none"> ▪ Gordon TAFE ▪ South Melbourne TAFE ▪ Sunraysia Institute of TAFE ▪ Swinburne University of Technology ▪ Melbourne Polytechnic ▪ South West TAFE ▪ Advance Community College ▪ Australian College of Agriculture & Horticulture ▪ Australian Consolidated Training ▪ Bendigo TAFE ▪ Kangan Institute
Certificate IV in Production Nursery	AHC40616	<ul style="list-style-type: none"> ▪ Australian College of Agriculture & Horticulture ▪ Horticultural training Pty Ltd ▪ TAFE NSW
Diploma of Production Nursery Management	AHC50816	<ul style="list-style-type: none"> ▪ Australian College of Agriculture & Horticulture ▪ Horticultural Training Pty Ltd
Certificate II in Retail Nursery	AHC20816	<ul style="list-style-type: none"> ▪ Kangan Institute ▪ TAFE NSW - North Sydney ▪ TAFE NSW - Western Sydney
Certificate III in Retail Nursery	AHC31216	<ul style="list-style-type: none"> ▪ Gordon Institute of TAFE ▪ Swinburne University of Technology ▪ Holmesglen Institute of TAFE ▪ Melbourne Polytechnic ▪ Bendigo TAFE ▪ Kangan Institute ▪ Horticultural training Pty Ltd ▪ TAFE NSW - North Sydney ▪ TAFE NSW – Hunter
Certificate IV in Retail Nursery	AHC40716	<ul style="list-style-type: none"> ▪ Horticultural Training Pty Ltd
Diploma of Retail Nursery Management	AHC50916	<ul style="list-style-type: none"> ▪ Horticultural training Pty Ltd

5.3 TERTIARY QUALIFICATIONS

Several targeted tertiary qualifications streams are offered through a number of institutions, relevant to nursery industry skill requirements. These institutions and degrees are outlined in Table 5-3.

Table 5-3: Available nursery relevant tertiary qualifications

INSTITUTION	DEGREE
Charles Sturt University	▪ Bachelor of Horticulture
University of Melbourne	▪ Master of Urban Horticulture
University of Queensland	▪ Bachelor of Applied Science (Urban Horticulture of Horticulture major)
University of New England	▪ Bachelor of Agriculture (Plant Production major)
University of Sydney	▪ Bachelor of Science in Agriculture (Plant Production specialisation)
Western Sydney University	▪ Bachelor of Sustainable Agriculture and Food Security
University of Tasmania	▪ Bachelor of Agricultural Science (Horticulture major)

5.4 ENROLMENT AND GRADUATE TRENDS

There has been a national trend of declining enrolment and graduation in higher education qualifications across all of agriculture, including amenity horticulture at both a TAFE and university level in recent years. An example, of the low enrolment pattern trends have been observed with the Bachelor of Horticulture undergraduate degree, offered through Charles Sturt University. Enrolment and graduations by year, data provided by CSU (2017) presented in Table 5-4, highlight a pattern of consistently low enrolment (a minimum enrolment of 25 students is required for a course to be considered viable). The even lower graduation numbers are attributed to agricultural courses having a low minimum academic entry level requirement, and students using agricultural courses as an enrolment gateway to changes courses at a later date.

Table 5-4: Enrolment and graduates in CSU Bachelor of Horticulture (CSU, 2017)

YEAR	2010	2011	2012	2013	2014	2015	2016	2017
Commencing enrolments by year	?	?	14	15	25	23	21	9
Graduated students	1	4	3	3	2	0	2	?

The graph illustrated in Figure 5-1 provides a summary of graduate data for all tertiary institutions offering a horticulture qualification. This trend is cause for alarm, as not only do declining graduations affect the availability of skilled workers (less than 40 graduates in 2015), it also affects viability of training providers to continue to provide relevant training with many of these institutions no longer offering horticulture courses (Pratley, 2017).

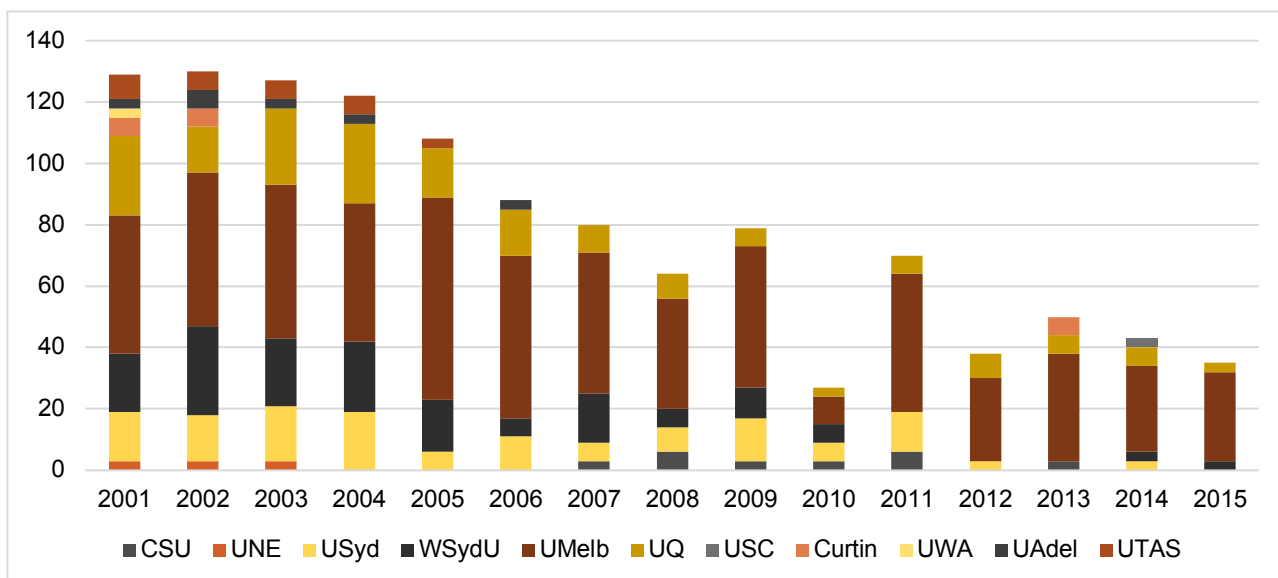


Figure 5-1: Horticulture graduates by university, 2001 - 2015

A similar trend is observed in the VET sector. Table 5-6 outlines student enrolments in the Agriculture, Horticulture and Conservation Land Management Training package (AHC) in 2012, separated by level of qualification¹. The enrolment numbers presented highlight horticulture is in a competitive training market, attracting only 10 per cent of students in an already diminishing market of agricultural studies. Participation rates in the lower certificate levels are also greater, causing concern about the extent and capacity of skills developed in horticulture through the level of training delivered. It is understood this trend has continued in subsequent years, which contributes to many courses not being offered and restricting the actual availability of training.

Table 5-6: Total AHC10 Student and Course Commencements, 2012 (NEST, 2014)

SECTOR	CERT 1.	CERT 2.	CERT 3.	CERT 4.	DIP.	ADV DIP	TOTAL
Agriculture	0	4,343	2,579	831	435	35	8,223
Production Horticulture	0	142	623	505	59	0	1,329
Agriculture services	881	1,143	1,018	197	0	0	3,239
Total Agriculture	881	5,628	4,220	1,533	494	35	12,791
	7%	44%	33%	12%	4%	0.27%	Rounded

Within the horticulture category, there are some positive trends for the nursery and garden industry sector, however, with students favouring enrolment in amenity horticulture courses over production horticulture. The relative completions of amenity and production horticulture between 2012 and 2016 is outlined in Figure 5-2. This graph clearly shows a stronger performance for amenity horticulture courses over production horticulture.

The skills shortage in the nursery industry is exacerbated by the fact that nursery qualifications are unfavourable amongst students, with some nursery qualifications being the least popular qualifications in both 2015 and 2016 (Skills Impact, 2018). Similarly, included in the array of horticultural/agricultural TAFE

¹ Note National Centre for Vocational Education Research (NCVER) data has not been included as the agriculture category includes environmental and other related studies as well as land management including RTD,RTE,RTF,RUA,AGF,AGR

qualifications with no enrolments in 2016 were several nursery qualifications. There are a number of industry priority skills that are outlined for the horticultural/agricultural fields for 2018-2021², aimed to enhance the sustainability of the industry. One of those being improving the skills in integrated pest management, growing media and environmental control in production nurseries. The driver for this is due to the fact that current qualifications have a high reliance on chemicals for controlling pests, weeds, and diseases.

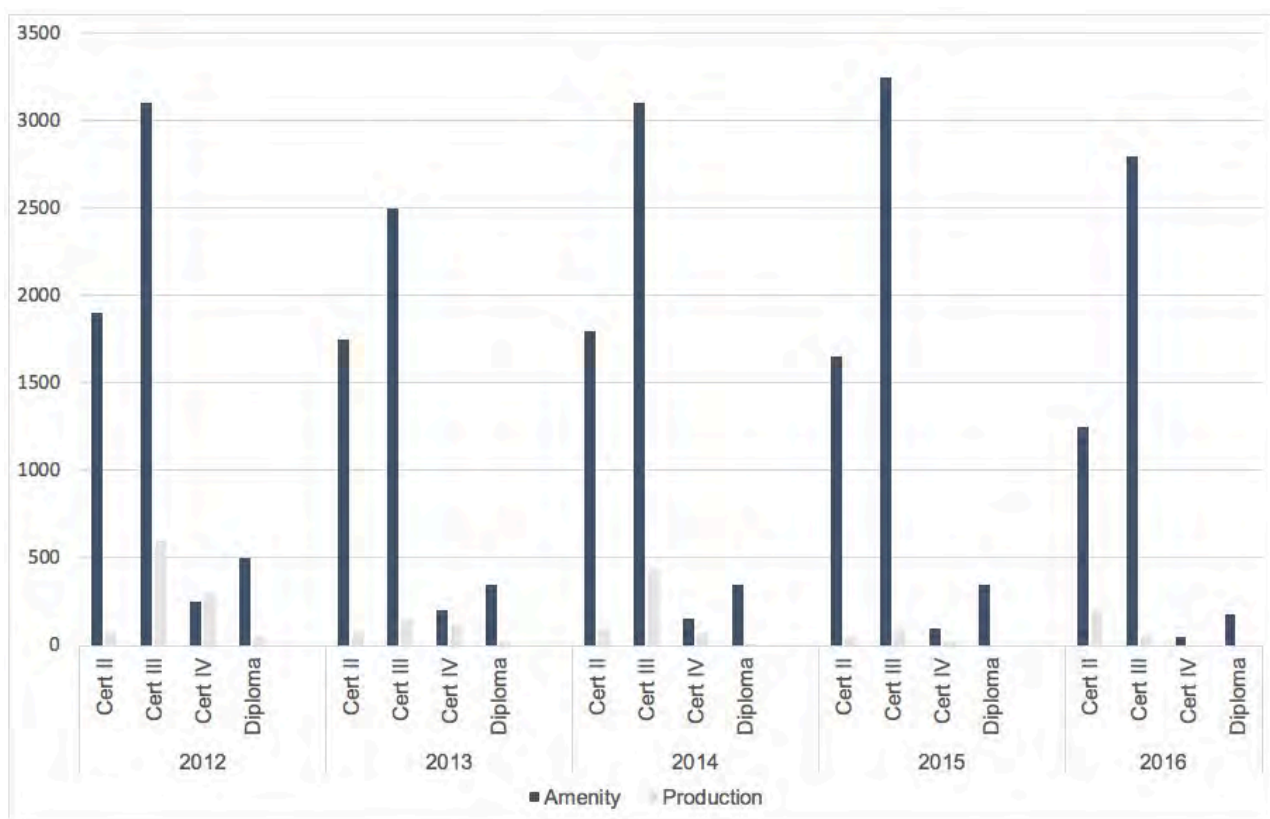


Figure 5-2: Relative completions in amenity and production horticulture 2012 – 2016 (Pratley, 2017)

5.5 EMPLOYMENT PROJECTIONS

Australian census data predicts that the agriculture, horticulture and agricultural product wholesaling industry in Australia employed and approximate 261,000 people in 2016. Of this, 4% were employed in the nursery and floriculture production industry.

Information obtained from the Australian Industry Skills Committee (2018) provides a snapshot on the employment projection for the nursery industry. Figure 5-3 shows the projections for a range of horticultural industries over the next 5 years. The two representing the nursery industry, Nurserypersons and Garden and Nursery Labourers, show insignificant growth over the next 5 years. As illustrated in Table 5-3, this projection is similar to many other horticultural industries in Australia, with the exception of gardeners which has a forecast strong growth projection.

A report completed by Skills Impact (2018) in relation to the skills forecast for the Agriculture, Horticulture and Conservation and Land Management sectors states there is a projected growth of 5.8% in employment in nursery and floriculture production from May 2017 – May 2022. The study also highlights a trend anomaly,

² Skills Impact 2018, IRC Skills Forecast and Proposed Schedule of Work 2018-2021 for the Agriculture, Horticulture and Conservation and Land Management Industry Sector

with employment levels of gardeners, nursery labourers, and nursery persons being less in 2016 than in 2006 indicating a decline in employment numbers.

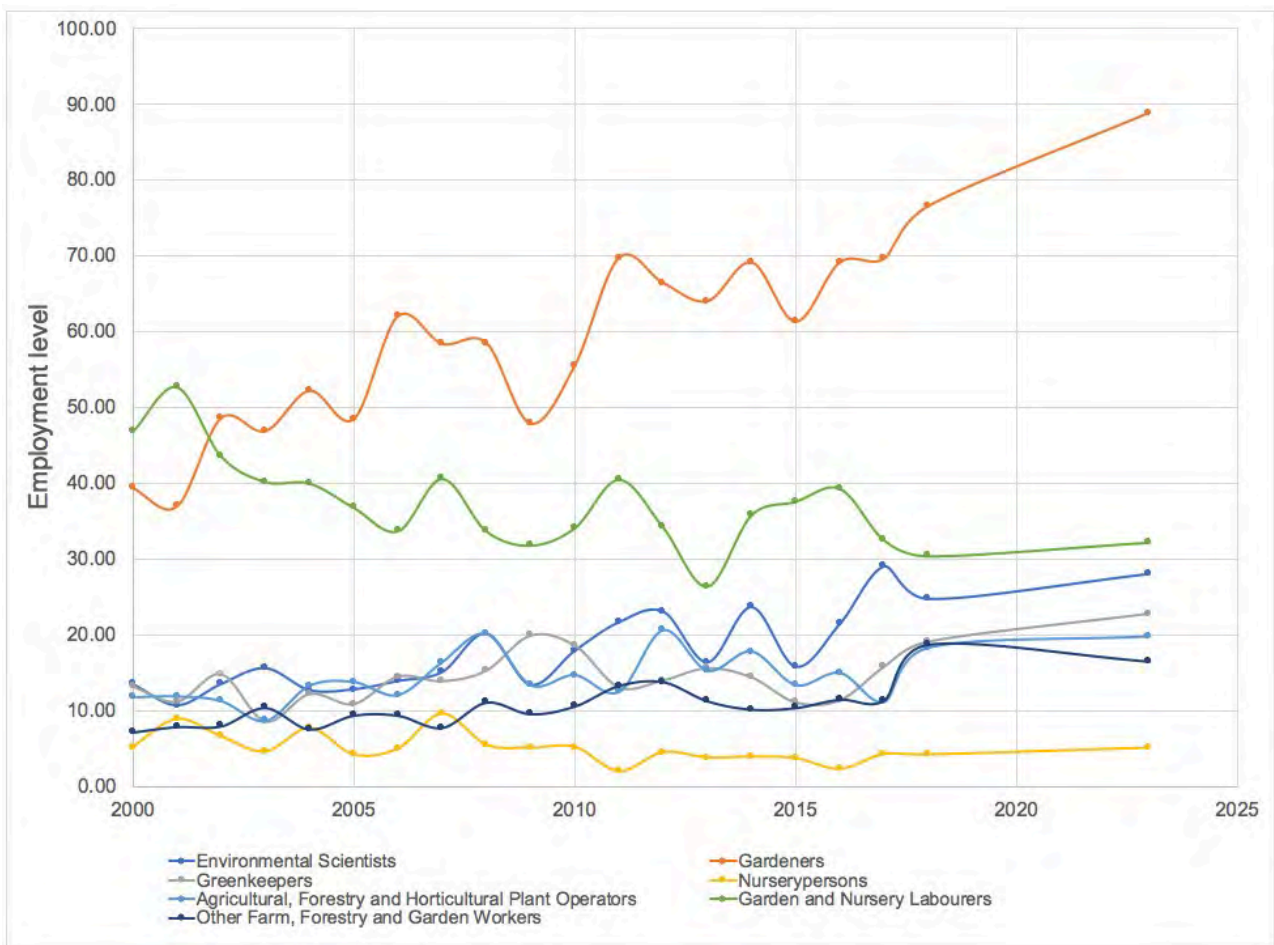


Figure 5-3: Nursery sector employment level and projection (Skills Impact, 2018)

5.6 INTERNAL UPSKILLING AND RECRUITMENT PRACTICES

There is evidence of mixed practice across horticulture industries in Australia with respect to workforce upskilling. A report by Macquarie Franklin (2012) in the Australian vegetable industry concluded that growers tend to have “apathy” to training their workers, and in most cases, only participate for financial, market or legislative imperatives. Despite the negative connotations regarding apathy, this approach would appear to suggest a high level of value is attributed by employers to the development of business relevant skills (RMCG, 2015).

This approach is reflected in an observed preference to build the skills of existing staff to enable internal recruitment for increasingly skilled positions. Internal skill development is seen to value the understanding of existing employees have of the business, and how particular tasks are approached. A study by Santhanam-Martin and Cowan (2017) observed internal recruitment as a risk management strategy to ensure the appropriateness of candidates to business culture. Where new or additional skills were required that had to be sourced externally, businesses tended to assess potential candidates based on industry experience, and recommendations for others in the industry, rather than their formal qualifications.

5.7 CAREER PATHWAYS

Many horticultural employers prefer to recruit internally, due to the importance that they place on business specific knowledge. Internal promotion also allows managers to 'hand pick' candidates who have shown motivation and aptitude in their prior position.

However, most businesses rely on both external and internal recruitment when a position becomes vacant or the business grows. External recruitment is more common in 'doer' jobs, such as crop husbandry, picking and packing, due to the unskilled to semi-skilled nature of the positions. As these jobs usually offer only seasonal work, they are often filled by migratory workers who are recruited through external labour hire companies. 'Decider' jobs are often filled using internal recruitment, however, roles such as farm, business, personnel, compliance, marketing or logistics managers, will be recruited externally, especially in larger businesses.

Often, throughout a worker's career, there is potential for them to move between jobs, such as field work and packing shed work, or 'up the career ladder', as employees are internally recruited from "doer" to 'decider' roles or between 'decider' roles. This shows that there is an opportunity for career progression and career pathways in horticultural careers.

Several examples of career pathways have been prepared for the nursery sector by training providers to outline career progression based on qualification attainment. Examples of this are provided for production nursery (Figure 5-4) and retail nursery (Figure 5-5). However, these career pathways imply that there are easy pathways to move from one sector to another. In reality this is not always the case, for example working in the turf industry is quite different to nursery production.

This highlights the importance and role of industry in the development and involvement throughout the career pathway to ensure understanding of industry requirements and that the skills gained are those that best suit the industry.

Figure 5-4: Career pathway for production nursery (Melbourne Polytechnic)

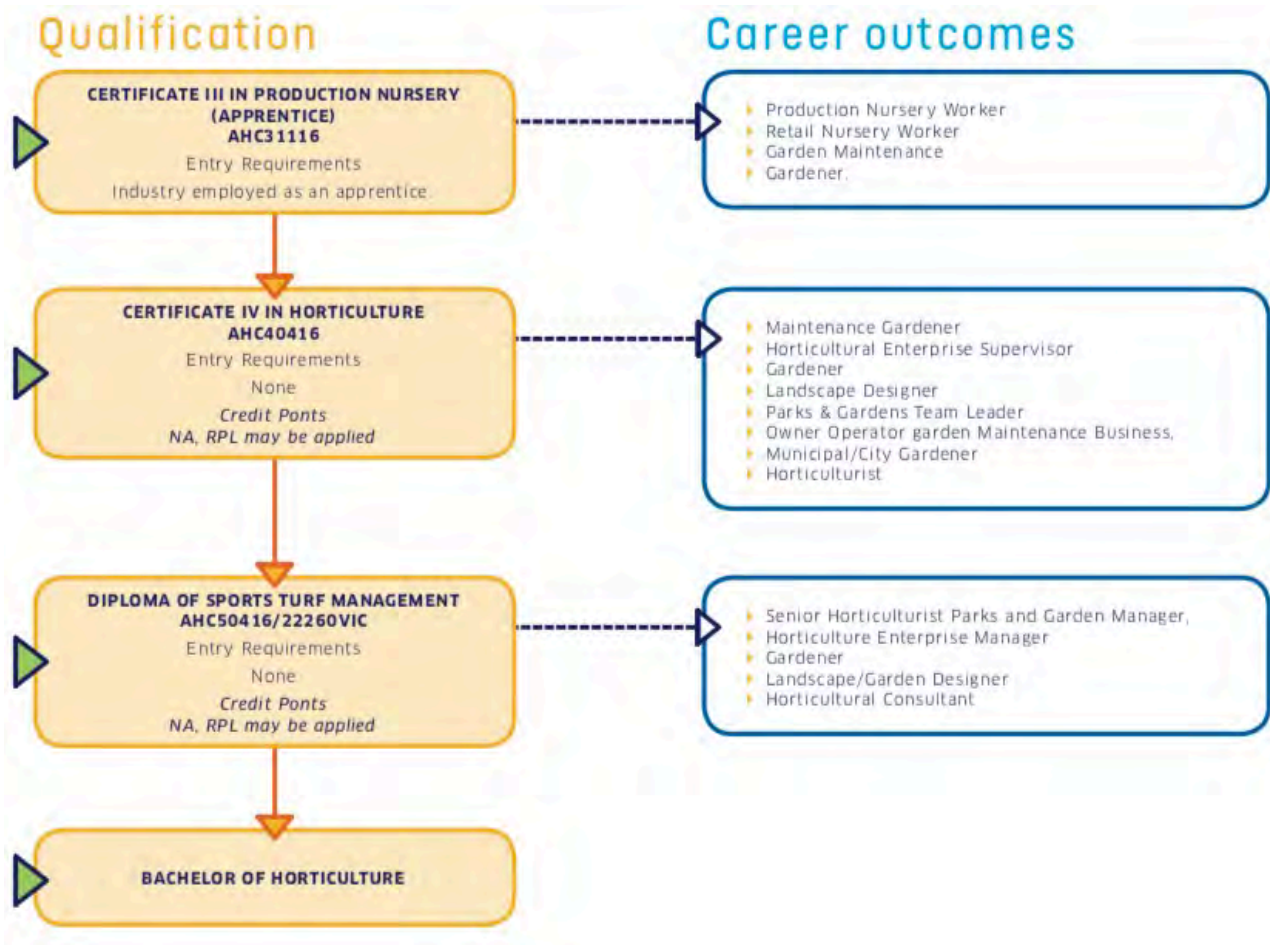
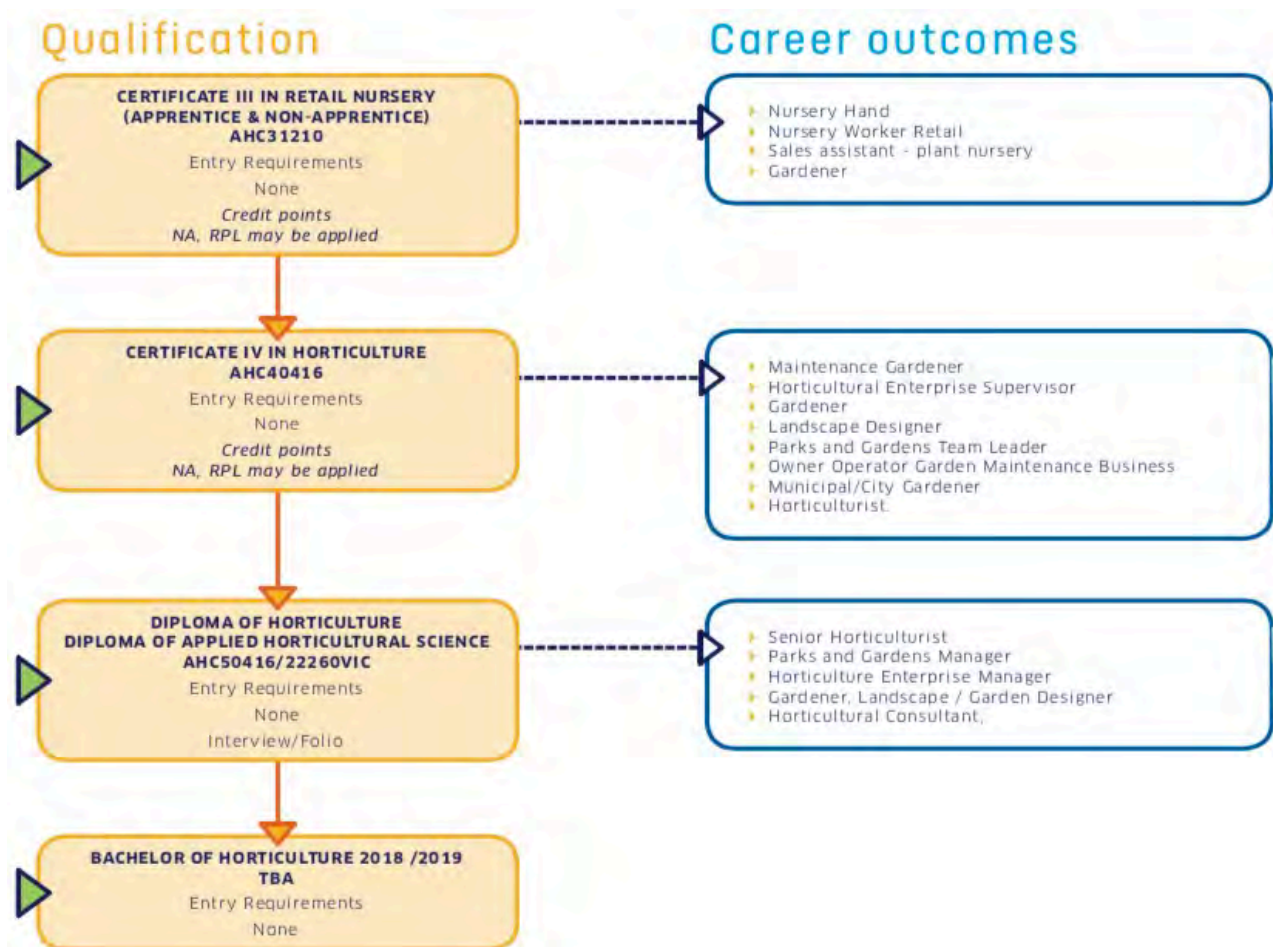


Figure 5-5: Career pathway for retail nursery (Melbourne Polytechnic)



6 Attraction, retention and development

6.1 EXISTING INITIATIVES

There are several existing Hort Innovation projects funded, including contributions from the nursery industry development fund, to support the attraction, retention and development of the nursery industry workforce. These projects are strategically aligned to support and build on outcome 5 of the Nursery Strategic Investment Plan 2017-2021 – *better career development*. The projects are summarised and include:

- Green Industry Growing Leaders Program (MT16002)
- Global Master Class (LP15001)
- Attracting new entrants into Australian Horticulture (LP15006)
- Advancing women’s leadership across the Australian horticultural sector (LP16000)
- Engaging leaders in the Australian horticulture industry (LP16001)

GREEN INDUSTRY GROWING LEADERS PROGRAM (MT16002)

This project intends to enhance the skills and knowledge of leaders and aspiring leaders enabling them to better manage teams and ensure their business stays at the forefront of the growing nursery industry. Conducted over 3 phases, involving leadership forum meetings and workplace projects, the program aims to provide tools and skills to people in the nursery industry to develop the capacity to lead a team. These include:

- Establish focussed goals
- Understand your behavioural drivers
- Develop ‘metrics that matter’
- Learn to ‘give up’ the unnecessary
- Learn to pace any change program realistically
- Develop and progress using The Right Mind ‘Buddy Concept’

The project is currently being run on a yearly basis and seeks to involve twenty representatives from a range of different nursery backgrounds (Hort Innovation, 2017).

GLOBAL MASTER CLASS (LP15001)

The Masterclass in Horticultural Business has been designed to encourage growers and people involved in the horticultural sector to take their operation and career to the next level. Supported through the Hort Frontiers Leadership fund, the Masterclass focusses on global trends in horticulture, international business, innovation, value chains, governance and risk, to help individuals expand their horizons and be leaders in their fields. The Masterclass has been developed by world leaders in the horticultural industry including: Wageningen University & Research and Lincoln University, and is delivered by the University of Tasmania. Delivered over a ten-month period, the program covers a series of topics including:

- Horticultural Management
- People and Culture
- Supply Chain Management and Logistics

- Financial Management and Law
- Horticultural Marketing and Communication
- Global Trends and International Business
- Innovation and Entrepreneurship
- Business Development and Strategy

The Masterclass is intended to attract a diverse cohort of 30 people, with three individuals from the nursery industry able to achieve a full scholarship for the course (Tasmanian Institute of Agriculture, 2017).

ATTRACTING NEW ENTRANTS INTO AUSTRALIAN HORTICULTURE (LP15006)

This project has been designed to attract final year university students, studying a range of disciplines, to the horticulture sector. Conducted over two phases, the project involves a 10-12 week internship, and 1 year graduate program in a horticulture focussed workplace. In the first phase, the students get real life exposure to the horticulture industry and have the chance to engage with growers, people in the industry, and the greater horticulture supply chain. The second phase allows the graduates to develop their skills and knowledge of horticulture and partake in a 5 day industry leadership program to encourage the development of future leaders. The key objectives of the project are to:

- Increase graduate interest in careers across the Australian horticulture sector.
- Build a new pool of industry leaders and create networks of young professionals to drive further innovation across the sector.

The project is currently being led by agriculture recruitment company, Rimfire Resources, and is designed to use an allocated \$3.9 million to open up the doors of the horticulture industry to university leavers (Hort Innovation, 2017).

ADVANCING WOMEN'S LEADERSHIP ACROSS THE AUSTRALIAN HORTICULTURAL SECTOR (LP16000)

Collaboratively funded through Hort innovation and Woman & Leadership Australia (WLA), the women's leadership development project intends to foster gender progression and equality in the horticulture industry. Focussing on women who are emerging leaders or have mid-level management and leadership experience, this project offers a scholarship that covers almost 60% of the program fee for the following courses:

- Accelerated Leadership Performance Program
- Executive Ready
- Advanced Leadership program

The courses are part-time and delivered both online and face-to-face, they commence several times a year with face-to-face units run in Sydney, Melbourne, Brisbane, and Perth. Each course intends to attract a diversity of woman who possess a wide range of skillsets (Women & Leadership Australia, 2018).

ENGAGING LEADERS IN THE AUSTRALIAN HORTICULTURE INDUSTRY (LP16001)

The Horticulture Alumni project intends to create a community of like-minded industry leaders who collaborate and help progress the horticulture industry. The group consists of a diverse range of people that are involved in a wide range of jobs across the horticulture sector. The project is currently in its infancy but is attracting an

ever-growing number of industry professionals passionate about the future of horticulture (Hort Innovation, 2017).

6.2 EVIDENCE FROM OTHER AGRICULTURAL INDUSTRIES

Other agricultural industries have provided clear pathways for individuals entering the industry showing how they are able to progress and develop. This includes information on why the industry is important, the extensive opportunities in the industry, as well as information on how to obtain qualifications.

6.2.1 DAIRY AUSTRALIA

Dairy Australia provides one of the better examples of what an industry can achieve to address a skills shortage challenge, and attract interest in a primary industry as a career path through their Stepping Stones program.

The Stepping Stones program provides information on the different types of careers on a dairy farm and explores the different pathways available for people who are either looking to start a career on a dairy farm, or for experienced people who want to progress their dairy career further.

The program provides relatable dairy farmer and staff profiles from around Australia, advice on dairy careers, progression and great career tips from farmers. The Planning Your Dairy Career section is a practical tool that can be used to assess where you are, set your short and long term goals and work out your next steps to achieve them, as illustrated in Figure 6-1.

Dairy Australia also provides a number of accessible resources and events for schools to support awareness of career paths in the industry, including:

- school camps where children can learn hands on about the industry
- webinars
- promotion of the role of women in the industry
- industry events
- hosting the Discover Dairy website (<http://www.dairy.edu.au/DiscoverDairy>)

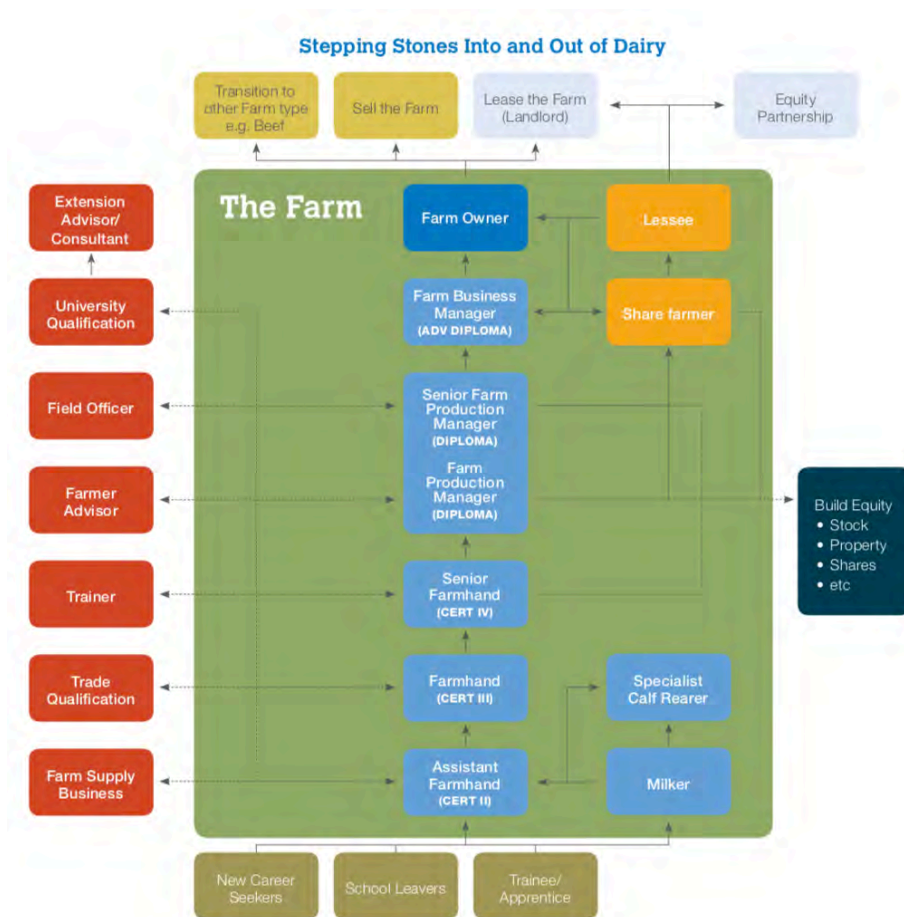


Figure 6-1: Dairy Australia Stepping Stones Program (Dairy Australia, 2017)

6.2.2 COTTON AUSTRALIA

Cotton Australia have a structured program identifying what the possible career opportunities are within the industry. While the career pathways are not well highlighted, the program does provide a range of resources for schools and those interested in entering the industry with excursions, tours and camps to promote the opportunities available in the industry and provides a clear direction on where industry specific training is available

The cotton industry also have a program called Cotton Gap, which is a unique opportunity for cotton growers to reach keen operational staff who have just finished school and are interested in either a long-term career in cotton or 12 months employment in the form of a 'gap year'.

The Cotton Gap program (<https://cottonaustralia.com.au/work-in-cotton/cotton-careers>) provides the opportunity to work in unique rural and remote regions of Australia in mixed and varied farming enterprises. The program is promoted to potential applicants by highlighting the benefits to:

- Learn new skills
- Form new friendships
- Experience living in rural and regional Australia
- Build savings
- Undergo training to set you up for further work opportunities

- Create a network in the industry to help pursue a career in agriculture
- Participate with your friends
- Work in an exciting and innovative industry
- Gain practical experience on farm
- Build character
- Get involved in the local community and sport

6.2.3 OTHER INDUSTRY EXAMPLES

INDUSTRY	SUMMARY	LINK
Grains	<p>The grains industry in the eastern states of Australia doesn't have a clear pathway for career progression. The Grains Research and Development Corporation (GRDC) provides a brief snapshot on the careers that are potentially available, but no information on career progression or pathways.</p> <p>The Western Australian program, Careers in Grain, provides a comprehensive overview of the various career opportunities in the grains industry, and some simplified linear career pathways of how to get to a desired job.</p>	http://careersingrain.org.au/opportunities/career-pathways
Forestry	<p>For Education and Engagement, the Forestry Industry is a good example of what can be achieved with resources for early years right through to university, as well as an international program. They have a great newsletter keeping people informed of what the industry is doing and what resources are available. They also offer camps and programs to attract students to the industry.</p>	http://www.forest-education.com/our-programs/exploring-career-pathways/
Horticulture	<p>Rural skills Australia, although not an individual industry does explain career pathways across the agricultural sector in general and for specific industries, however the pathways are not clear and the information provided for each industry is more statistical than engaging for potential industry workers.</p>	http://www.ruralskills.com.au/
	<p>The Queensland Agriculture Workforce Network (QAWN) provides information on the various job streams in horticulture more broadly and information on what's involved the various horticultural careers.</p>	https://www.growcom.com.au/uploads/QAWN/QAWN-Production-Horticulture-Job-Streams.pdf

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Appendix B: NY19006 Engagement tracking

NY19006 Engagement Tracking Sheet



Greenlife Industry Australia

Social Media

	Project	Date	Title	Facebook	Twitter	LinkedIn
1.	NY18001		Ever considered a career in horticulture? A new Hort Innovation project is putting its focus on the development of career pathways in the nursery industry. Looking to put a spotlight on the benefits of a career in greenlife, read more on this and what's to come. https://bit.ly/2XI5wBW	https://www.facebook.com/GreenlifeIndustryAU/posts/4528791790464365	https://twitter.com/Greenlife_AU/status/1293151113391165446	
2.	NY18001	14 May	The careers hub is now live! Led by Greenlife Industry Australia, this hub was developed to provide both business owners and job seekers with a suite of resources outlining opportunities and pathways available within the thriving nursery industry. Check it out at: https://bit.ly/3f8ewT2 Hort Innovation	https://www.facebook.com/GreenlifeIndustryAU/posts/5884906874852843	https://twitter.com/Greenlife_AU/status/1394480358633115649	
3.	NY18001	20 May	Our May Nursery Paper puts a spotlight on building career pathways within the nursery sector, and the importance of investing in attracting, developing, and growing the next generation of nursery industry leaders. Read more via https://bit.ly/3oqO4rR Hort Innovation	https://www.facebook.com/GreenlifeIndustryAU/posts/5916540021689528	https://twitter.com/Greenlife_AU/status/1396654686334226439	
4.	NY18001					
5.	NY18001					
6.	NY18001					
1.	NY19006	July 2020	GIA is seeking expressions of interest from industry stakeholders and horticulture educators to sit on the sub-committee for Careers Pathways - Training & Development.	https://www.facebook.com/GreenlifeIndustryAU/posts/4336727123004167		https://www.linkedin.com/feed/update/urn:li:activity:6683936183728402432
2.						

NY19006 Engagement Tracking Sheet

RMCG



Greenlife Industry Australia

3.						
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Comms Outputs

Content Type	Project	Purpose	Date	Status	Output
Blog 1	NY19006	Introduce the NY19006 project – invite EOI for participation on the PRG	June 2020	COMPLETED	https://www.greenlifeindustry.com.au/Story?Action=View&Story_id=2822
Blog 1	NY18001	Broad project overview and anticipated outcomes, opportunities for contribution through industry workshop etc	August 2020	COMPLETED	https://yourlevyatwork.com.au/new-project-set-to-develop-career-pathways-for-australias-nursery-industry/
Industry Workshop	NY19006 & NY18001	Online workshop to develop mutual understanding of industry training needs, training capacity, train the trainer needs and industry training options going forward	November 2020	COMPLETED	Summary document emailed to participants 25 November 2020
Blog 2	NY19006	Overview of workshop and subject survey	November 2020	COMPLETED	https://www.greenlifeindustry.com.au/Story?Action=View&Story_id=2901
Blog 2	NY18001	Overview of workshop and subject survey	December 2020	COMPLETED	https://yourlevyatwork.com.au/input-needed-for-new-career-pathways-project/
Blog 3	NY18001	Overview of the Careers Hub	April 2021	COMPLETED	https://yourlevyatwork.com.au/greenlife-industry-careers-hub-is-now-live/

Nursery Paper	NY18001	Four-page insert Overview of tangible/usable project outputs (Careers Hub, E-learning, access to apprenticeships etc) for greenlife supply chain. Possible links to Case Study	May 2021	COMPLETED	https://www.greenlifeindustry.com.au/static/uploads/files/nursery-paper-may-2021-wfrucxxasmvc.pdf
Podcast	NY18001	<i>Interview</i> with Doris Blaesing of tangible/usable project outputs (Careers Hub, E-learning, access to apprenticeships etc) for greenlife supply chain.	June 2021	Scheduled – CIC to contact Doris shortly.	Sound Cloud, Your Levy @ Work Website, Your Levy @ Work e-newsletter, social media
Media Release	NY18001	Announcement of the launch of the Careers Hub	June 2021	Scheduled – CIC to liaise with Sonya G re official	Your Levy @ Work, Your Levy @ Work E-Newsletter, Social Media Media outreach
Blurb (#3)	NY18001	Announce: Overview of the Careers Hub and Online presentations invitation to participate (by target group)	June 2021	Yet to be drafted – need dates for Zoom.	Your Levy @ Work e-newsletter.
Zoom Presentation #1	NY19006 & NY18001	Presentation by Project Team outlining the project outputs for industry information, encouraging engagement with careers pathway opportunities.	June 2021	Yet to be scheduled	GIA website, GIA News State NGIS, Your Levy @ Work Website, Your Levy @ Work e-newsletter, social media (Facebook and Twitter, LinkedIn)

Zoom Presentation #2	NY19006 & NY18001	Overview of the project outputs for educators and careers advisors, encouraging adoption of the tools and promoting the career pathway opportunities.	June 2021	Yet to be scheduled	GIA website, GIA News State NGIS, Your Levy @ Work Website, Your Levy @ Work e-newsletter, social media (Facebook and Twitter, LinkedIn)
Blog 4 Blog 2	NY18001 NY19006	Project wrap up Project wrap up and integration with GIA Careers Strategy for ongoing adoption, engagement and promotion.	July 2021	Post project activity following Presentations.	State NGIs, Your Levy @ Work Website, Your Levy @ Work e-newsletter, social media (Facebook and Twitter),

* Note additional social media will be posted to support and promote the Zoom presentations and also related blogs.

Additional communications – Not scheduled

November 2020 – WUFOO Survey of industry seeking advice on subjects for beginners education framework. <https://ngia.wufoo.com/forms/greenlife-career-pathways/>

Appendix C: NY19006 Project plan 200724 final

RMCG



JULY 2020

Developing Nursery Career Pathways – NY19006

Project Plan

Hort Innovation

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1 Introduction

1.1 PROJECT FOCUS

The aim of the project is to have an integrated approach to attraction, training, development and retention strategies by the nursery/greenlife industry with a focus on career development for people in horticulture, other relevant industries and those making career decisions.

The project will to assist in:

1. Facilitating the targeted design and delivery of education and training programs (formal and informal) that support the upskilling and development of people in the Greenlife industry at several levels, and
2. Defining, developing and showcasing jobs and career pathways that demonstrate dynamic career opportunities within the Greenlife sectors.

The outputs of these two activities will complement the three other strategies developed within Project NY17002 Review of Nursery Industry Career Pathways. Those strategies being (1) Industry promotion, (2) Policy parameters, and (3) Human resource management practices which are being addressed outside of this project by Greenlife Industry Australia.

The outputs from this project will directly align with one of the five industry outcomes identified in the Nursery Strategic Investment Plan (2017-2021); 'Better career development'. It also aligns with the Greenlife Industry Australia strategic imperative for careers – to develop industry skills and career opportunities. It will address Strategic Pillars 3 and 5 identified by NY17002 with focus on training programs and career paths.

The project will consider outputs and lessons learned from Hort Innovation projects such as:

- Green Industry Growing Leaders Program (MT16002)
- Global Master Class in Horticulture Business (LP15001)
- Attracting new entrants into Australian Horticulture (LP15006)
- Advancing women's leadership across the Australian horticultural sector (LP16000)
- Engaging leaders in the Australian horticulture industry (LP16001)
- Vegetable Industry Education and Training Initiative (VG15028)
- Green Cities Fund (GC150002).

Several basic resources currently exist aimed at showing career pathways in the Greenlife sector, for example:

- Rural Skills Australia - <http://www.ruralcareers.net.au/nursery-and-gardens/>
- Training 4 Horticulture - <https://www.facebook.com/training4horticulture/>
- ACS Distance Education - <https://www.acs.edu.au/courses/nursery-and-propagation-courses.aspx>

Relevant training packages lately or currently reviewed and/or developed by Skill Impacts (Horticulture for Amenity Horticulture, Landscaping, Conversation Industry Reference Committee (IRC) and Land Management and Agriculture and Production Horticulture IRC and Cross Sector) will be important resources as they determine delivery options for the VET sector. They include but are not limited to:

- | | | |
|---------------------------|---------------------------------------|--------------------------------|
| ▪ Horticulture & Nursery | ▪ Irrigation | ▪ Environmental Sustainability |
| ▪ Agribusiness | ▪ Agronomy | ▪ Carbon Farming |
| ▪ Protected Horticulture, | ▪ Ag Biosecurity & Emergency Response | |
| ▪ Sports Turf Management | | |

We will also consider successful education and training initiatives implemented by other agricultural industries and further education opportunities provided by TAFE and universities.

The project will also seek input and advice from nursery/greenlife industry stakeholders and educators via the Project Reference Group.

Successful, long term outcomes from this project will be that the greenlife industry is recognised as a leading career option in production horticulture, supplied with effective education and training opportunities, and valued as an employer of choice.

In this document and project, we will use the term 'greenlife industry' in preference to 'nursery industry' or 'nursery & garden industry' because it provides a better representation of the sector that includes the production and retail of a vast variety of plants from grasses for turf, over vegetables, flowers and ornamentals to shrubs and trees for gardens, parks and landscapes.

1.2 PURPOSE AND STRUCTURE OF THIS PLAN

This plan outlines:

1. Introduction including project aim and background
2. Project governance (reference group)
3. Stakeholder engagement and communications plan
4. Project logic and monitoring and evaluation (M&E) framework
5. Risk management plan
6. Project workplan outline.

This plan describes key activities and timeliness, governance, communication and engagement methods with stakeholders what success will look like, how to measure it, and how to mitigate risks.

1.3 BACKGROUND

Nursery production occurs in all states and territories of Australia, with the majority of production happening in Victoria, Queensland and New South Wales.

Attracting, retaining and developing a skilled workforce is a pressing challenge for all Australian agricultural industries, not just the nursery sector. Several recent studies¹ provide evidence of skills issues and shortages in horticulture, including nursery production in Australia. The collective findings of these studies identify driving issues contributing to the availability and retention of skilled workers in horticulture and the nursery industry:

- Low number of people attaining specific agriculture and horticulture qualifications
- Availability of training courses / services that are relevant, accessible in production regions, and cater for people in the workforce
- Labour competition from other sectors, including mining and coal seam gas
- Poor promotion of the industry as an employer of choice, including lack of clear career pathways within the industry
- Poor promotion of horticulture to people trained in relevant related disciplines such as logistics, business management, IT, engineering

¹ NY17002 Review of Nursery Industry Career Pathways, 2019, Growcom, 2013; AgriFrood Skills Australia, 2015; RMCG & GVFGSWG, 2013

- Small to medium enterprises cannot afford to employ several specialists; they require multi-skilled staff in management positions
- Seasonal and casual/part time nature of the work, inhibiting job security, on-the-job training and career progression as well as potentially requiring long working hours during the peak season
- Lack of regional level collaboration to build skilled and adaptive labour pools
- Industry image, employment conditions including remuneration and skilled supervision, workplace conditions
- Remote locations affecting the ability of partners of those employed to find adequate work, quality of infrastructure (e.g. schools, childcare, hospitals, transport)
- The predominant disinterest of local unskilled labour to work in horticulture, and
- Reluctance by the local industry to engage skilled migrant labour or participate in seasonal worker programs due to factors including costs, the length of time seasonal workers may stay, facilities they have to provide for them, language and cultural barriers, and minimum work hour requirements.

NY 17002 summarised industry feedback on skills gaps as follows:

“The current skill gaps identified by the industry are mainly soft skills based, related to people development and staff supervision. Many nursery businesses believe they have the ability to train staff in-house to achieve the required technical competency. Value is placed on access to quality training facilities and study exchange opportunities, largely from a networking and peer learning perspective. Selection of potential employees is driven by their willingness and attitude to work as well as previous experience in the industry. Subsequently, a continuing challenge the industry faces is a focus on developing existing or ‘poaching’ staff, rather than external recruitment of employees new to the industry. The lack of focus on technical skills of new employees may lead to the industry missing out on using new technical developments and effective adoption adaptation of R&D.”

This feedback shows the importance placed on ‘on the job training’ and the ‘right people’ but also highlights the importance of developing a culture that values training as essential to further industry development.

2 Project governance

The project will be delivered in partnership between RMCG and Greenlife Industries Australia (GIA). A project reference group (PRG) will be a sounding board and provide input as key project stages that link to project milestones.

2.1 PRG TERMS OF REFERENCE

2.1.1 PRG SCOPE

Hort Innovation approves the scope and membership of the PRG. The group's input into the project will include, but not necessarily be limited to:

- Ensuring that the project applies an understanding of the diversity of the greenlife industry; this includes different scales, operational foci, staffing and locations of nursery production and retail businesses, and also their advisers, and agribusinesses providing inputs and technologies
- Making sure that sound approaches are used to deliver the required project services
- Ensuring the project stays focussed on the outcomes as stated in the contract with Hort Innovation (no scope creep) and does not repeat previous work or duplicate current initiatives already delivered elsewhere
- As much as possible, providing linkages to relevant Greenlife Industry initiatives, Hort Innovation initiatives, relevant initiatives by other organisations and training providers.

2.1.2 TERM

This Terms of Reference is effective from 01 July 2020 and continues until a Final Project Report is submitted to Hort Innovation on 15 June 2021. It will be ongoing during that term unless changed or terminated by Hort Innovation. A minimum of two and a maximum of three meetings of up to one-hour duration are envisaged for a 12-month period during this project.

#	NAME	ORGANISATION	POSITION TITLE	CONTACT
1	Bianca Cairns	Hort Innovation	R&D Manager	(07) 3198 6757, 0429 529 655 bianca.cairns@horticulture.com.au
2	Peter Vaughn	GIA	GIA Project Director	(02) 8861 5107, 0400 739 802 peter.vaughan@greenlifeindustry.com.au
	Sonya Gifford OR	GIA	GIA – Training & Dev	(02) 8861 51XX, 0476 022 219 sonya.gifford@greenlifeindustry.com.au
	Kobie Keenan	GIA	GIA - Communications	(02) 8861 5112, 0410 686 901 kobie.keenan@greenlifeindustry.com.au
3	Sonja Cameron	Cameron's Nursery	Director	sonja@cameronsnursery.com.au
4	John Rayner	University of Melbourne	Associate Professor, School of Ecosystem and Forest Sciences	jrayner@unimelb.edu.au
5	Colin Hunt	TAFE NSW	Horticulture Teacher and Technical and Further Education Commission	colin.a.hunt@tafensw.edu.au
6	Daniel Ewings	Andreasens Green	National Operations Manager	02 9826 1911, 0417 665 039 daniele@andreasensgreen.com.au
7	Doris Blaesing	RMCG	Associate, Project Director RMCG	0438 546 487, dorisb@rmcg.com.au

#	NAME	ORGANISATION	POSITION TITLE	CONTACT
8	Deborah Prentice OR	RMCG	Senior Consultant, Project Manager	0412 215 328, deborahp@rmcg.com.au
	Donna Lucas	RMCG	Associate, Project Delivery	0459 047 478, donnal@rmcg.com.au

A maximum of two persons per partner organisation will participate in the PRG. An additional Hort Innovation or Greenlife industry representative may be invited to PRG meetings if required for certain aspects of a meeting. The industry representatives are selected based on skills, industry knowledge and the ability to represent the main sectors and production regions. Horticulture education practitioners are also represented.

Should a PRG member resign, Hort Innovation or the project team will suggest a replacement and the remaining PRG members will agree on a suitable replacement via reaching consent.

2.1.3 ROLES AND RESPONSIBILITIES

The role of the PRG and its members is to:

- Attend meetings by phone to contribute experience and expertise to the project
- Provide verbal or written feedback about project activities
- Act as a 'sounding board' to the project team during PRG meetings
- Review evaluation results as required.

The RMCG project manager will provide brief monthly progress updates to PRG members.

2.1.4 MEETINGS

The RMCG project manager will call the first meeting in July 2020. The following meetings will be called about 2 weeks prior to milestone dates which are 1 Oct. 20, 1 Feb. 21 and 15. June 21 (Final report due). A meeting may be cancelled if it is not required or an additional meeting may be called on a needs basis. Any of the PRG members can ask for an out of schedule meeting to be called.

- Meetings will be held by phone or Internet video conferencing, Zoom or Teams
- A person from GIA and one from RMCG will provide alternating meeting chair and secretary
- A meeting quorum will be four (4) with at least one (1) person representing the Greenlife industry, one (1) person representing Hort Innovation, the Chair, plus one (1) additional PRG member
- Meeting agendas and minutes will be provided by the respective chair (agenda) and secretary (minutes), this includes preparing and distributing:
 - Agendas and supporting papers at least three (3) days before meetings
 - Brief meeting notes at the latest five (5) days after meetings
- If group members cannot participate in a meeting but would like to comment, they can do this via email prior to the meeting after receiving the meeting agenda and papers. Their comments will be made available to all meeting participants.

2.1.5 CONTACT

The contact for all matters related to the project (NY19006) overall delivery and inputs from the PRG is the RMCG Project Manager, Deborah Prentice (RMCG), or Doris Blaesing if Deborah cannot be contacted. The PRG will be informed if this changes.

3 Stakeholder engagement and communication plan

3.1 STAKEHOLDER ENGAGEMENT

The stakeholder engagement plan of the project is outlined in Table 3-1. The plan outlines:

- Why stakeholders will be engaged
- The level of engagement; and
- Proposed method of engagement.

*** Levels of engagement:**

- **Inform** – To provide information to assist stakeholders to better understand the issue, and/or identify alternatives, opportunities and/or solutions to the issue
- **Consult** – To obtain feedback from key stakeholders on the issue, alternatives and/or outcomes
- **Involve** – To engage directly with key stakeholders throughout the project to ensure that major concerns and needs are understood and considered
- **Collaborate** – To partner with key stakeholders to develop/evaluate solutions to problems, to make decisions, provide advice and to identify preferred solutions
- **Empower** – To deliver solutions and/or the ability for informed decision-making in the hands of the stakeholder. Stakeholders are then enabled to directly contribute to the achievement of project outcomes.

Table 3-1: Stakeholder engagement plan

	GREENLIFE GROWERS - PARTICIPANTS	INDUSTRY SUPPLY CHAIN	NURSERY INDUSTRY ASSOCIATIONS	EXTENSION & TRAINING NETWORKS	HORT INNOVATION
Why engage with this group?	To identify current challenges affecting greenlife growers. To seek greenlife grower feedback on business level needs. Established shared lessons and strategies on recruitment activities.	To identify current challenges and needs of the supply chain. Established shared lessons and strategies for career pathways.	To identify industry needs. To identify strategies that can be supported by industry. To share learnings. To facilitate communications of findings to the broader industry. Recruitment of producers.	Awareness of industry needs. Collaboration in solution identification and implementation.	Keeping Hort Innovation informed of project progress, issues and opportunities. To inform the design of a potential national program. Information about return on investment.
What is the level of engagement*	Inform Empower	Inform Empower	Inform Involve Empower	Inform Involve Collaborate	Collaborate
Proposed method of engagement	Engagement activities for each audience are outlined in the project Engagement and Communication Plan under Section 3.2.				Regular reflection meetings with Hort Innovation Project manager PRG meetings Milestone reporting

3.2 COMMUNICATIONS PLAN

A major component of the project is to continue to educate, inform and engage stakeholders on the benefits of upskilling, the training opportunities available, and to showcase dynamic career opportunities within the nursery/greenlife industry sectors.

The detailed communications and engagement plan in **Appendix 1** outlines communication and engagement objectives, methodology, channels, outputs and timing.

Project communication for NY19006 will be conducted under two different projects being:

1. *NY19006 Developing Nursery Career Pathways (this project) and*
2. *NY18001 Australian Nursery Industry Communications Program.*²

Activities conducted under NY18001 will be reported with that project. NY19006 will report on the following:

- Social Media: 5 LinkedIn posts
- Blog posts: 2 blog posts
- Industry Workshop: 1 workshop
- Online presentation: 2 presentations.

All communication activities for NY19006 will be extended across both projects and so a cross over may be seen in reporting of results. Each project promotes through different channels and so this is seen as a benefit.

² NY18001 is a project managed by Cox Inall Communications. Activities delivered under this project are passed through an established approvals process between Project Teams, Greenlife Industry Australia and Hort Innovation.

4 Project logic and M&E framework

4.1 PROJECT LOGIC

The program logic forms the high-level framework for this Project Plan and directs the Monitoring and Evaluation (M&E) framework. It includes consideration of the hierarchical connection between the project activities and the Nursery Industry Strategic Investment Plan (SIP) outcomes. The logic for the project is illustrated in Figure 4-1.

The aspirational, long term outcome is that Greenlife jobs are a professional career choice, providing clear pathways from entry level to skilled experts, in the variety of job roles that the industry offers.

Figure 4-1: Program logic for the Greenlife industry career pathways project NY19006

SIP outcome(s)	Outcome 5: Better career development			
End-of-project outcomes	Increased awareness and intention to take up nursery industry jobs and careers including apprenticeships, internships and traineeship programs.		Increased awareness and intention to take up scholarships/staff development opportunities that can lead to a career and/or career advancement within the nursery industry.	
Intermediate outcomes	Identification and promotion of industry career paths via defined skills levels for different job roles and information on relevant training and career opportunities to gain the skills needed.			
Outputs	Training support networks and systems established.	A central training information and resources hub (GIA webpage).	A career pathway guide for several levels of the broad range of industry job roles.	A skilled careers promotion toolkit and promotions.
Activities	Training support to help the targeted design and delivery of training programs that enable the upskilling of the nursery industry at several levels.	Link and interrelate strategic pillars 3 & 5 to strategic pillars 1, 2 & 4 identified in the NY17002 strategy.	Defined jobs and career pathways to demonstrate dynamic career opportunities within the nursery sector to those in horticulture and other relevant sectors.	
Foundational information	NY17002 findings and strategies, Pillars 3 and 5, relevant career pathway publications, Training Packages and Tertiary Courses.			
Foundational activities	Project Plan	Partnership and Networks	Project management	

Longer term, lasting impacts will be accomplished via integration of NY17002 strategies, i.e. this project, with industry promotion (pillar 1), developing a training support framework (pillar 2) and human resource management (pillar 4). The integration is required for an industry owned attraction, development, retention and career pathways program.

4.2 PROJECT M&E SCOPE

4.2.1 AUDIENCE

Key audiences and their required information needs in relation to the M&E Plan are listed in Table 4-1. The Primary audience will directly use the results of the M&E to manage and/or make decisions in relation to the project delivery. Secondary audience users will have an interest in the M&E findings and may make suggestions for the project, but do not have a direct role in relation to project delivery.

Table 4-1: Monitoring and Evaluation audience and their information needs

AUDIENCE	INFORMATION NEED
Primary	
Project Team (RMCG & GIA)	Project progress, performance against target delivery, extent of levy payer engagement and participation, stakeholders engaged and consulted, relevancy of project data received, project performance against budget
Hort Innovation	Project progress, performance against target delivery, extent of levy payer engagement and participation, stakeholders engaged and consulted, relevancy of project data received, project expenditure
Secondary	
Greenlife producers, greenlife input and supply channels.	Project progress, stakeholders engaged and consulted, project outputs (available resources, platforms, opportunities)
Industry Associations, e.g. NGI Associations, Garden Retail Associations	Project progress, stakeholders engaged and consulted, relevancy of project information received, quality, and effectiveness of project outputs
Training and education providers – individuals and organisations	Project outputs (available resources, platforms, opportunities)
Careers Advisor networks	Project outputs (available resources, platforms, opportunities)

4.2.2 KEY EVALUATION QUESTIONS

The key evaluation questions (KEQs) are arranged by key themes in Table 4-2.

Table 4-2: Project key evaluation questions

#	ASPECT	EVALUATION QUESTIONS
1	Effectiveness	To what extent has the project achieved its expected outcomes?
2	Relevance	How relevant was the project to the needs of intended beneficiaries?
3	Process appropriateness	How well have intended beneficiaries been engaged in the project?
4		To what extent were engagement processes appropriate to the target audience/s of the project?
5	Efficiency	What efforts did the project team make to achieve efficiency of delivery?

4.3 PERFORMANCE EXPECTATIONS, DATA COLLECTION AND ANALYSIS

Performance expectations, including indicators and measures, are set to assess the performance of the project in achieving its intended outcomes. The key performance indicators for the question, and how the evidence of progress towards these indicators will be collected is described in Table 4-3.

Table 4-3: Project monitoring plan

LOGIC LEVEL	WHAT TO MONITOR	PERFORMANCE EXPECTATION (KPI'S) AND/OR MONITORING QUESTIONS	DATA COLLECTION – METHOD AND SOURCE	TIMING AND RESPONSIBILITY FOR DATA COLLECTION
Foundational activities	Establishment of partnerships and networks to receive contributions as required, and 'buy in' and all of industry ownership	Partnerships and networks established with peak industry bodies and other relevant organisations e.g. training providers, Skills Impact	Record keeping from project team Feedback from partners and networks (documented)	By May 2021 (Project Manager and GIA partner)
Activities and outputs	Identification and assessment of education and training service providers for the Greenlife industry to identify existing and potential training delivery opportunities	At least one VET training provider per state At least 2 tertiary institutions	Project records and documents Feedback from training providers	By October 2020 (Project Manager and GIA partner)
	Identification of one or more key training providers for this pilot project	At least one VET training provider that will deliver relevant training	Project records and documents Feedback from training provider	By October 2020 (Project Manager and GIA partner)
	Workshop with Greenlife Industry and chosen training providers delivered to develop mutual understanding of industry training needs, training capacity, train the trainer needs and industry training options going forward	1 workshop completed	Workshop outcomes documented e.g. improved understanding between sectors possibilities for working together and issues to address	By November 2020 (Project Manager and GIA partner)

LOGIC LEVEL	WHAT TO MONITOR	PERFORMANCE EXPECTATION (KPI'S) AND/OR MONITORING QUESTIONS	DATA COLLECTION – METHOD AND SOURCE	TIMING AND RESPONSIBILITY FOR DATA COLLECTION
	Promote formal and informal education and training opportunities	Information about opportunities published on website Hub and promoted via communications program	Project records and documents Website and social media hits	Ongoing from August 2020 (pending launch of GIA website)
	Train the trainers	Guide and on-line resource available		February 2021
	Career Pathways Guide developed	Guide and on-line resource available		
	Promotion & Media Toolkit developed	Available and distributed		
	Communication plan implemented	Activities implemented under the Communication Plan	Events held Articles, case studies, Greenlife Paper published Social media metrics obtained	Ongoing from July 2020
	Project management and reporting	Timely submission and acceptance of milestone reports	Project records and documents	Ongoing from July 2020
Intermediate outcomes	Identification and promotion of industry career paths via defined skills levels for different job roles and information on relevant training and career opportunities to gain the skills needed	Industry members and stakeholder have increased awareness and knowledge of training and career opportunities for the Greenlife sector	Observations Feedback from industry stakeholders – informal, during report back	End of project (Project Manager and GIA partner)

LOGIC LEVEL	WHAT TO MONITOR	PERFORMANCE EXPECTATION (KPI'S) AND/OR MONITORING QUESTIONS	DATA COLLECTION – METHOD AND SOURCE	TIMING AND RESPONSIBILITY FOR DATA COLLECTION
End-of-project outcomes	Increased awareness and intention to take up greenlife industry jobs/careers including apprenticeships, internships and traineeship programs	Greenlife businesses foster and encourage professional development for staff and start attracting new staff	Feedback from industry	End of project
	Increased awareness and intention to take up scholarships/staff development opportunities that can lead to a career and/or career advancement within the Greenlife industry	Greenlife businesses foster and encourage professional development for staff People are intending to take up scholarships		
Longer-term outcomes via integration of all NY19002 strategies over the coming 3-5 years	Increased awareness and uptake of entry points to Greenlife industry jobs and careers including apprenticeships, internships and traineeship programs.	Greenlife businesses foster and encourage professional development for staff Reduced vacancy rates for Greenlife industry positions	Feedback from industry Statistics Case studies	Post project (GIA) not assessed as part of this 1 year pilot project
	Increased awareness and uptake of scholarships/staff development opportunities that can lead to a career and/or career advancement within the Greenlife industry	Greenlife businesses foster and encourage professional development for staff An increased number of people are taking up scholarships		

4.4 REPORTING AND CONTINUOUS IMPROVEMENT

Communication of project performance and key findings will be through various channels as outlined in Table 4-4. Key findings from the project evaluation will be used to inform and improve project delivery structures and mechanisms, and the means for achieving continuous improvement in the project delivery is outlined in Table 4-5.

Table 4-4: Project progress reporting

REPORT TYPE	TO WHOM	TIMING
Milestone reports	Hort Innovation	As scheduled
Final report	Hort Innovation	At end of project
Brief email updates	PRG	Monthly
Articles Social media	Greenlife Papers Your Levy @ Work newsletter Website	Two articles Quarterly updates Monthly social media
Online presentation	Industry stakeholder	Project completion

Table 4-5: Project continuous improvement activities

CONTINUOUS IMPROVEMENT PROCESS	DETAILS	TIMING
Team meetings	On-line project team meetings to review and plan all activities including integration into the broader careers recommendation under NY17002.	As required but at least monthly
Reflection meeting with PRG	On-line PRG meetings	July and prior to milestones, or as required.
Industry associations	Conversations with key industry associations and training providers to ensure alignment of project activities and outputs to industry needs	As required

5 Risk Management

Project risks range across technical, biophysical, communication, partnerships and internal risk. The likelihood and consequence of these risks were analysed using a risk matrix as outlined in Table 5-1.

Table 5-2 highlights the risks that were identified and how these will be managed (mitigation strategies). These risks will be reviewed at the Project Reference Group meeting with the mitigation strategies being the responsibility of the project team.

Table 5-1: Risk matrix

RISK	CONSEQUENCE				
	Insignificant	Minor	Moderate	Major	Catastrophic
Almost certain	Low	Medium	High	Very High	Extreme
Likely	Low	Medium	High	Very High	Very High
Possible	Low	Low	Medium	High	High
Unlikely	Minimal	Minimal	Low	Medium	High
Very unlikely	Minimal	Minimal	Low	Low	Medium

Table 5-2: Risk management plan

ID	RISK DESCRIPTION	SOURCE OF RISK	IMPACT OF RISK	CONTROLS	TREATED RISK ASSESSMENT	RESPONSIBLE PERSON
1	Partnership and networks not developed	Industry associations and training providers unwilling or unable to be engaged for various reasons,	Industry and training provider is limited Communication opportunities are not optimised	Utilise and foster existing relationships with industry associations, state-based associations and Cox Inall as well as training providers. Early engagement and communication to foster interest in involvement. Use of multiple communication channels to engage with growers.	Moderate Unlikely = LOW	RMCG Project Manager & GIA lead
2	Unable to identify key training providers and opportunities	Methods and activities lack suitability to achieve desired project outcomes	Inability to identify key drivers Inability to deliver outputs and outcomes	Experienced project team who have undertaken similar projects. Strong collaboration with GIA shared understanding of industry priorities and needs. Good understanding of the education and training sector Regular team meetings to review project delivery.	Moderate Unlikely = LOW	RMCG Project Manager & GIA lead
5	Lack of stakeholder participation in consultation workshop	Stakeholders unable / not interested in engaging with the project	Weak information and poor industry engagement to support development of effective outputs	Topics being addressed are identified as high priority for industry. Partnership and strong collaboration with industry to support the required level of industry and training provider participation in project activities. Promotion of opportunities for industry engagement through existing established industry channels, e.g. newsletters, working groups.	Minor Possible = LOW	RMCG Project Manager & GIA lead
6	Significant weather, market or biosecurity event limits participation	Conflicting higher priority event in the industry	Stakeholders unable to participate in the project due to prioritisation of available time	Project delivery reviewed, and timeline revision discussed with Hort Innovation.	Moderate Unlikely = LOW	RMCG Project Manager & GIA lead

ID	RISK DESCRIPTION	SOURCE OF RISK	IMPACT OF RISK	CONTROLS	TREATED RISK ASSESSMENT	RESPONSIBLE PERSON
7	Loss of key project personnel	Key staff resign or retire	Loss of knowledge and skills	<p>Team allocated to the project includes several people with the required expertise.</p> <p>Team members are trained with multiple skills.</p> <p>Other RMCG staff with the required skills are available.</p> <p>Comprehensive data documentation and storage to ensure data integrity maintained.</p>	Moderate Unlikely = LOW	RMCG Project Manager & GIA lead
8	Project management risks (budget, time, quality, scope)	<p>Budget: Budgets not regularly monitored; activities cost more than originally anticipated; lack of control over budget allocation</p> <p>Time: Schedule dominated by critical tasks; tight timeframes</p> <p>Quality: Poorly skilled people; lack of reviews and monitoring; low commitment to quality standards</p> <p>Scope creep: poor definition of expectations; poor documentation; lack of scope control measures</p>	<p>Collecting additional data that is 'interesting' but not clearly correlated to Greenlife related skill needs may create additional work for RMCG and GIA</p> <p>Cost of engagement and consultation may be higher and take longer than budgeted.</p>	<p>Adhere to RMCG Quality and Project Management System (QMS) to ensure rigorous and consistent processes are followed in the delivery of the project.</p> <p>Key personnel experienced in project management.</p> <p>Good communication between project partners, Hort Innovation Project manager and RMCG Project Manager.</p>	Moderate Unlikely = LOW	RMCG Project Manager & GIA lead

6 Project Workplan

A summary workplan is outlined as follows in Table 6-1. A detailed, task and timing oriented workplan to assist project management and delivery has been set up in Smartsheet and shared amongst all team members. It will be updated during regular team meetings as required.

Table 6-1: Summary workplan

MILESTONE NUMBER	DUE DATE	DESCRIPTION	ACHIEVEMENT CRITERIA
101	01/07/2020	Agreement Signed. IP Arrangements in place.	Executed Research Agreement between Hort Innovation & RMCG. Partnership agreement between GIA and RMCG.
102	01/10/2020	Project start-up completed Project Reference Group (PRG) formed	Program logic & Plans approved: M&E, stakeholder engagement & communication, risk register & management, PAG Terms of Reference & Members confirmed, 1 st meeting held.
103	01/002/2021	All tasks and activities progressing well and at 50% completion	Linkages with the education / training sector strengthened and co-operators identified. Train the trainer package ready for trialling. Career Pathways Guide draft available. Linkages to Pillars 1, 2 & 4 established.
190	15/06/2021	Final Report Received by Horticulture Innovation Australia and final Statement of Receipts and Expenditure received.	All outputs completed and available to the Greenlife industry, the education and training sector and stakeholders. Final report and final Statement of Receipts and Expenditure delivered

Appendix 1: Communications and engagement plan

Communications & Engagement Plan NY19006 Developing Nursery Career Pathways

Introduction

NY19006 Developing Nursery Career Pathways is a twelve (12) month project focused on establishing an integrated approach to attraction, training, development and retention strategies for the greenlife/nursery industry. The project has a focus on career development for people in nursery production horticulture, other relevant sectors and those making career decisions.

This project follows NY17002 Review of Nursery Industry Career Pathways which identified five strategic recommendations for the greenlife industry to action:

1. **Industry Promotion and Awareness**- important for fostering a positive industry image and essential for raising awareness and interest in working in the industry
2. **Addressing Policy Parameters** including development of a training support framework
3. **Facilitate the targeted design and delivery of training programs** (formal and informal) that support the upskilling of people in the nursery industry at several levels
4. **Human Resource Management Practices** to understanding what the next generation workforce want and an employment industry hub which are important aspects of improving attractiveness of the industry for potential employees, as well as linking through train the trainer packages
5. **Showcase jobs and career pathways** that demonstrate dynamic career opportunities within the nursery sectors to those in horticulture and other relevant industries

RMCG Consulting (RMCG) have partnered with Greenlife Industry Australia (GIA) to deliver NY19006 on behalf of the industry and we will work together on the delivery of strategic areas 3 and 5.

A major component of the project is to continue to educate, inform and engage industry on the benefits of upskilling, the training opportunities available and to showcase dynamic career opportunities within the nursery/greenlife industry sectors.

This engagement plan outlines communication and engagement objectives and activities for the project.

Objectives

The industry communication objectives of this project are:

1. To inform the industry about the careers pathway project and facilitate engagement into the project as required.
2. To educate and inform the nursery/greenlife industry of the benefits of upskilling, the training opportunities available and to showcase dynamic career opportunities within the nursery/greenlife industry sectors.
3. To encourage use of outputs and resources developed under the project.

Audience

- greenlife producers, greenlife input and supply channels.
- Industry associations including State NGI Associations, Garden retailer associations
- Training and education providers – individuals and organisations

Project Communication Activities

Project communication activities will be conducted under two different projects being:

1. *NY19006 Developing Nursery Career Pathways*
2. *NY18001 Australian Nursery Industry Communications Program*.¹

To address all three communications objectives the following activities are proposed to be achieved by 15 June 2021

Social Media

- 23 posts across Facebook, Twitter and LinkedIn:
 - o 14 posts NY18001 (7 Facebook, 7 Twitter),
 - o 5 posts NY19006

Blog posts

- 4 blog posts NY18001, 2 blog posts NY19006
- Dependent on the source of project extension, blog posts will be shared on GIA website, GIA e-newsletter, Your Levy @ Work website and e-newsletter during the project.

Industry Workshop

- 1 workshop NY19006
- Attended by industry and training providers to develop mutual understanding of industry training needs, training capacity, train the trainer needs and industry training options going forward.

Case Study – Written

- 1 written, to address both NY19006 and NY18001
- Workshop participant/Grower experience – workshop experience, importance of continuing education and training

Media Releases

- 1 release NY18001
- Launch of the online Greenlife Careers Hub on GIA website

Industry Presentation

- 2 x Online Presentations NY19006
- Targeted to different audiences:
 - o *Growers and greenlife input and supply chain*: Overview of the project outputs for industry information, encouraging engagement with careers pathway opportunities.
 - o Horticulture Educators/Careers Advisors: Overview of the project outputs for educators and careers advisors (School leaver information and student/apprentice case studies). Encouraging adoption of the tools and promotion of greenlife career pathway opportunities.

¹ NY18001 is a project managed by Cox Inall Communications. Activities delivered under this project are passed through an established approvals process between Project Teams, Greenlife Industry Australia and Hort Innovation.

Nursery Papers

- 1 paper NY18001
- Overview of tangible/usable project outputs (Careers Hub, E-learning, access to apprenticeships etc) for greenlife supply chain.

Podcast

- 1 interview NY18001
- Interview with Doris Blaesing of tangible/usable project outputs (Careers Hub, E-learning, access to apprenticeships etc) for greenlife supply chain.

General Liaison

- Ongoing NY19006
- Regular liaison with industry associations on status of the project. Engagement for feedback and input and encouragement for promotion of outputs.
- Regular engagement with horticulture education providers on the status of the project. Engagement for feedback and input and encouragement for adoption of outputs.

The outputs for this project are detailed in Appendix A below.

Evaluation

The results of the engagement campaign will be measured through the following means and the outputs detailed in the final report:

- Social media and digital asset engagement: being the number of Likes, Comments, Shares, Views
- Nursery Papers: print distribution, social responses, website downloads
- Blog Posts: unique views, clicks on post, click on links, post downloads
- Industry Workshop: number of attendees and brief survey
- Case Study: clicks on post, click on links, post downloads, time online
- Media Releases: number of stories published (print and online).
- Online Presentation: attendance at the sessions.
- Podcast: listening statistics

Reporting

All communication activities being conducted under NY18001 will be reported with that project.

NY19006 will report on the following:

- | | |
|-----------------------|------------------|
| - Social Media | 5 LinkedIn posts |
| - Blog posts | 2 blog posts |
| - Industry Workshop | 1 workshop |
| - Online presentation | 2 presentations. |

Communication activities will be extended across both projects and so a cross over may be seen in reporting of results. For example, NY19006 will host and promote the workshop. NY18001 will also promote it. Each project promotes through different channels and so this is seen as a benefit.

APPENDIX A – Communication Outputs (NY19006) Developing Nursery Career Pathways

Content Type	Project	Purpose	Target Audience	Date	Channels
Blog 1	NY19006	Introduce the NY19006 project – invite EOI for participation on the PRG	Growers and industry stakeholders, input & supply chain, horticulture educators	June 2020	GIA website, GIA News social media (Facebook and Twitter, LinkedIn) send email to industry associations.
Blog 1	NY18001	Broad project overview and anticipated outcomes, opportunities for contribution through industry workshop etc	Growers and industry stakeholders, input & supply chain, horticulture educators	July 2020	Promote article via Your Levy @ Work e-newsletter and through GIA social media,
Blog 2	NY18001	Overview of workshop and invitation to participate	Growers and industry stakeholders, input & supply chain, horticulture educators	October 2020	State NGIS, Your Levy @ Work Website, Your Levy @ Work e-newsletter, social media (Facebook and Twitter),
Blurb (#2)	NY18001	Reminder: register for industry workshop	Growers and industry stakeholders, input & supply chain, horticulture educators	Early November 2020	Your Levy @ Work e-newsletter.
Industry Workshop	NY19006 & NY18001	Online workshop to develop mutual understanding of industry training needs, training capacity, train the trainer needs and industry training options going forward	Nursery industry representative and training providers	November 2020	GIA website, GIA News State NGIS, Your Levy @ Work Website, Your Levy @ Work e-newsletter, social media (Facebook and Twitter, LinkedIn)
Media Release	NY18001	Announcement of the launch of the Careers Hub	Media Growers and industry stakeholders, input & supply chain, horticulture educators	April 2021	Your Levy @ Work, Your Levy @ Work E-Newsletter, Social Media Media outreach
Blog 3	NY18001	Overview of the Careers Hub and Online presentations invitation to participate (by target group)	Growers and industry stakeholders, input & supply chain, horticulture educators	April 2021	State NGIS, Your Levy @ Work Website, Your Levy @ Work e-newsletter, social media (Facebook and Twitter),
Blurb (#3)	NY18001	Reminder Overview of the Careers Hub and Online presentations invitation to participate (by target group)	Growers and industry stakeholders, input & supply chain, horticulture educators	April 2021	Your Levy @ Work e-newsletter.
Podcast	NY18001	Interview with Doris Blaesing of tangible/usable project outputs (Careers Hub, E-learning, access to apprenticeships etc) for greenlife supply chain.	Growers and industry stakeholders, input & supply chain, horticulture educators	May 2021	Sound Cloud, Your Levy @ Work Website, Your Levy @ Work e-newsletter, social media
Nursery Paper	NY18001	Four-page insert Overview of tangible/usable project outputs (Careers Hub, E-learning, access to apprenticeships etc) for greenlife supply chain. Possible links to Case Study	Growers and industry stakeholders, input & supply chain	May 2021	Hort Journal, Your Levy @ Work Website, Your Levy @ Work e-newsletter, social media (Facebook and Twitter)
Zoom Presentation #1	NY19006 & NY18001	Presentation by Project Team outlining the project outputs for industry information, encouraging engagement with careers pathway opportunities.	Growers and industry stakeholders, input & supply chain	June 2021	GIA website, GIA News State NGIS, Your Levy @ Work Website, Your Levy @ Work e-newsletter, social media (Facebook and Twitter, LinkedIn)
Zoom Presentation #2	NY19006 & NY18001	Overview of the project outputs for educators and careers advisors, encouraging adoption of the tools and promoting the career pathway opportunities.	Horticulture educators, careers advisors	June 2021	GIA website, GIA News State NGIS, Your Levy @ Work Website, Your Levy @ Work e-newsletter, social media (Facebook and Twitter, LinkedIn)
Blog 4 Blog 2	NY18001 NY19006	Project wrap up Project wrap up and integration with GIA Careers Strategy for ongoing adoption, engagement and promotion.	Growers and industry stakeholders, horticulture educators	June 2021	State NGIS, Your Levy @ Work Website, Your Levy @ Work e-newsletter, social media (Facebook and Twitter),

This report has been prepared by:

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Document review and authorisation

RMCG Job Number: #0822

Doc Version	Final/Draft	Date	Author	Project Director review	BST QA review	Release approved by	Issued to
1.0	Draft	19/06/20	D.Blaesing	Kobie Keenan GIA D.Prentice		D.Blaesing	
2.0	Final	03/07/20	D.Blaesing	Kobie Keenan GIA D.Prentice	J. Longford	D.Blaesing	Hort Innovation

Appendix D: PRG terms of reference

1.1 PRG TERMS OF REFERENCE

1.1.1 PRG SCOPE

Hort Innovation approves the scope and membership of the PRG. The group's input into the project will include, but not necessarily be limited to:

- Ensuring that the project applies an understanding of the diversity of the greenlife industry; this includes different scales, operational foci, staffing and locations of nursery production and retail businesses, and also their advisers, and agribusinesses providing inputs and technologies
- Making sure that sound approaches are used to deliver the required project services
- Ensuring the project stays focussed on the outcomes as stated in the contract with Hort Innovation (no scope creep) and does not repeat previous work or duplicate current initiatives already delivered elsewhere
- As much as possible, providing linkages to relevant Greenlife Industry initiatives, Hort Innovation initiatives, relevant initiatives by other organisations and training providers.

1.1.2 TERM

This Terms of Reference is effective from 01 July 2020 and continues until a Final Project Report is submitted to Hort Innovation on 15 June 2021. It will be ongoing during that term unless changed or terminated by Hort Innovation. A minimum of two and a maximum of three meetings of up to one-hour duration are envisaged for a 12-month period during this project.

#	NAME	ORGANISATION	POSITION TITLE	CONTACT
1	Bianca Cairns	Hort Innovation	R&D Manager	(07) 3198 6757, 0429 529 655 bianca.cairns@horticulture.com.au
2	Peter Vaughn	GIA	GIA Project Director	(02) 8861 5107, 0400 739 802 peter.vaughan@greenlifeindustry.com.au
	Sonya Gifford OR	GIA	GIA – Training & Dev	(02) 8861 51XX, 0476 022 219 sonya.gifford@greenlifeindustry.com.au
	Kobie Keenan	GIA	GIA - Communications	(02) 8861 5112, 0410 686 901 kobie.keenan@greenlifeindustry.com.au
3	Sonja Cameron	Cameron's Nursery	Director	sonja@cameronsnursery.com.au
4	John Rayner	University of Melbourne	Associate Professor, School of Ecosystem and Forest Sciences	jrayner@unimelb.edu.au
5	Colin Hunt	TAFE NSW	Horticulture Teacher and Technical and Further Education Commission	colin.a.hunt@tafensw.edu.au
6	Daniel Ewings	Andreasens Green	National Operations Manager	02 9826 1911, 0417 665 039 daniele@andreasensgreen.com.au
7	Doris Blaesing	RMCG	Associate, Project Director RMCG	0438 546 487, dorisb@rmcg.com.au

#	NAME	ORGANISATION	POSITION TITLE	CONTACT
8	Deborah Prentice OR	RMCG	Senior Consultant, Project Manager	0412 215 328, deborahp@rmcg.com.au
	Donna Lucas	RMCG	Associate, Project Delivery	0459 047 478, donna@rmcg.com.au

A maximum of two persons per partner organisation will participate in the PRG. An additional Hort Innovation or Greenlife industry representative may be invited to PRG meetings if required for certain aspects of a meeting. The industry representatives are selected based on skills, industry knowledge and the ability to represent the main sectors and production regions. Horticulture education practitioners are also represented.

Should a PRG member resign, Hort Innovation or the project team will suggest a replacement and the remaining PRG members will agree on a suitable replacement via reaching consent.

1.1.3 ROLES AND RESPONSIBILITIES

The role of the PRG and its members is to:

- Attend meetings by phone to contribute experience and expertise to the project
- Provide verbal or written feedback about project activities
- Act as a 'sounding board' to the project team during PRG meetings
- Review evaluation results as required.

The RMCG project manager will provide brief monthly progress updates to PRG members.

1.1.4 MEETINGS

The RMCG project manager will call the first meeting in July 2020. The following meetings will be called about 2 weeks prior to milestone dates which are 1 Oct. 20, 1 Feb. 21 and 15. June 21 (Final report due). A meeting may be cancelled if it is not required or an additional meeting may be called on a needs basis. Any of the PRG members can ask for an out of schedule meeting to be called.

- Meetings will be held by phone or Internet video conferencing, Zoom or Teams
- A person from GIA and one from RMCG will provide alternating meeting chair and secretary
- A meeting quorum will be four (4) with at least one (1) person representing the Greenlife industry, one (1) person representing Hort Innovation, the Chair, plus one (1) additional PRG member
- Meeting agendas and minutes will be provided by the respective chair (agenda) and secretary (minutes), this includes preparing and distributing:
 - Agendas and supporting papers at least three (3) days before meetings
 - Brief meeting notes at the latest five (5) days after meetings
- If group members cannot participate in a meeting but would like to comment, they can do this via email prior to the meeting after receiving the meeting agenda and papers. Their comments will be made available to all meeting participants.

Appendix E: Minutes PRG

Minutes from Project Reference Group Meeting 1

Nursery career pathways program
29 July 2020 11am via Zoom

Attendees: Bianca Cairns (Hort Innovation), Sonja Cameron (Cameron's Nursery), Daniel Ewings (Andreasens Green), John Rayner (University of Melbourne), Colin Hunt (Tafe NSW), Peter Vaughan (GIA), Kobie Keenan (GIA), Sonya Gifford (GIA), Doris Blaesing (RMCG), Donna Lucas (RMCG),

Chair: Deborah Prentice (RMCG)

ITEMS DISCUSSED

1. Terms of reference for the PRG was tabled, and any feedback sought
2. Project Plan was provided prior to the meeting and discussed during the meeting.
3. Communications Plan was also tabled and discussed during the meeting
4. Suggestions as to best practice examples of communication and promotional tools were put forward including from:
 - a. American Institute of Horticulture
 - b. Next Gen Vic
5. Need for an educational pathway for those who have completed an apprenticeship.
6. Encouraging apprenticeships in the industry and people from other industries to seek a career with greenlife industries; awareness raising (communications) together with a 'dynamic' career pathways guide are the project's activities to address this.
 - a. The opportunities to attract people were discussed such as, technology, creating healthy spaces and living conditions in cities (green spaces, gardens) and the environment (trees & shrubs).
7. Important to improve the 'culture of training' in the industry i.e. training is valued.
8. Foster people development and leadership as well as soft skills (attitudes, aspirations, behaviours)
9. Trainer and employer training may be required

ACTIONS

1. PRG to consider the best format for the career's guide i.e. Web based, interactive or booklet (which can also be on-line) need to consider time and resource limitations for the project. It is important to create a

dynamic guide that can be updated and further developed as required. It has to be attractive to career advisers and schools/pupils in years 11 & 12 as well as 'career changers'.

ACTION: Project team will provide a brief overview of options to the PRG and an outline of career pathways (MS Word) that can be developed for either format (web, print).

2. Discussed the need for a value proposition to RTOs (TAFE colleges, Trade Training Centres, other providers); e.g. bringing a group of 'students' together who will take a Cert course. This is part of the project delivery plan.

Investigate school based apprenticeship opportunities

3. Investigate options for Trainer and employer training

ACTION: Project team to update the PRG on Actions 2 and 3 at the next meeting.

NEXT MEETING: TBA

Meetings are planned to occur around milestone report dates (refer to below table). Ad hoc meetings or communication will occur as required.

MILESTONE NUMBER	DUE DATE	MILESTONE DESCRIPTION	ACHIEVEMENT CRITERIA (BASED ON OUTPUTS AND OUTCOMES)
102	1/10/20	Project start-up completed Project Advisory Group (PAG) formed	Program logic & Plans approved: M&E, stakeholder engagement & communication, risk register & management, PAG Terms of Reference & Members confirmed, 1 st meeting held.
103	1/2/21	All tasks and activities progressing well and at 50% completion	Linkages with the education / training sector strengthened and co-operators identified. Train the trainer package ready for trialling. Career Pathways Guide draft available. Linkages to Pillars 1, 2 & 4 established.
190	15/6/21	Final Report Received by Horticulture Innovation Australia and final Statement of Receipts and Expenditure received.	All outputs completed and available to the nursery industry, the education and training sector and stakeholders. Final report and final Statement of Receipts and Expenditure approved

Minutes from Project Reference Group Meeting 3

Nursery career pathways program
27 May 2021 10am via Zoom

Attendees: Sonja Cameron (Cameron's Nursery), Bianca Cairns (Hort Innovation), John Rayner (University of Melbourne), Colin Hunt (Tafe NSW), Peter Vaughan (GIA), Kobie Keenan (GIA), Sonya Gifford (GIA), Doris Blaesing (RMCG)

Apologies: Daniel Ewings (Alpine Nurseries)

Chair: Deborah Prentice (RMCG)

ITEMS DISCUSSED

1. Updates of new GIA website – Sonya updated the group on the careers hub parts of the website. It was agreed that this is a great base to work from.
2. Case studies and Career's Guide – Sonya talked through the careers guide draft and case studies. Overall everyone was very happy with the guide and it's contents.
 - a. Sonya mentioned that a shorter flyer would be produced from the content of the career's guide for career advisors.
 - b. John raised the CNP program as a great opportunity to build more professionalism in the industry and learning opportunities. He would like to continue this conversation beyond this project. The Careers hub could assist in fostering this. Sonya agreed and said that the website will allow them to track and trace professional development online and integrate with a database. Doris mentioned that this will assist those keen to develop to have that recognised. Peter mentioned that this is not funded anywhere outside of GIA at present but this project has allowed them to reinvigorate and update that program. There are other courses which could be reinvigorated if resources allow.
 - c. Sonya mentioned she is also continues to work with a Sydney based RTO of Ag Skills 2.0 and the National skills list to get nursery into the mix and better represented.
 - d. Daniel (via email to Sonya) likes the careers guide except for the front picture. Discussion around images then took place with suggestions to add a few more images depicting different careers into the doc and potentially having a patchwork of them on front page. Kobie noted that there is the ability to tailor the guide to the different audiences on the website.
 - e. Doris suggested Instagram/tictoc videos of people doing their jobs as an option. Resourcing would be needed for this.
 - f. Sonja appreciated the clear icons and diagrams and reiterated the need for more images rather than words.
 - g. Bianca liked the case studies and wondered if there could be more of people who are newer to the industry and were surprised at what it offered. Kobie/Sonya relayed how hard it was for people to have the time to do the case studies. John, Sonja nad Colin had ideas of extra people who they thought would be good.
 - h. Kobie noted that CoxinAll have also done a video and text of a case study which should be available soon.
3. Recommendations going forward

- a. Doris outline the current recommendations and welcomed any extra ones to be added prior to the finalisation of the report.

ACTIONS

1. Sonya will send out case study questions. Everyone to send their case study suggestions/filled out case studies to Sonya
2. John to provide more information for the Career Changes part of the website.
3. Everyone to send through any extra recommendations or next steps to Deb for inclusion in the final report.

Thank you everyone for your time, knowledge and enthusiasm on this project.

RMCG and GIA

Minutes from Project Reference Group Meeting 2

Nursery career pathways program
29 March 2021 1pm via Zoom

Attendees: Sonja Cameron (Cameron's Nursery), Daniel Ewings (Alpine Nurseries), John Rayner (University of Melbourne), Colin Hunt (Tafe NSW), Peter Vaughan (GIA), Kobie Keenan (GIA), Sonya Gifford (GIA), Doris Blaesing (RMCG)

Apologies: Bianca Cairns (Hort Innovation)

Chair: Deborah Prentice (RMCG)

ITEMS DISCUSSED

1. Overview of new GIA website – Kobie gave us a tour of the new website and how it feeds into the Career's hub.
 - a. It was noted that this was a big step in the right direction.
 - b. Discussion arose around professional development, skills sets and the aim to have the RTOs and their relevant courses listed. It was noted that this ideally requires RTOs to cooperate and provide relevant information to GIA.
 - c. It was discussed to include reciprocal links to other relevant websites such as landscape architecture, irrigation, forestry and more.
 - d. More inclusion of images, videos and graphics is planned.
 - e. Information about the website and its content will also be distributed via the comms project (Cox Inall)
2. Case studies and Career's Guide – Kobie showed examples of case studies which will be a major engagement tool for the target audiences (e.g., students, teachers, parents, career advisers). They can be used on their own as handouts or posters, if required.
 - a. Discussion around potential for onsite flyers/displays (or use of the case studies) at parks and gardens or where people are naturally interested and attracted to Greenlife (e.g., retail nurseries). This approach has been used in <https://longwoodgardens.org/education>.
 - b. GIA will update the case studies in the career guide approx. every six months to keep them fresh. Suggestions of people to profile are welcome.
 - c. It is aimed to include case studies that show a broad range of jobs and ages (especially young people).
 - d. GIA will send out a draft of the career's guide (Word MS version) for review soon.
3. Draft train the trainer – Sonya gave an overview of the Train the Trainer PowerPoint (PPT).
 - a. It was noted this was pretty comprehensive.
 - b. This is one step towards employers being able to train with confidence: a reminder or refresher for some and providing ideas for others .
 - c. It was noted that more work was needed beyond the scope of this project to encourage employers to understand their role in managing apprentices and looking after their learning (which is a legal requirement and part of the overall training plan to be signed off by employers), and not just consider them as cheap labour. Colin mentioned

that many employers do not provide a copy of the signed training plan to TAFE. Awareness of the requirement appears to be low.

- d. Sonja mentioned an “employer’s choice” program to follow up on.
 - e. Sonya will include employer’s roles and responsibilities (or similar) section on the website.
 - f. Discussion around awards programs and either re-starting a focussed GIA one, if supported by industry, or linking into existing ones such as Australian Business Awards, Rural Women of the Year. Apprentice of the Year etc.
 - g. Discussion around the need for training in how to deal with difficult employees, maybe include in the PPT in the first place.
 - h. Daniel noted that the Young Leaders Program definitely helped get him to where he is now in his career. Generally, leadership programs and scholarship are important programs for personal and professional development which have an impact on the industry.
4. Introductory Workshop – Sonya introduced the Introductory workshop draft.
- a. There was discussion around the primary audience – School students or prospective employees as a taster/pre-apprenticeship or onsite introductory workshop for new starters. Also, could be used as a refresher for staff who completed their TAFE course a while ago but haven’t used it much.
 - b. Sonja and Daniel agreed that an induction workshop for onsite at nurseries should not be longer than 1 day. The project team should explore this option.
 - c. It was noted that although good as an introductory course, much more work and cooperation between industry and training providers are needed to effectively address the skills gaps highlighted by industry. The project should provide suggestions on how this could be achieved. Examples from other industries could be used.

ACTIONS

1. GIA to include all CNP members on the website
2. John to provide more information for the Career Changes part of the website.
3. Education providers and people in the industry to let GIA know if there are new, young or keen people they see in their courses or working with them who would make good case studies.
4. GIA and RMCG to consider the length of the introduction workshop – for industry use a max of two days with a preference for a 1 day workshop
5. Everyone to send through recommendations of professional development courses or events and ideas leading into the next steps for this project.
6. Produce an outline for a follow on project that can be used to present to the SIAP late April. RMCG to provide a first draft to GIA. A focus should be on assisting GIA (via funding) to further implement the 5 pillar strategy.

NEXT MEETING: TBA

Meetings are planned to occur around milestone report dates (refer to below table). Ad hoc meetings or communication will occur as required.

MILESTONE NUMBER	DUE DATE	MILESTONE DESCRIPTION	ACHIEVEMENT CRITERIA (BASED ON OUTPUTS AND OUTCOMES)
102	1/10/20	Project start-up completed Project Advisory Group (PAG) formed	Program logic & Plans approved: M&E, stakeholder engagement & communication, risk register & management, PAG Terms of Reference & Members confirmed, 1 st meeting held.
103	1/2/21	All tasks and activities progressing well and at 50% completion	Linkages with the education / training sector strengthened and co-operators identified. Train the trainer package ready for trialling. Career Pathways Guide draft available. Linkages to Pillars 1, 2 & 4 established.

190	15/6/21	Final Report Received by Horticulture Innovation Australia and final Statement of Receipts and Expenditure received.	All outputs completed and available to the nursery industry, the education and training sector and stakeholders. Final report and final Statement of Receipts and Expenditure approved
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Appendix F: Nursery career pathways workshop – summary final

Developing Nursery Career Pathways: Workshop Summary

11 November 2020 1-3pm via Zoom

Thank you for taking the time to share your thoughts and ideas on developing nursery career pathways for the future. Here is a brief summary of the workshop. Please get in touch with one of the project team if you have any further questions or would like to continue to be involved.

Attendees

Daniel Ewings (Andreasens Green), Sonja Cameron (Cameron's Nursery), John Rayner (University of Melbourne), Colin Hunt (TAFE NSW), Bianca Cairns (Hort Innovation), Brad Mills (Hort Innovation), Ian Atkinson (NGIQ), David Reid (NGIV), Anita Campbell (NGINA), Danielle Chapman (NGISA), Karen Brock (Brocklands Nursery), June Dunleavy (Tabmatraining), Megan Hurst (Tabmatraining), Jim Johnson (Oasis Horticulture), Gabrielle Stannus (Inward Outward Studio), Cathy Beven (Skills Impact)

Project team: Peter Vaughan (GIA), Sonya Gifford (GIA), Kobie Keenan (GIA), Doris Blaesing (RMCG), Deborah Prentice (RMCG)

Apologies: Matthew Lunn (NGIWA), Alvin and Anjane (ACAH)

Summary of workshop

The workshop brought together nursery industry and the education sector representatives to discuss the design of training programs as a base to develop and enhance further professional career pathways for the nursery sector. This will assist and be a 'building block' for the nursery industry to attract and retain a strong workforce for the future.

- 1) Peter Vaughan from GIA and Doris Blaesing from RMCG introduced the session and spoke about the project Developing Nursery Career Pathways which aims to:
 - Facilitate the targeted design and delivery of education and training programs (formal and informal) that support the upskilling and development of people in the greenlife industry at several levels; and
 - Define, develop and showcase jobs and career pathways that demonstrate dynamic career opportunities within the nursery and greenlife sectors.

- 2) Doris outlined the key skills gaps and challenges identified in the previous nursery sector engagement project (Nursery Industry Career Strategy summary document is in your original attachments for the workshop).

Key points including comments from the group include:

- the need for 'soft' skills, need to support entry level people and better promote greenlife industries as a career option.
 - Industry and education sector involvement and commitment is vital to contribute to improved training outcomes
 - Look to new models (for Australia) of how to deliver training – e.g. blended model (online theory, practical block training); centre of excellence
 - Trainers need to be skilled in delivering the modules required
 - Need for leadership/management training to be incorporated into higher levels of training
- 3) Colin Hunt from TAFE NSW and John Rayner from University of Melbourne spoke about what is happening in the education sector for nursery and related courses. Bianca Cairns from Hort Innovation spoke about the levy funded professional development opportunities available.
- Colin Hunt – Cert IV Hort and Nursery, very few or no enrolments, TAFE NSW won't register to deliver Cert IV in Horticulture again, but the units and skillsets can still be used.
 - John Rayner – Nursery subjects have always been difficult. The Masterclass (UTas) has been doing really well. Further, there are increasing graduate enrolments in Periurban Horticulture.
 - Bianca Cairns – HIA involvement in both UTas Masterclass and Rimfire (university intern in industry for 10 weeks).
 - Discussion of low starting salary vs personal achievement, job satisfaction and career prospects.
 - It was noted that for the most part, the Nursery industry thrived during COVID-19. It was acknowledged that agriculture was called an essential service and therefore many working in the Nursery Industry retained their jobs during COVID shutdowns.
- 4) Doris gave examples of where other industries have been successful in working with training providers in delivering targeted training including Wayfinder.org.au and Keen Partners.
- 5) Cathy Beven from Skills Impact spoke about the new training package and the need for industry led qualifications.
- There is flexibility in how the package is delivered and industry and education providers can work together to design suitable courses
 - Cathy outlined the core and elective subjects and how they have changed from previous courses. (please refer to the attachments provided for the workshop)
 - Several rounds of consultation have taken place however, if you have concerns then Cathy is happy to speak with you.

Her contact details are:

Cathy Beven, Industry Skills Standards Specialist

catherine@skillsimpact.com.au

- 03-93213526
- 0417 898 565

SUMMARY POINTS FROM THE BREAKOUT GROUPS

BREAKOUT GROUP 1	BREAKOUT GROUP 2	BREAKOUT GROUP 3
<ul style="list-style-type: none"> ▪ Flexibility/adaptability options for RTO/TAFE, also promote these to nurseries looking to develop staff. ▪ TAFE can address industry training needs; the gaps and these programs could possibly attract funding or be self-funded. ▪ Universities are restricted in what flexibility they can offer, as they are funded by each course ▪ Delivery options that could address those industry needs - about bringing people together – a community of learning. This can be facilitated by the industry bodies. ▪ Possible overseas programs to look to: <ul style="list-style-type: none"> ▪ Netherlands - automation/nursery progression – expensive to run but government subsidised. ▪ Germany - start with apprenticeship, then additional training/education. ▪ School leavers need to be targeted. ▪ Workforce has a lot of long-term casuals – may be a reluctance to train these people. 	<ul style="list-style-type: none"> ▪ Lack of alignment between what is being taught and what is the required knowledge to work in a production nursery. ▪ Varied views on importance of leadership skills however the advantages of extra training were emphasised ie. Masterclass. ▪ Current gaps in offering: <ul style="list-style-type: none"> ▪ several more layers are required (ie: leadership and management) in order for Cert IV to be well rounded course. ▪ fundamental technical subjects/skills are lacking, specifically – soil science, plant identification; plant physiology; pest and disease identification; botany. ▪ Leadership, management training is not meeting industry’s need (seeking training elsewhere – eg. Andreasens Green) – this is an opportunity. 	<ul style="list-style-type: none"> ▪ People starting the diploma didn’t always have the necessary base skills (same fundamental skills as mentioned in group 2). These skills were often still not there when they had completed their diplomas. ▪ Concerns about skills of those delivering the training. ▪ It was felt that it was a practical course not particularly suited to only online delivery. ▪ Much of the infrastructure used for teaching is old. ▪ Greenlife industry is behind other sectors in training. It needs to be leading the way in Horticulture training. ▪ Currently not enough enrolments to be viable. ▪ Need to look at rolling it out/delivering it differently (flexible/adaptable approach), potentially using a blended model – online theory with practical/hands on block training. ▪ Need rationalisation of training providers. ▪ Investigate centre of excellence approach – RTO/private partnership(s). ▪ Need commitment from growers to commit time to the RTOs. ▪ How will increased automation and digitalisation be addressed in training?

Appendix G: Carole Fudge careers case study

Carole Fudge



Industry loves

I love the people. I love the plants. I love that I am still learning every day – that just keeps me interested! Most of all, I love that the work we do every day is important for the planet we live on. We all have a deep connection to nature and those of us who are fortunate enough to call it 'work' are the luckiest of all.

Current Role

Sales and Marketing Manager
Benara Nurseries, Perth, Western Australia

Responsibilities

Key account management, tracking and managing sales, Greenlife production planning, pre-sale stock assessments, forecasting trends and strategic planning for marketing and communications.

Skills required

Good communication skills are very important, a love of people, love of plants and willingness to learn and embrace change. Adaptability is also needed these days as the world changes so quickly, as well as being a quick thinker and always solutions focused.

Career Highlight

I have been given the tremendous opportunities to regularly travel interstate to visit other nurseries. I've also travelled overseas to plant trade fairs looking for new plant varieties, innovation and marketing ideas. I have been extremely privileged to join the Advisory Panel for Hort Innovation. This has been one of the most meaningful experiences where I have worked alongside a talented team of industry professionals identifying strategies to highlight the importance of Greenlife in our lives and in our cities. This has been very rewarding and educational.



Carole grew up in Yorkshire, UK where her deep love for nature began by escaping to the woods and roaming the moors. Carole's mother, a keen gardener, shared her love of greenlife, teaching Carole the names of plants as they nurtured their garden of vegetables, flowers and trees.

"I didn't realise until much later that she was giving me a great gift of knowledge."

Carole arrived in Australia as a teenager and at seventeen, attended secretarial college to study bookkeeping. Carole's first role after college was in a Nursery. It happened to be a family run Retail Nursery, rather than an early childhood kindergarten as she had expected. Carole was mentored over the next few years learning more about plants, pests and diseases, the industry, the people and life lessons in general.

"I quickly worked out that I thoroughly enjoyed being in the nursery and was able to balance time working in the nursery with the plants and customers, with the bookkeeping in the office".

In her 40 years in the industry, Carole has held roles in retail and production nursery operations. During this time Carole has developed a sound understanding of greenlife practices as well as plant identification.

Carole has met some truly lovely, honest, hardworking and thoughtful people over the years in this industry. She explains there is a joy in watching things grow, the changing of the seasons and flowers unfurling. There are always challenges, failures and successes, dealing with the natural world, but there is a level of exhilaration and an energy that takes your breath away.

"Wouldn't change a thing, other than to say I wish I had gone to Horticultural College rather than secretarial college when I was 17!"

Appendix H: An introduction into working in the Australian Greenlife industry

Introduction to Greenlife - 3 day course

An introduction into working in the Australian Greenlife Industry

A course for those seeking a career in the nursery and garden industry

This introductory course is designed* by industry to encompass identified industry skills knowledge gaps that include:

1. Safe work practices
2. Plant and soil science
3. Growing and propagation
4. Emotional intelligence, team and people skills, professional skills
5. Business skills (including retail sales)

*Greenlife industry businesses were surveyed to understand and advise the basic knowledge requirements for newcomers to the industry with a view to establishing an introductory course

Greenlife industry pathways


Qualifications / Courses


Horticulture Career Outcomes


Production Nursery Career Outcomes

Retail Nursery Career Outcomes




Introduction to Greenlife





 Horticultural trainee


 Production nursery trainee

 Retail nursery sales trainee




Certificate II


 Horticultural Assistant
 Nursery worker
 Flower grower


 Assistant horticultural crop farmhand
 Farmhand (production horticulture)
 Farm hand (viticulture)
 Production nursery assistant

 Retail nursery sales assistant



Certificate III


 Horticulturalist
 Senior nursery worker
 Floriculture tradesperson


 Production nursery tradesperson

 Retail nursery tradesperson


Certificate IV



 Horticultural team leader
 Protected horticulture supervisor


 Production nursery supervisor

 Retail nursery supervisor


Diploma



 Horticulture Manager


 Production horticulture farm manager
 Production nursery manager

 Garden centre manager

Advanced Diploma

 Horticulture Business manager

 Agribusiness enterprise business manager
 Horticulture business manager

 Horticultural business manager

DAY ONE

Subject	Topic	Time	Outcomes
Introduction to industry	<i>Welcome to the industry – it'll grow on you</i>	15 mins	Hype up the importance of the industry, its people and various opportunities. GIA video.
Safety	<i>You're harder to graft together</i>	60 mins	Demonstration of general hazards, PPE and discussion on reporting process within a business.
Site Tour	<i>Step into my office</i>	60 mins	Walk around the business demonstrating the general line of production, the reasons for varied growing structures, equipment and products. Whilst touring each participant can be looking at hazards and suggesting control measures at each stage (filling out a basic Risk Assessment Form).
Equipment (Basic Equipment)	<i>There to make work easier and safer</i>	60 mins	A look into the basic tools and equipment used in nurseries including safe use, maintenance and storage. (Secateurs, trolleys, sprayers, fertiliser doses etc)
Growing Media/Potting	<i>Not just dirt</i>	60 mins	Looking at what it is made of, how to handle it safely and machinery including potting machine. Potting and repotting procedures.
Manual Handling	<i>Because they can't walk themselves</i>	60 mins	A look at common manual handling needs and practices in a nursery demonstrating proper technique
Plants Identification	<i>... "It's green and has white flowers"</i>	30 mins	Looking at how plants are arranged and labelled within a nursery site, how they can be correctly identified.
Recap/Q&A		15 mins	

DAY TWO

Subject	Topic	Time	Outcomes
Toolbox talk		15 mins	Recap on yesterdays and a plan for today's activities
Water	<i>You're on the smart end of the hose</i>	60 mins	Discussion on the importance of watering in nurseries, different watering requirements and methods, signs of water stress in nurseries and proper technique. Basic irrigation maintenance
Chemical Control	Safety first	30 mins	A brief overview of chemical safety, storage and application in readiness for proper chemical accreditation.
Pests and Diseases	<i>Plant foes and allies</i>	60 mins	Looking at common pests/diseases and disorders found within a nursery, as well as within the supply chain (Dispatch inspection). Tools that can be used to identify and procedures for control
Weeds (Practical)	<i>The more you know the less you'll grow.</i>	60 mins	Detail the common weed varieties found within a nursery, as well as within the supply chain (Dispatch inspection). Tools that can be used to identify and procedures for control
Biosecurity	<i>Bigger than any one business</i>	60 mins	An extension on the weeds, pest and disease units and look into the wider implications, hygiene within a nursery and protocols
Plant Nutrition	<i>Food for thought</i>	60 mins	Looking at the importance of plant nutrition, fertilising methods and recording
Recap/Q&A		15 mins	

DAY THREE

Subject	Topic	Time	Outcomes
Toolbox talk		15 mins	Recap on yesterdays and a plan for today's activities
Nursery Plant Maintenance (Hands on)	<i>It's in your hands</i>	60 mins	Show common plant maintenance tasks such as pinching out, pruning, shaping, spacing, etc.
Propagation	<i>The next generation</i>	60 mins	Looking at common propagation techniques, structures and procedures in a nursery as well as juvenile plant care
Merchandising	<i>Don't just grow it ... show it</i>	60 mins	A look at basic merchandising including general presentation, signage, spacing, etc.
Growing Media/Potting	<i>It's not just dirt</i>	60 mins	Looking at what it is made of, how to handle it safely and machinery including potting machine. Potting and repotting procedures.
Communication	<i>Speak for the trees</i>	60 mins	Communication skills and protocols within the workplace, as well as communication with prospective customers and clients. Touching on sales techniques, question types.
Wrap up and Q&A	<i>Branch out</i>	45 mins	Wrap up of the 3 day course. Students should be reassured of the fact they don't need to know all of the answers after completing this course, just how to ask some of the right questions of their supervisors.

Subjects and associated units

Appendix I: Train the trainer powerpoint

Training your employee for the Greenlife Industry



Introduction

When you hear the word “Learning” what is the first thing you think of?

The dictionary defines learning as the acquisition of knowledge or skills through study, experience, or being taught.

An old proverb says:

Teaching is more than telling; learning is more than listening.



What is learning?

Learning is the process of acquiring new understanding, knowledge, behaviours, skills, values, attitudes, and preferences. (You can't learn anything for anyone.)

Training is the concerted sharing of knowledge and experience

A **trainer** inspires, motivates, encourages and educates learners.



Aim of this PowerPoint

The aim of this course is to provide you with the background knowledge to be confident in training your employees (learners) on content that you know like the back of your hand.

You are already a successful horticulturalist but are you a good trainer?

Through this PowerPoint we run through various attributes to being a good trainer and how to successfully impart all the knowledge required for your learners



Learning styles

Tell me, and I hear. Show me, and I see. Involve me, and I learn.
- Confucius

Visual learners – “Show me.”

They will rely on pictures, graphs, diagrams and illustrations and would like handouts or writing on a white board or flipchart

Auditory learners – “Tell me.”

They will listen attentively to your voice and actively participate in discussions. They will respond to clear instructions and questions

Tactile learners – “Let me do it.”

They need to do something physically to really understand it.



Training styles

There are many training styles you can incorporate into your training sessions such as

The Authority method, also known as **the lecture style**

The Demonstrator method, widely known as **the coaching style**

The Facilitator style recognized also as **the activity or action method**, tries to encourage self-learning through peer-to-teacher learning

The Delegator style, or **group method**, is used for school subjects that require group work, lab-based learning, or peer feedback

Last, but not least, **the Hybrid method**, also known as **blended learning**, an integrated teaching style that incorporates personal preferences, individual personalities, and specific interests into their teaching



Training styles

You can't reach every student with a single training style.

You must pay attention to what your learners need and adjust as necessary

The Hybrid method is essentially a 'master style' that lets you pull in the best parts of all the other training styles as necessary.

Which training style should you use? All of them

Define yourself as a trainer who's masterfully in-tune with the needs of your learners, and adjust your style to match those needs.

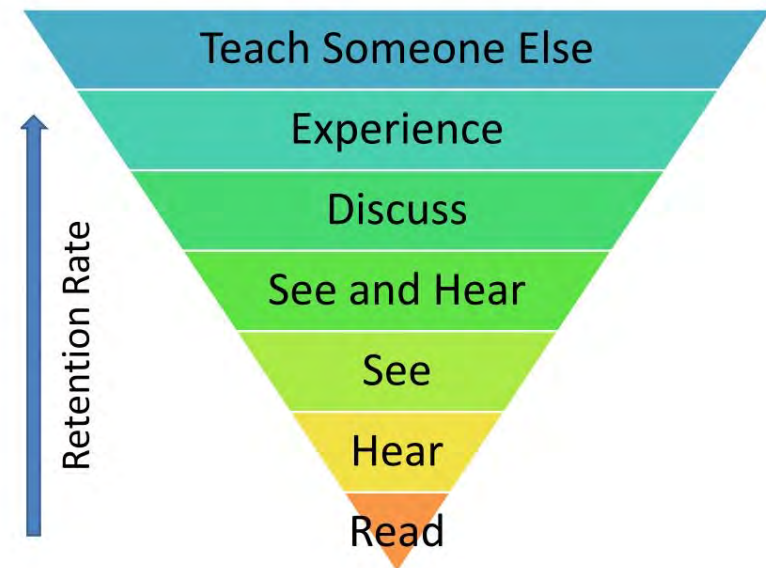


Training a practical skill

Set up practical activities by using methods that involve our senses

Research suggests people retain

- ✔ 10% of what they read
- ✔ 20% of what they hear
- ✔ 30% of what they see
- ✔ 50% of what they see and hear
- ✔ 70% of what they hear and tell back and,
- ✔ 90% of what they hear, tell back and demonstrate



Learning retention increases as direct involvement increases.



Applying your practical training skills

Training practical skills requires using very precise instructions to enable the learner to follow the process and to repeat the skill.

Step 1

Demonstration of the skill at normal speed, with little or no explanation

Step 2

Repetition of the skills at a slower pace with full explanation, encouraging the employee to ask questions



Applying your practical teaching skills

Step 3

The trainer performs the skill for a third time, with the learner providing the explanation of each step and being questioned on key issues. The trainer provides necessary corrections. This step may need to be repeated several times until the trainer is satisfied that their employee fully understands the skill.

Step 4

The learner now carries out the skill under close supervision describing each step before it is taken



Ensuring effective feedback

Feedback is crucial to effective learning in the following ways

- ✔ Feedback identifies the present state of learning
- ✔ Feedback highlights what needs to be learned and suggests how to proceed with such learning
- ✔ Feedback monitors progress in learning, helping to diagnose problems quickly and find effective solutions
- ✔ Feedback provides positive reinforcement for learning achievements



Key tips on giving feedback

Give feedback, sooner rather than later

It is most useful to provide feedback as soon as possible or even during practical training. This enables your learner to make necessary changes to their technique and more likely to see the importance of technique.

Incorporate the positive (where possible)

Sometimes feedback we give to learners is not positive.

For instance if they have clearly misunderstood a key step in process, then what we have to say to them will naturally contain negative points.

However, we should be able to offer our learners something positive through our feedback to turn a negative into a positive

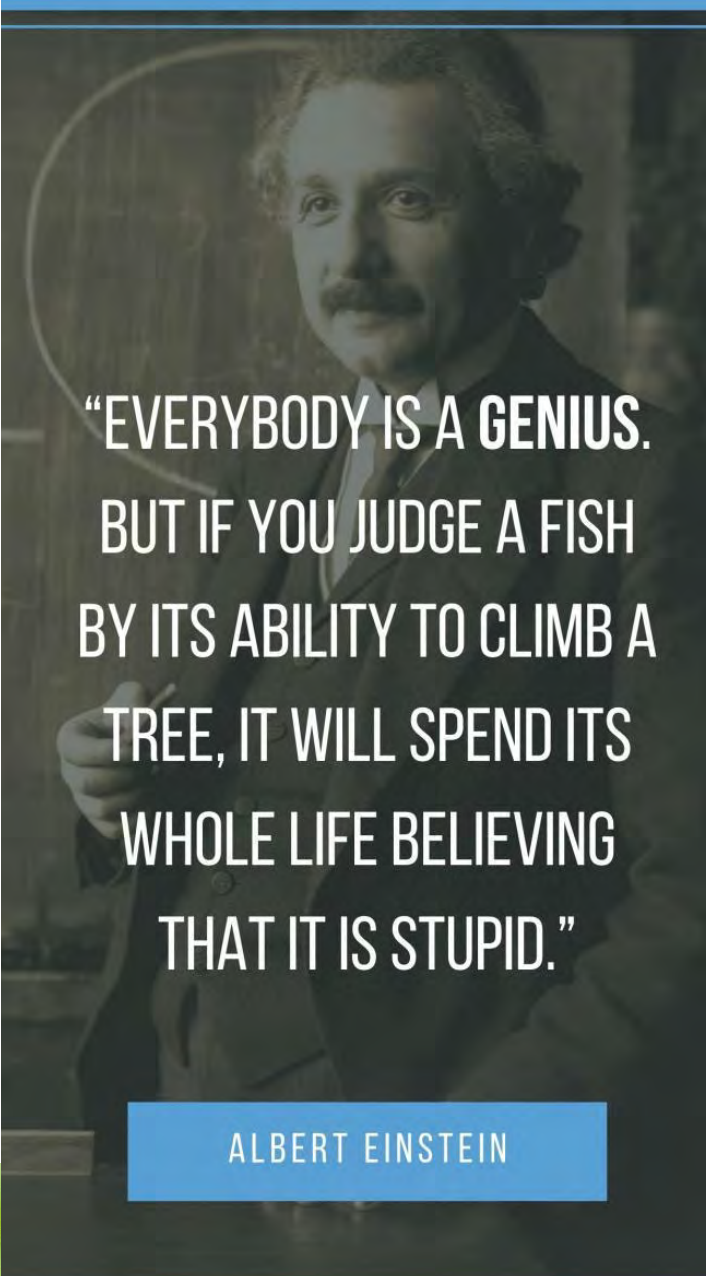


Key tips on giving feedback

Use feedback as a two way process

Encourage learners to articulate any concerns they may have.

The more you understand the difficulties they are encountering in learning specific techniques, the greater the chance you will be able to effectively train the correct techniques and providing the right feedback in the best manner



“EVERYBODY IS A GENIUS.
BUT IF YOU JUDGE A FISH
BY ITS ABILITY TO CLIMB A
TREE, IT WILL SPEND ITS
WHOLE LIFE BELIEVING
THAT IT IS STUPID.”

ALBERT EINSTEIN



Training Adults



Understanding adult learners

Hands on

Most people who choose to work in Greenlife Industries are practical people who will learn more from hands-on experience and real life examples they can relate to. Ensure sufficient time is spent 'doing' than complex theoretical learning, where possible.

Make it fun

As well as energising your learners and making everyone more relaxed, a laugh will often help to recall information from that session. Build in ice-breakers to 'wake people up'.

Collaboration

If you consider adult learners as collaborators, they will be more engaged and productive.



Understanding adult learners

Broad knowledge and experience

Adult learners often have **broad knowledge and experience** from other careers, travelled extensively or just had a long life. Consider and acknowledge this in a session – they usually have additional information to share.

Respect

Adult learners respond well to trainers who acknowledge their contributions

Adults are focused on Problem Solving



Principles of adult learning

Adults prefer situations which:

- ✔ are practical and problem centred
- ✔ promote their positive self esteem
- ✔ integrate new ideas with existing knowledge
- ✔ maintain respect for the learner
- ✔ capitalise on their experience
- ✔ allow choice and self direction



Principles of adult learning

Adult learning occurs best when it:

Is self-directed

Adults can share responsibility for their own learning because they know their own needs.

Fills an immediate need

Motivation to learn is highest when it meets the immediate needs of the learner

Is participative

Participation in the learning process is active, not passive

Is experiential

The most effective learning is from shared experience; learners learn from each other, and the trainer often learns from the learners.



Principles of adult learning

Is reflective

learning from a particular experience occurs when a person takes the time to reflect, draw conclusions and derive principles for application to similar experiences in the future

Provides feedback

Effective learning requires feedback that is corrective but supportive

Shows respect for the learner

Mutual respect and trust between trainer and learner help the learning process

Provides a safe atmosphere

A cheerful, relaxed person learns more easily

Occurs in a comfortable environment

A person who is hungry, tired, cold, ill, or otherwise physically uncomfortable cannot learn with maximum effectiveness.



Project or problem based learning

This is an approach that best suits adult learners and especially people who are working.

It allows learners to:

- ✔ Make decisions about the project or problem they want to work on, including how they work and what they want as an outcome
- ✔ Work for an extended period to investigate and find solutions to a complex question or problem
- ✔ Work in teams, collaborate and learn from others in the team
- ✔ Select the level of challenge
- ✔ Apply principles of project management and systematic approaches



Stimulated learning

The greater the combination of our senses that are stimulated in learning, the more successful learning is likely to be

If we learn 83% through the sense of sight, what do trainers need to do?

- Use lots of visuals and practical applications



Training young adults

Training of young adults differs from that of others.

They are used to:

- ✔ constant stimulation
- ✔ short bits of information (Twitter or Instagram style)
- ✔ instant feedback (& praise)
- ✔ interactive learning
- ✔ experimenting
- ✔ attractive 'packaging' of information and;
- ✔ Freedom of choice.



Training young adults

Young adults are 'digital natives', always connected and open to peer group influence.

Training for them requires:

- ✔ Flexibility in approaches and timing
- ✔ A range of methods and media including e.g. creative e-learning, virtual training hubs, experiential learning
- ✔ Personal engagement and coaching

Young adults easily reject what they do not like and disengage.



Preparation For Your Training



Prepare yourself

You will enjoy the training and gain respect from learners if you observe these principles:

Show passion and enthusiasm

If you show genuine interest and enthusiasm for your topic, apart from knowledge you will inspire your learners

Be patient

Not everyone grasps new information and instructions at the same pace. Your training may have people with a wide variety of ages, experience, skills and education. Patience, tolerance and understanding will encourage all

Be professional and respectful

Make sure you have all the up-to-date information on your topic. Respect the knowledge and context of your learners.



Prepare yourself

Involve learners

Remember most have some knowledge and want to be acknowledged, find out what they know and what they want to get out of the training (even an introduction to a new, 'hands-on' job is training)

Communicate well

Be relaxed, smile, be sincere, have good eye contact, acknowledge everyone

Be Clear and Be Concise

Convey your message using as few words as possible. If you are excessive with your words, the listener will either lose focus or just be unsure as to what it is that you want



Effective communication is a key element of good training



Plan Your Training



Ideal learning objectives

- ✔ Create
- ✔ Evaluate
- ✔ Analyse
- ✔ Apply
- ✔ Understand – Describe, Explain back
- ✔ Knowledge – Remember



Aspects of training to identify

- ✔ Identify learning objectives (e.g. knowledge or skill)
- ✔ Identify training methods / resources / activities
- ✔ Identify learning evaluation strategies
- ✔ Provide a description of the expected performance
- ✔ Describe how well the performance must be demonstrated
- ✔ Provide the outcome required from the learner
- ✔ Develop a training outline for the session



Plan your training

Many effective training programs will incorporate multiple approaches

This will work best when the goals of training are clearly articulated

For Instance:

- ✔ What is the goal to understand propagating?
- ✔ What information needs to be imparted?
- ✔ What practical approaches need to be used?
- ✔ What tools are required for training?



Facilitating training

Deliver training that is applicable/relevant and beneficial

If not, the learner will lose interest and consider the time wasted.

Set realistic timeframes

Don't try to pack too much in or not have enough to do in the session. Allow for discussion and feedback

Set clear and realistic goals

state what will be learned in each session and don't make the training too hard or too easy as the learners will lose motivation and/or concentration.



Facilitating training

Present information in different ways

use various means of imparting knowledge, web, online tools, books, handouts, whiteboards, PowerPoint presentations, YouTube, discussion

Engage learners

build in interaction with learners, don't 'stand and deliver' classroom style lectures



Training your employees

Demonstrate

Interactive sessions are most effective. Talk for five or so minutes and then encourage discussion, do experiments or field work, view displays, watch YouTube videos or DVDs or listen to a guest speaker.

Practice

Most learners will retain more knowledge from hands-on experience so allow opportunities for this wherever possible.

Revise and debrief

Include revisions and debrief discussions; don't assume that if you have said something once that it has been understood and is remembered.



Training your employees

Check for understanding

Ask helpful questions that start with 'what' or 'why', use quizzes or observe learners working on tasks, help those who struggle

Give constructive feedback

Learners like to know if they are on the right track to reach the objective

Ensure individual can feel they succeeded

at least in most aspects of the training



Don't abuse the attention span

Attention plays a crucial role in learning.

Without good attention, learning is likely to be partial and ineffective

Of course, our ability to maintain attention is greater if we are engaged and motivated



Creating a supportive learning environment

A **supportive learning environment** is less about the physical **classroom** and resources (though these are important) than it is about values and relationships.

In a genuinely **supportive learning environment**, every learner feels valued, included and empowered.

Supportive learning environments can validate the presence of individuals and encourage participation and involvement.

No one likes to fail, and unfortunately it is often the students who most need help who are afraid to ask for it.

The earlier you identify problem areas, the more likely it is that you and your learner will be successful in resolving them.



Some things to remember

Politeness

crucial for gaining respect and, therefore having their undivided attention

Positive

Always keep a **positive** tone in your voice

Be enthusiastic

Be **enthusiastic** about the information you are imparting so they will want to listen to what you have to say

Reflection

Reflect on the important issues of the session where learners can share their concerns, challenges, compliments and 'wow' moments



Some things to remember

Be energetic

Learners will be energised if you are enthusiastic about the information you are imparting.

Activities

Adults learn when they are actively involved in participation

Listen

Listen to what they find easy or difficult to understand and think about how that sign / process / direction might be improved so that it's easier to understand.

Share experiences

Your own personal experiences or anecdotes will interest them and sharing their own stories, when appropriate, will enrich their learning experience.



Some things to remember

Encourage

Gentle persuasion and encouragement should be used for those who are reticent about voicing opinions or answering questions.

Support

Let your learners know where they can find the information again (handouts or signs on walls) or who they can ask if they forget or need more help – someone other than yourself experienced in the workplace who can provide positive responses (incase you aren't around)

Be flexible

Sometimes the best intentions may go awry – the activity didn't work; the discussion took twice as long, or the practical fell flat. Don't panic – if you kept on topic in some form, the session was still a success!

Have fun - Learning shouldn't be boring!



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Email: info@greenlifeindustry.com.au



Facebook

<https://www.facebook.com/GreenlifeIndustryAU/>



Twitter

https://twitter.com/Greenlife_AU



LinkedIn

<https://www.linkedin.com/company/greenlife-industry-australia/>




Website

www.greenlifeindustry.com.au



Thank You

Enjoy your next training session

 <p>Hort Innovation <small>Working for your investment</small></p>	<p>NURSERY FUND</p> <p>This project has been funded by Hort Innovation using the nursery research and development levy and funds from the Australian Government. For more information on the fund and strategic levy investment visit horticulture.com.au</p>
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Appendix J: National and international recommendations and ideas v2

Summary of Nursery links and ideas

PROFESSIONAL DEVELOPMENT

LINKS TO COURSES AND FUNDING

- <https://www.unimelb.edu.au/professional-development/courses/melbourne-microcerts/find-a-melbourne-microcert/people-and-change-in-agriculture>
- <https://www.aapathways.com.au/insiders-advisers/events>
- <https://mailchi.mp/0f68ce714e72/new-financial-year-new-funding-and-scholarships-855230?e=f0362eca58>

TABMA TRAINING CERT III IN QLD IN PRODUCTION NURSERY (FROM IAN ATKINSON QLD NGIQ)

- See Appendix 1
- Queensland NGIQ is taking advantage of federal government wage subsidies to ensure the right qualifications are being taught.

HORT MASTERCLASS DELIVERED BY UNIVERSITY OF TASMANIA (UTAS)

- Here is some detail about the course development from Dr Claire Knowles (UTAS):
 - The Masterclass in Horticultural Business is a recently developed national course requested by and tailor made for Australian business managers and entrepreneurs in horticulture. The University of Tasmania (UTAS) developed the Masterclass with funding from Horticulture Innovation and developed the course structure and content in collaboration with the internationally-recognised higher education providers, Wageningen University and Research (Netherlands) and Lincoln University (New Zealand).
 - The students who have completed the course to date are accredited by the University and graduate with a Diploma in Horticultural Business. Contact Claire (E: c.i.knowles@utas.edu.au) for any changes to this.
 - The nursery industry is supporting scholarships to cover the course fees for nursery industry levy payers again in 2021.
- There is an enquiry button on this webpage:
 - <http://www.utas.edu.au/horticulture> or Email: hort.bus@utas.edu.au
 - Masterclass in Horticultural Business WebPage.

NATURE CONNECTIONS FOR WELLBEING – SCHOOL OF ECOSYSTEM AND FOREST SCIENCES, UNIVERSITY OF MELB COURSE

- See Appendix 14.
 - From Claire – see above details who is happy to be contacted
- Recent piece with testimonials from Dan Ewings
 - <https://yourlevyatwork.com.au/update-masterclass-in-horticultural-business/>
- Others include: May 2020 story on James Edge, Nursery Papers Sept 20 featuring several past students, Podcast Nov 2019 – David Monckton course lecturer at the time, paper featuring Nathan Wells Sept 2019 which have been forwarded to GIA.

FURTHER INSPIRATIONS FOR FUTURE CASE STUDIES

- https://www.careerharvest.com.au/career-videos/?utm_source=PIEFA+Newsletter.

CAREER HARVEST

- https://www.careerharvest.com.au/scholarship/?utm_source=PIEFA+Newsletter&utm_campaign=b4bf5d8500-EMAIL_CAMPAIGN_2020_09_14_02_03&utm_medium=email&utm_term=0_05f316f859-b4bf5d8500-20223701&mc_cid=b4bf5d8500&mc_eid=0f09f1fb9e.

POTENTIAL FOR ONSITE FLYERS/DISPLAYS

- (Or use of the case studies) at parks and gardens or where people are naturally interested and attracted to Greenlife (e.g., retail nurseries). This approach has been used in <https://longwoodgardens.org/education>

CAREERS MINDMAP

- Example from Agriculture – see Appendix 3.

IN-SITU PROMOTIONAL IDEAS FOR CAREERS FROM THE US

- See Appendix 10–13.

QUALIFICATIONS AND VET

AQF QUALIFICATIONS FRAMEWORK

- <https://www.aqf.edu.au/aqf-levels>

EXAMPLES OF A VET SCHEMATIC

- From P17 see link below. Attached a list of training packages including those relevant to greenlife
 - https://www.pmc.gov.au/sites/default/files/publications/strengthening-skills-independent-review-australia-vets_1.pdf
- From Brotherhood from St Laurence
 - See Appendix 2.

VET OUTCOMES FOR STUDENTS

- Quote from PWC report on whole-of-system approach to enhancing career support mechanisms for all Australians <https://cica.org.au/wp-content/uploads/Career-and-Skills-Pathways-Project-June-2017.pdf>.
- Providing these people with information and support is particularly important in removing the misconception that VET has poorer income and employment outcomes than universities when in fact:
 - VET graduates earn a median income of \$56,000 within six months of graduation, compared to \$54,000 for a Bachelor’s degree
 - VET graduates have a higher employment rate than bachelor’s degree graduates, with 84 per cent of apprentices employed within six months of completing their apprenticeship (as noted in Section 2.1.4)
 - VET provides training for 9 of the 10 occupations projected to grow the fastest over the next five years.

STRENGTHENING SKILLS

- Expert Review of Australia’s vocational education and training system, The Honourable Steven Joyce, 2019 – See Appendix 6.

THEMES OF VET REFORM – SKILLS IMPACT, 2020

- See Appendix 7.

TECHNICAL INSTITUTE OF VICTORIA

- Are seeking to use Hagley Farm to deliver practical elements of their horticulture courses.

GRAIN TRADE AUSTRALIA

- Has developed their own training plan and industry trainers and then got them accredited
 - http://www.graintrade.org.au/training_development.

CAREER PATHWAYS

Table-1: Career pathways examples

CAREER PATHWAYS EXAMPLES	
1.	Attracting Youth into Agriculture – Developing a strategic framework to encourage young people to pursue a career in agriculture. A report for Nuffield Australia by Claire Peltzer, June 2020. See Appendix 4.
2.	Grow your Career <ul style="list-style-type: none"> ▪ Andreasens Green flyer – See Appendix 5.
3.	Career Development Service System <ul style="list-style-type: none"> ▪ Current State. See – Appendix 8 – Doris do you remember where this is from? ▪ This diagram depicts the complex and multi-layered training and job/career development system in Australia.
4.	Training and Education summary of higher education, VET and competency based training for this project, Doris Blaesing <ul style="list-style-type: none"> ▪ See Appendix 9.
5.	AgHort training system diagram

CAREER PATHWAYS EXAMPLES

- Career development map – defining the problem from key participant perspectives, RMCG, RBT, Optimum standard, 2021 – see Appendix 15.

6. The Australian Garden Council – promoting careers for young people in horticulture.

- <https://gardencouncil.org/p-careers-26.aspx>

7. Forest Education Foundation – flyer promoting forestry careers

- See Appendix 16.

8. More forestry examples for primary school students <http://www.forest-education.com/our-programs/primary-programs/> and <https://www.arbre.net.au/>.

9. Career NZ has a number of tools to tailor information 'subject matcher – for job ideas based on school subjects 'skills builder' to figure out how to build on current skills and 'careerquest' for job ideas based on interests. <https://www.careers.govt.nz/>.

10. Ceres pathway package <https://ceres.org.au/education/pathways/>

A career pathway program for people wishing to work in horticulture, permaculture or environmental education. Elements include:

- One-on-one supported Pathways Planning to explore and identify your goals and the stepping stones to achieve these:
 - a) Accredited Industry taster courses
 - b) Subsidised Pre-Accredited industry taster courses
 - c) Opportunities to gain work experience through our volunteer programs
 - d) Workshop and Courses in Sustainability.

11. Wayfinder

- [Careers for Women http://wayfinder.org.au/](http://wayfinder.org.au/)
- <https://careemap.wayfinder.org.au/career-map>
- They (wayfinder team) are about to release a Smart Phone compatible version of a career pathway guide with a focus on young people.

12. People in Dairy:

- <http://go.pardot.com/webmail/99032/448431407/3c06995deb5d9ae1e68a97f7af150b921b053ebd4d490c66baa366c968f9d962>
- Pathway for People in Dairy, an industry initiative helping to attract, develop and retain People in Dairy, paving a pathway that supports job-seekers to successfully build their careers with dairy farm employers
- A Pathway for People in Dairy aims to:
 - Encourage job-seekers to explore a dairy farming career and help them prepare for application and recruitment processes – Support new entrants to build skills and knowledge, equip employers with ready-to-use resources to create a safe, supportive workplace and to swiftly onboard and upskill new workers with COVID-19 considerations.
- Contact: Sally Roberts Lead – People, Dairy Australia For more information, visit www.thepeopleindairy.org.au.

13. Learning Creates Australia – Industry pathways

- A group developing new ways to recognise learning to create new pathways for young people and employers <https://www.learningcreates.org.au/>.

CAREER PATHWAYS EXAMPLES

14. <https://keenpartners.com.au/>

15. <https://joboutlook.gov.au/careers/explore-careers:>

- Notes that nursery workers can expect a moderate growth and require medium level skills.
- Horticultural operators – mobile plant operators can expect strong growth and require lower skill level.
- Garden and nursery labourers can expect stable growth and entry level skills.

TRAINING

Building the workforce



CERTIFICATE III IN PRODUCTION NURSERY

AHC31116

Designed for the industry by the Nursery Industry!

Employ a new apprentice or sign up your existing casuals to permanent, or part time staff to full time work, into the Certificate III in Production Nursery and take advantage of the Federal Government Incentives regarding wage subsidies* under JobMaker and JobTrainer programs just announced.

About

Nursery & Garden Industry Queensland (NGIQ) Scholarship Bursary

To ensure NGIQ members take up this and lead the charge in relation to job creation, Nursery & Garden Industry are offering 50% training scholarships to help pay the Apprenticeship tuition fees of \$1584. **This means members only pay \$792! tuition fees.**

Program Delivery

Under COVID-19 restrictions TABMA Training has been working hard to still be able to deliver production nursery units on site face to face. If this cannot be achieved, then Zoom sessions supplemented by eLearning will be offered. It is anticipated that small group training will take place in regional hubs throughout Queensland where Nursery & Garden Industry members are mainly located.

Program Duration

The Certificate III in Production Nursery is normally a 16 unit Apprenticeship which can take up to 18 months depending upon the progress of the Apprentice. If the Apprentice has already done ACDC Chemical Certificate or equivalent then that will count towards the overall program units. If not, it will be included in the overall training program.

Why TABMA Training & NGIQ?

Nursery & Garden Industry Queensland has worked hard over the years to support and develop its members businesses in order to achieve successful outcomes. Upskilling both existing workers and employing new workers is paramount to long-term success. NGIQ is owned by the industry and works for the Industry. We have partnered with TABMA Training (#RTO5343) who are a Not for Profit RTO that specialises in production nurseries with a highly experienced team of trainers/assessors who are regarded as specialists in their field and deliver quality training outcomes.

You will learn to....

The Certificate III in Production Nursery comprise of 16 units of which 11 are mandatory. This specific offering includes the following units:

- ✓ Apply biosecurity measures (AHCBI0305)
- ✓ Prepare and apply chemicals (ACDC) (AHCCHM303)
- ✓ Transport and store chemicals (ACDC) (AHCCHM304)
- ✓ Troubleshoot irrigation systems (AHCIRG306)
- ✓ Maintain nursery plants (AHCNSY301)
- ✓ Implement a propagation plan (AHCNSY306)
- ✓ Implement a plant nutrition program (AHCPCM301)
- ✓ Provide information on plants and their culture (AHCPCM302)
- ✓ Control weeds (ACDC) (AHCPMG301)
- ✓ Control plant pests, diseases and disorders (AHCPMG302)
- ✓ Contribute to work health and safety processes (AHCWHS301)
- ✓ Pot up plants (AHCNSY201)
- ✓ Prepare specialised plants (AHCNSY305)
- ✓ Operate machinery and equipment (AHCMMOM304)
- ✓ Receive and dispatch nursery products (AHCNSY302)
- ✓ Assist with soil or growing media sampling and testing (AHC SOL202)

LIMITED PLACES

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TRAINING**



Brotherhood
of St Laurence

Working for an Australia free of poverty

This is one of a series of briefing papers produced by the Brotherhood of St Laurence Research and Policy Centre to provide an overview of the key aspects of Australia's Vocational Training and Education system, from the 1970s to early 2019.

Others in the series include: *Australia's VET sector since the mid-1970s; Participation and transitions; Funding regimes in Australia's VET sector; Emerging skills and competencies, and VET's response; The Victorian VET context; Apprenticeships and traineeships.*

The papers can be accessed at www.bsl.org.au

3. The architecture of Australia's VET sector

Key points

- **The creation of a new National Skills Commission is imminent** (and may mitigate some of the challenges identified below).
- **Blurred accountability poses a problem:** in the absence of a 'strategic roadmap', and when all levels of government fund, purchase and regulate aspects of VET, it is often unclear who should assume responsibilities in various aspects of the system's operation.
- **Contending priorities complicate matters**, with national or state/territory interests, industries' and/or students' needs all at play.
- **Stability in regulation is undermined by uncertain funding**, particularly under the current Skilling Australia Fund—to be replaced in late 2019—which allocates income derived from a fluctuating source (levies on employers hosting skilled migrants).
- **Dual sector provision (by TAFEs and universities) poses challenges:** while both sectors provide the same qualifications (diplomas and advanced diplomas) they must comply with standards from different regulatory bodies.
- **The status and role of TAFEs is uncertain.**
- **International trends** highlight the delicate balance needed in designing regulatory frameworks, and the risks posed to teaching by ill-suited frameworks.

Australia's VET roles and responsibilities

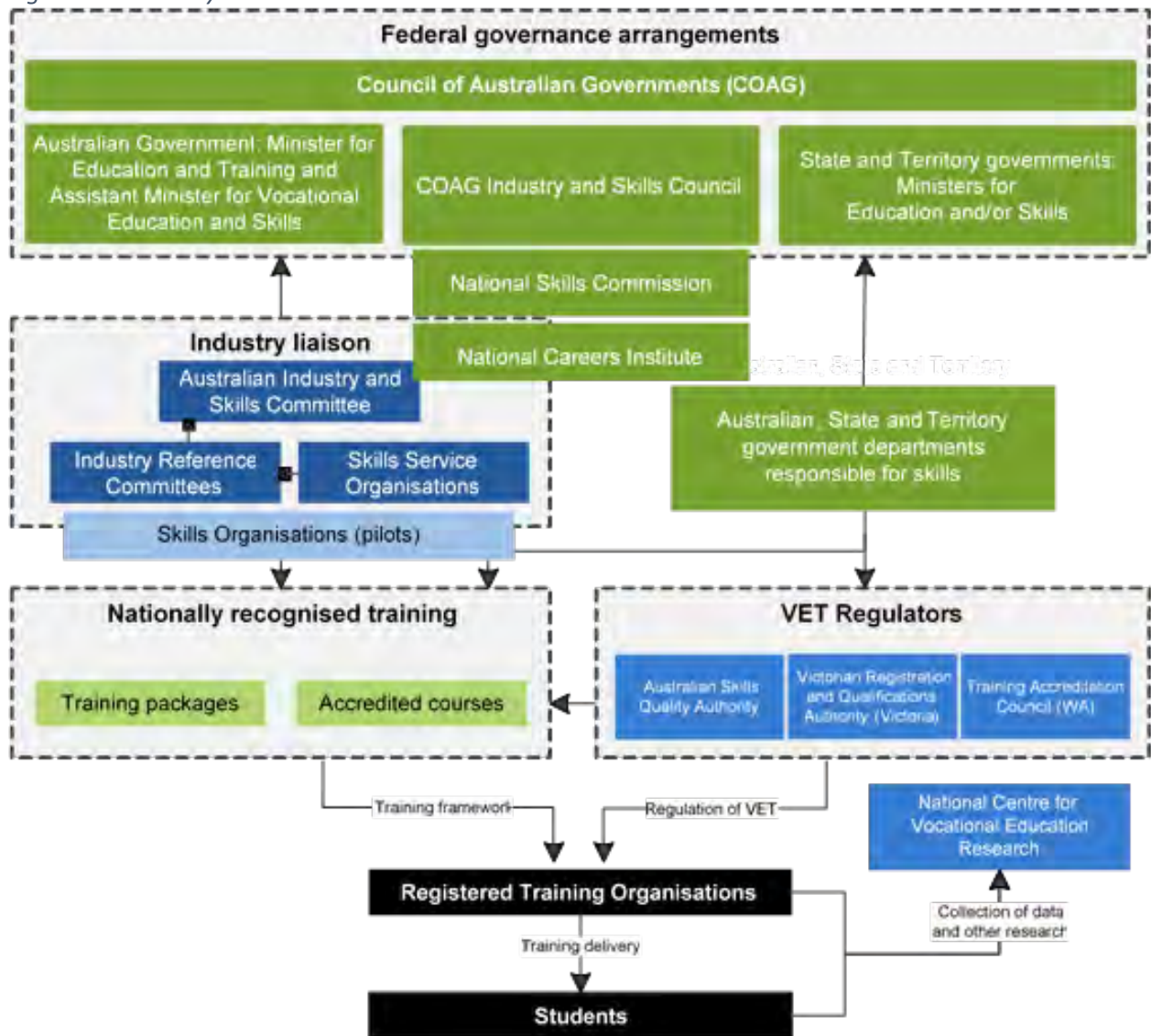
The central body in Australia's VET system is the **COAG Industry and Skills Council**. In relation to regulation, the most important is the **Australian Skills Quality Authority**. ASQA was created in 2009 to regulate national standards for training providers (numbering more than 4000), for courses and for industry-maintained training packages (Victorian and WA governments maintain independent regulators⁴).

As part of the Commonwealth Government's Developing Skills for Today and Tomorrow reform package (DESSFB 2019), a **National Skills Commission (NSC)** will be created to oversee the sector's funding. The NSC, which will sit under the COAG Industry Skills Council and ASQA, will oversee data collection and skills demand forecasting and develop system-wide performance indicators. It will also oversee another new creation, the **National Careers Institute (NCI)**, which takes the lead in promoting all aspects of careers development for learners. Industry views are conveyed through the **Australian Industry and Skills Committee**, itself working closely with **Industry Reference Committees**, and **Skills Services Organisations** (the IRCs and SSOs develop and maintain training packages, which form the curriculum for specific sectors). The **National Centre for Vocation Education Research** is the main repository of data on VET, obtained via

⁴ Victoria retained its powers in the Victorian Registrations and Qualifications Authority out of concern that the national standards did not provide enough to promote students' interests. WA shared these concerns and opted to retain powers in its Training Accreditation Council so it could tailor its system to the state's needs (DPM&C 2014).

the AVETMISS⁵ system and the Universal Student Identifier. Figure 2—adapted from the Productivity Commission (2018)— shows the main bodies that constitute the Australian VET system.

Figure 1 The VET system



Note: Two Skills Organisations are being piloted in 2019
 Source: Adapted from Productivity Commission (2018)

The ambiguous roles of Commonwealth and state/territory governments

In effect, Australia has eight systems involved in VET policy formulation, funding, delivery and regulation. Responsibilities are sometimes unclear. A perennial challenge is to balance ‘national interests’ with those of the states and territories. Table 1—created for an Australian Government White Paper (DPM&C 2014)— shows the relative involvement in different spheres of system activity.

⁵ Australian Vocational Education and Training Management Information Statistical Standard.

Table 1 Roles of states/territories and Commonwealth in VET

Area	State and Territory role	Commonwealth role	Shared roles
Policy	<i>Shared</i>	<i>Shared</i>	<i>High</i>
	Shared responsibility for national policy Responsible for jurisdiction-based policy, including apprenticeships	Shared responsibility for national policy, taking a national leadership role	Both levels of government collaborate in developing national policy
Funding	<i>Lead</i>	<i>Secondary</i>	<i>High</i>
	Majority funder of public TAFE institutes Responsible for allocation of public funds within jurisdiction for main subsidies for VET Fund apprenticeships training in RTOs	Secondary funder of students, including apprentices, through income support, income contingent loans and targeted training programmes Secondary funder of training through national agreements and employers	Both levels of government fund and support training
Delivery	<i>Lead</i>	<i>Secondary</i>	<i>Low</i>
	Responsible for the delivery of policies and programmes associated with VET within their jurisdictions, including contracting (delivery of training is through third parties, i.e. RTOs) Responsible for administration of TAFE institutes	Secondary role in delivery of services for apprentices and in managing delivery of training to certain groups (e.g. new migrants, literacy and numeracy training) (delivery of training is through third parties, i.e. RTOs)	Some areas of overlap in delivery of support services for apprentices and in management of training to certain groups
Regulation	<i>Secondary</i>	<i>Lead</i>	<i>Medium</i>
	Shared responsibility for national standards Victoria and Western Australia are responsible for registration, accreditation of courses and regulation of the domestic sector in their jurisdiction	Shared responsibility for national standards Responsible for registration, accreditation of courses and for regulation of sector (with exception of Victoria and Western Australia) Responsible for oversight of international students	Commonwealth and States and Territories share responsibility for national standards and cooperate in regulation



Source: DP&MC 2014, p. 28

Trends in regulation reform

New standards for VET providers were introduced in 2015, with the emphasis shifting to student outcomes and standards. Main outcomes categories include training and assessment, obligations to learners and clients, and RTO governance and administration. Also ushered in were more consumer protections (e.g. against aggressive and unscrupulous marketing) and more information for students (Bowman & McKenzie 2016). Three major reviews, summarised below, show the emerging trends in reforms to the national VET regulatory regime.

The 2015 ACIL Allen Consulting review of the National Partnership Agreement on Skills Reform (2012–17)

A review of the NPASR—which was succeeded by the current Skilling Australia Fund⁶—made recommendations for future national agreements. Excerpts are reproduced here:

- Reform ...should be guided by the **development of a strategic roadmap** that provides a clear articulation of the role and purpose of VET within the broader education and workforce development system and [that] defines goals for achieving the transition.
- **The architecture of the national training system should be defined and agreed**, determining the elements where consistency across jurisdictions is critical to the achievement of training outcomes, and those where local flexibility is necessary for the achievement of these outcomes.
- **Investment should be made in the development and measurement of performance indicators** that reflect the specific desired outcomes of the VET sector, with careful consideration of the motivations of the student and of the funder, and building on the current data collections and infrastructure established or progressed through the National Partnership Agreement on Skills Reform.
- Any future **reforms should have a greater focus of the skill needs of priority industries**, building on the current increased choice and contestability of training options which, while increasing accessibility, in many instances remain supply driven. This should include more information for students.
- Future reforms should **prioritise clear specification of regulatory and contractual arrangements** to ensure improvements in choice and access are matched by improvements in quality.
- The role and expected activities of the public provider ... should be clearly and transparently articulated, costed and funded accordingly (ACIL Allen Consulting 2015).

The 2017 review of the Australian Skills Quality Authority (ASQA)

An evaluation of ASQA was undertaken to assess whether its functions were consistent with best regulatory practice, and whether the system is able to meet industry and student needs (DESSFB 2018). Some of the Australian Government's commitments for change appear below (excerpted from its response (2018) to the review):

Enhancing engagement between regulator and sector

- enhance ASQA's capabilities/opportunities to engage in regulatory conversations with students, teachers, RTOs, industry and other stakeholders. (Rec. 1)
- clearly articulate to the regulatory community [national and state-based agencies] the principles applied to the interpretation of legislation (2)
- strengthen the regulatory framework by expanding the circle of dialogue around improving the quality of the student journey ...

⁶ The SAF (2017–2022) entails the distribution of \$1.5 billion (levied from employers sponsoring skilled migrant employees) and targets occupations and industries in demand, trade apprenticeships, rural and regional communities, and groups such as those adjusting to structural change. At time of writing, neither Victoria nor Queensland was a signatory to the SAF agreement, though the Commonwealth distributes funds regardless.

Strengthening registration requirements of RTOs

- ensure that entrants to the ... training market be required to demonstrate educational commitment and knowledge of how to provide best practice support to students (4)
- ensure greater scrutiny of new providers (6)
- provide that where an RTO without reasonable justification does not commence providing training within 12 months of being registered, or during its registration ceases to provide training for 12-months, its registration automatically lapses
- prevent RTOs changing the scope of the courses they deliver where they have been operating for less than 12 months
- amend the legislative framework to explicitly address student safety and wellbeing in alignment with the Higher Education Standards Framework (21)

Teaching excellence

- require an RTO to assess the quality of its teaching workforce and develop teacher quality improvement actions (7)
- review the Training and Education Training Package with the purpose of creating a career path for teaching excellence in [VET] (8)
- raise the standards of teaching and training excellence and professionalism ... through creation of the role of Master Assessor (9)

Improving the collection and sharing of data

- prioritise ... policies and systems that allow transfer of real-time data for timely use by other agencies with regulatory responsibilities for identifying and responding to emerging sectoral and provider-based issues (11/12)
- explore ways to increase student response rates to the Student Outcomes Survey
- identify a module of questions that directly address the quality of the student journey in the Student Outcomes Survey

Protecting and informing students

- require RTOs to publish nationally consistent consumer information that is accessible and meaningful to students and meets the basic needs for decision-making (16)
- strengthen ASQA's ability to take action ... against misleading or deceptive conduct, reflecting Australian Consumer Law requirements (17)
- require RTOs to strengthen consumer protection in student enrolment agreements through the use of contracts that avoid unfair terms as defined in Australian Consumer Law (18)
- establish a national Tertiary Sector Ombudsman (23)

The 2019 Expert Review of Australia's Vocational Education and Training System (Joyce review) and the Commonwealth Government's response

At the time of writing, significant reforms were mooted in the wake of the Joyce review (DPM&C 2019). The Commonwealth Government's response, **Delivering Skills for Today and Tomorrow** (DESSFB 2019), accepted many recommendations pertaining to the regulatory and funding architecture of the national system.

The existing ASQA is to be better resourced and made more transparent. It is to assume broader responsibilities and become the single national regulator (subject to agreement with the Victorian and Western Australian governments). It will be resourced to provide better support to training organisations, contribute more to workforce development, maintain a ranking scheme for training organisations and explore the potential for independent assessment of student progress.

A **National Skills Commission (NSC)** will be created to oversee the sector's funding arrangements, and to bring student funding, subsidy levels and funding for VETiS into better alignment. Through the NSC, VETiS

will also be oriented more closely to the interests of industry and emerging vocations. The new NSC will oversee data collection and skills demand forecasting and develop system-wide performance indicators. The NSC will sit under the COAG Industry Skills Council and ASQA.

The NSC will also oversee another new body: the **National Careers Institute (NCI)**. The NCI (and its 'Careers Ambassador') will be charged with the responsibility to publish information on careers pathways and skills demand. It is to oversee a single website (and app) to assist in career development. The NCI is intended also to lead a public marketing campaign to improve the reputation of the VET sector, and help embed vocational pathways into an earlier stage of the secondary school curriculum. It will manage a grants program open to schools, employers and training organisations for 'employer-aligned' projects.

The piloting of **Skills Organisations (SO)** is the second significant change to the architecture of the national VET system. The first of these industry-owned organisations – designed to introduce more industry experience to the process of developing qualifications – will be in the growth areas of human services and digital technologies. If the Joyce review recommendations are fully embraced, the SOs will play an active role in supporting apprentices, marketing, ranking training organisations, benchmarking work placement contact hours, designing 'skill sets' or 'micro-credentials', and building links between VETiS and business.⁷

The Delivering Skills for Today and Tomorrow package included a number of reforms that do not require new bodies. We note these briefly:

- the Additional Identified Skills Shortage Payment to employers and apprentices for up to 80,000 new apprenticeships in occupations experiencing national skill shortages; and revised arrangements for the Australian Apprenticeship Incentives Program
- the Jobs and Education Data Infrastructure Project: 'develop a new tool to ... identify skill mismatches, and tailor course offerings to meet demand'
- the Energising Tasmania package (\$17 million).

Selected Joyce review recommendations that remain under consideration.

In addition to the abovementioned recommendations already adopted in the Delivering Skills for Today and Tomorrow package, other recommendations under consideration may impact on disadvantaged learners:

- exploration of funding models for wrap-around supports for disadvantaged communities (Rec. 8.7)
- the promotion of work-based learning (2.5)
- rebranding the entire system as 'skills education' (2.6)
- Commonwealth and states to explore fee-free foundation level education for language, literacy, numeracy and digital (LLN/D) skills up to Australian Core Skills Framework (ACSF) level 2(8.1); and make consistent access to foundation level education (8.2)
- delivery modes of LLN/D that involve RTOs, intensive short courses (e.g. AMEP), and workplace-based (e.g. WEP) (8.3).

Shortcomings of the Joyce review (and of the government's response)

- By 'putting industry at the forefront', employers' interests are privileged. Indeed, employers are enlisted to manage the system.
- There is no equity and access framework per se: instead, disadvantage is addressed through the prism of 'high disadvantaged regional and remote', as well as LLN/D skills.
- TAFES barely rate a mention (Rec. 5.7).
- Reform to the VET Student Loan Scheme is not mentioned.

⁷ The Delivering Skills for Today and Tomorrow package also provides for ten Industry Training Hubs to support school-based VET in rural and remote regions with high youth unemployment, as well as a scholarships program for young Australians. The package also focuses on foundation skills, through a Foundation Skills for Your Future program to assist those who are unemployed or seeking new employment to address literacy, numeracy and digital literacy needs. The program is to have a strong emphasis on Indigenous and remote communities.

- There is little of substance on workforce development.
- There is little mention of Adult Community Education and non-accredited learning.

Largely based on the Joyce review, the replacement for the current national agreement on VET (the Skilling Australia Fund) is scheduled to be announced in late 2019.

Regulatory trends noted in comparable countries

Lessons from reviews of regulation and quality assurance systems beyond Australia are contained in a recent NCVET report (Misko 2015). Themes include the nature and suitability of quality frameworks, standards and indicators; effective regulation; enabling a voice for industry; improvements to teaching and assessment; and accountability and transparency. We note only a few of the most important lessons drawn from international comparisons:

- Streamlining regulation of high-level standards is a worthy process, but risks the creation of additional layers of complex low to mid-level guidelines for practitioners and provider managers.
- Regulation can impact on the quality of teaching. Overly prescriptive compliance requirements and standards can be counterproductive, stifling innovation and undermining the efforts of teachers to engage creatively with learners.
- Outcomes-based measures are important, but their usefulness diminishes if they are not valued by practitioners, learners and other stakeholders.
- ‘Self-assessment/reviewing’ in the process of applying for training provider status has great merit, but entails significant commitment of resources by the prospective provider. This risks undermining the quality of current provision.
- The ideal of ‘responsive regulation’ relies on access to robust data, and data collection systems.
- External assessments of student attainments—by third parties with occupational knowledge/expertise—can play a valuable part in assuring the integrity of the system.

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Careers in Agriculture

Science

- Agronomist
- Ecologist
- Research officer
- Sustainability consultant
- Biosecurity officer
- Livestock nutritionist
- Station manager
- Geneticist
- Food scientist

Business/Law/Economics

- Agribusiness banker
- Policy officer
- Agribusiness consultant
- Agricultural market analyst
- Agribusiness lawyer
- Management consultant
- Regulatory and compliance specialist
- Financial analyst
- Commodities trader
- Agricultural economist
- Sales representative

Maths/Engineering/Technology

- Agricultural technician
- Developer
- Environmental engineer
- Data scientist
- AgTech, product manager
- Mechanical engineer
- Precision agriculture technician

Other

- Rural journalist
- Rural merchandiser
- Design and fashion - natural fibres
- Agriculture teacher, university lecturer



Attracting Youth into Agriculture

**Developing a strategic framework to
encourage young people to pursue a
career in agriculture**

A model for Tasmania

A report for



By Clare Peltzer

2019 Nuffield Scholar

June 2020

Nuffield Australia Project No 1903

Supported by:



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Executive Summary

Youth are the cohort that will provide solutions for future challenges facing agriculture, but youth are generally unaware of the diverse career opportunities offered by the industry.

Dr Hlami Ngwenya of South Africa, coined the acronym PERFECT opportunities to highlight the full breadth of careers from creating agricultural policies to designing technologies for agricultural uses. Lower than required numbers of youth pursuing post-16 studies in agriculture is an international concern.

In response, in the United Kingdom, Professor Louise Archer and her team researched, analysed and then created the conceptual framework of Science Capital. This framework identified eight key dimensions relative to what science the youth cohort knows, how they think about science (their attitudes and dispositions), who they know (e.g. if their parents are very interested in science) and what sort of everyday engagement they have with science. This Nuffield report seeks to apply this framework to achieve the same result in attracting youth into agriculture.

Tasmania could be used as the pilot study state. It is economically dependent on the agricultural industry and currently has a strong foundation of suitable programs/activities into which international examples could be integrated or altered to suit. The ultimate aim being to increase the number of young people entering the agricultural industry to build capacity and resolve current and future issues.

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Foreword

As a secondary agriculture and science teacher and prime lamb farmer, I recognise that I am in a unique position to determine the reasons that attract youth to a career in agriculture. I understand the challenges within the education system, as well as the barriers to entry into a career in agriculture. Building social capacity is a pillar for many Australian primary industry bodies; however, there is not a well-organised or recognised pathway for an excited 12-year-old or post-16-year old undergoing vocational or technical education into a career in agriculture. To explore different pathways into agriculture, I travelled to Belgium, Bulgaria, Canada, Czech Republic, England, Germany, Ireland, Italy, Kenya, Netherlands, New Zealand, Qatar, Romania and the United States of America.



Figure 1. Clare Peltzer (Terry, 2019)

My unique position

As a teacher

Schools are institutions where young people learn about the complex interactions that occur in everyday life post-16 years. It provides them with the foundations for becoming an active member of the community and the skills to thrive in their surrounding environment. From the age of five, youth interact with peers, teaching staff and information where they decide to agree, disagree or be indifferent to ideas posed. This is where the ‘teachable moments’ come about. They create their identity through these years and build an understanding of a possible career path. Hence, the school system is a perfect environment to expose students to an understanding of global and local food and fibre production systems.

When I was a child, my aunt suggested that I would be a good teacher, as I had an interest in passing on knowledge to my younger family members. At 18, I worked at a summer camp in Canada with 6 – 12-year old girls and then altered my Primary Education degree to a Combined Secondary Education and Science degree at the University of Sydney. After five years of studying and six years of teaching in two different schools (from a low socio-economic public

school in New South Wales to a private independent school in Tasmania), I found my niche in teaching agriculture to 13-18-year-old students.

The syllabus for any course is the written document that is open to interpretation and scope for personalisation. The 'what' you teach is outlined, but the 'how' you teach it is where a teacher can play a vital role in the student's engagement with the content. Timing and ratio of theoretical knowledge to practical application is also a source of personal preference by the individual teacher. Furthermore, the academic rigour of the course can be inherently altered by the expectations from the leading teacher. Therefore, the teacher is fundamental when looking at the pathways pursued by youth post-16 years.

As a farmer

I have recognised youth as a crucial collection of people within the farming community. They bring an energy and vibrancy to the sector, they are generally the first ones to adopt new technologies, implement new ideas and apply the latest research into their practices. Youth can be a more flexible portion of the labour force where they generally do not have dependents, so are available for late-night harvesting, early-morning milking and regional, seasonal work picking fruit. They are a highly motivated and cost effective for certain labour requirements, such as at tiling. Although requiring more guidance, time and resources during the teaching phase, they are an asset to every farming team.

However, youth need to be nurtured with:

- Further education as a mandatory inclusion to their daily work – either through extra vocational or technical training.
- Close monitoring, and mentoring if required, of their first employer who can significantly influence their views on the whole industry and interest in continuing in the industry (Pangborn, 2019).
- Knowledge of their rights and responsibilities in the business, while being fully supported by the employer (Daw, 2019).
- Recognition of their strengths, and support through any weaknesses.
- Regular appraisal to correct any misinformation early before bad habits are formed.

This nurturing phase is critical for all employers as the youth's continuation in the industry will help alter their perception towards a more supportive and open career option. As Richard Branson aptly stated, *"train people well enough so they can leave, treat them well enough they don't want to"* (2014).

As a member of a large industry body

Building human capacity is commonly a pillar of large industry bodies as they recognise the need to actively attract and retain a workforce. This can either be achieved by people swapping careers or introducing youth into the sector; these two viable options require different methodologies and strategies. Youth is a



Figure 2. Clare Peltzer (far right) with 17-18 year old Agricultural Science students in a crop of hemp, Tasmania (Peltzer, 2018).

hugely significant asset to an industry offering diverse views and a skill set that can help solve current issues. For instance, Meat and Livestock Australia sponsor a scholar every year to explore, learn and disseminate information to help all in the industry.

In summary

- This report aims to provide a unique perspective on the current international issue of how to attract youth into agricultural careers.
- As a teacher, the opportunities and limitations of the schooling system are identified, and improvements suggested.
- As a farmer, the strengths and weaknesses that exist as the primary employer of these youth are explored.
- There needs to be an alignment of all industry bodies to ensure a united and singular approach to attracting youth into agriculture.
- A conceptual framework is introduced that aligns with these perspectives and amalgamates them into a common goal of attracting youth into pursuing agriculture in their post-16 studies.

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I would like to acknowledge the following organisations and people, in no particular order, for the support and guidance throughout researching and writing this report.

Nuffield Australia recognised my passion for the overlap between my careers in agriculture and education to award me this scholarship.

Meat and Livestock Australia for funding my travels to some fascinating countries to learn about many different aspects of the agricultural sector.

To everyone I contacted, interviewed or questioned regarding the challenge of attracting youth into a career in agriculture. Your passion for your industry and patience in sharing your knowledge is commendable.

My incredible network of friends and family who have helped in many ways. I've had a wonderful year learning that 'you don't know what you don't know', so I will continue to ask questions, listen to myself and others and think about how I do what I do, better.

Abbreviations

ACARA – Australian Curriculum, Assessment and Reporting Authority

BERA - British Educational Research Association

CASE – Curriculum for Agricultural Science Education

DPIPWE – Department of Primary Industries, Parks, Water and Environment

DPIRD – Department of Primary Industries and Regional Development

GAP – Global Agricultural Productivity

LEAF – Linking Environment and Farming, United Kingdom

NFU – National Farmers Union, United Kingdom

PERFECT – Policies, Education and training, Research, Farming and Finance, Extension and rural advisory, Communication, Technology and Trade

UK – United Kingdom

Objectives

- Highlighting the imperative need to attract youth into a career in agriculture internationally and within Australia.
- Broadening the perceived definition of agriculture by applying Dr Hlami Ngwenya's PERFECT opportunities acronym.
- Recognise the strength of Science Capital as a strategic framework.
- Adapting and applying the Science Capital framework to agriculture.
- Analysing international programs that could be implemented into the Tasmanian system to fill the 'Ag Bag'.

Chapter 1: Introduction

The imperative need to attract youth into a career in agriculture

Our food and agriculture systems face profound challenges in the 21st century. Consumers need more nutritious food that is affordable and safe; producers seek innovation to help them tackle climate change and natural resource constraints; and the entire agri-food value chain must rapidly adopt new practices and tools that contribute to a healthy, sustainable world (2019 Global Agricultural Productivity Report, 2019). With a growing population that will possibly peak at 9.7 billion by 2050, the common dialogue has been around the ‘how’ to produce more food from less land and distribute it. This report concentrates on the ‘who’ is needed to assist in meeting this goal. *“One key to success in tackling this global challenge is to engage young agricultural leaders and equip them with the knowledge, resources and access to markets needed to produce and distribute food to feed the world”* (International Agri-Food Network, 2018). The rate of innovation and implementation of new technologies needs to be exponential in order to meet these targets, so youth are a crucial piece of this puzzle.

Having visited 16 countries in 2019 alone, it is difficult to pinpoint the exact reason why youth are not choosing a career in agriculture. For example, Ireland have strong numbers studying a university degree in agriculture but have limited numbers of youth interested in farming. On a similar note, Kenya has a high proportion of well-educated youth studying a degree in agriculture; however, they are limited by the job opportunities available post-university (Figure 3). The analogy given was *“too many pilots, not enough planes”* (Barden, 2019). Alternatively, Australia is limited in overall graduate numbers which has led to an excess of graduate positions not being filled (Pratley & Archer, 2017).



Figure 3. Kenyan students studying agriculture at secondary school (Peltzer, 2019).

To simplify the numbers to ensure they are accurate, this report concentrates on the university graduate numbers from agricultural degrees within Australia. The graduate supply does not include the students who choose to study internationally or students completing certificates

from vocational training courses. Despite this movement, the industry saw a grave decline in graduate numbers which ranged from around 1,300 in 2001 to around 550 in 2014 (Pratley, 2017). In his 2017 paper, Pratley noted that there is a '*glimmer of hope*' as the trends are showing more positive numbers due to having 1,500 enrolments in 2016, based on the latest unofficial data from the universities. It will be interesting to learn the number of graduates from this cohort graduating in 2020 after completing their four-year course. This positive trend is reassuring for the industry; however, the industry must not become complacent with these facts. Does this increase in enrolments reflect a notable change within the method to attract these students or is it just a coincidence?

The Australian tertiary education sector relies heavily on the secondary sector to supply suitable candidates into the pipeline for agricultural degrees. Therefore, it is important to recognise that there has been a downward trend in students enrolling in secondary agricultural courses as 17-18-year old's over the past 30 years. Within New South Wales alone, only 1,392 students completed a secondary agricultural science or equivalent course in 2018 compared to approximately 2,500 in 1991 (Randall, 2019). During this same year, only 2,451 students within Australia completed a course in agriculture. These historically low numbers can be explained by the decrease in courses available throughout the whole schooling system. It is not a compulsory course within the Australian Curriculum, Assessment and Reporting Authority; therefore, it is up to the individual school to include a course into their already tight curriculum.

If a school chooses to include an agricultural course into their curriculum, it needs to clearly aim for either agricultural literacy (education about agriculture) or technical/vocational agriculture (education in agriculture). Agricultural literacy provides students with the general knowledge about food and fibre production so they can become well-informed consumers, while technical/vocational agriculture prepares students for a career in agriculture post-16 years old. This report concentrates on highlighting the strengths and limitations in the education system for youth to pursue a career in agriculture. In addition, youth from both farming and non-farming backgrounds should be equally targeted to pursue a career in agriculture post-16 years old. Although some may say it is best to concentrate on youth from a farming background, this report recognises the opportunity to encourage non-farming background youth into agriculture. The current cohort of agriculture enrolments at the University of Tasmania has approximately 60% from a non-farming background (Jones, 2019).

Furthermore, non-farming background students come with a different, but easily transferable, set of skills that are required for this current change in agriculture.

However, if a school chooses not to include an agricultural course into their curriculum, has it limited the career opportunities into agriculture for its students?

This report will highlight the need to broaden the perceived definition of agriculture to ensure that youth is aware of the career opportunities. It uses the small island state of Tasmania to discuss the alternative pathways that exist to encourage youth into post-16 careers in agriculture. It highlights the necessity of a strategic conceptual framework that ensures 12 to 16-year old's experience timely exposure to agriculture, with the aim of both farming and non-farming background youth ultimately pursuing a career in agriculture. Fortunately, a team in the United Kingdom (UK) created a conceptual framework for identifying the reasons how and why a student chooses to pursue a career in science. This framework can be altered and applied to current programs/activities in agriculture and suggests examples of alternative program/activities that are successful in other countries. The aim is to increase employee numbers within the whole of agriculture in Tasmania.

Chapter 2: Broadening the perceived definition of agriculture

Anecdotally, the majority of interviewees across multiple countries stated that it is imperative to “reframe agriculture as a business choice that is intellectually, socially and financially rewarding, as well as one in which young people can have an incredible impact on issues such as climate change, hunger, displacement, poverty and more” (International Agri-Food Network, 2018). In order to reframe agriculture, there is a dire need to be more inclusive of all sectors of agriculture under the one umbrella. Currently, agriculture is perceived by youth as ‘just farming’ which is the largest and most influential limiting factor to attracting more into the industry. As perception equals reality, the industry needs to change the language used and allow a broader range of career options to fall under the agricultural banner. Within the agricultural industry, it is common knowledge that farming is an important, but not the only sector to be considered, while others outside the industry do not have a grasp on the full extent of jobs available.

The need to sell the full breadth of career options within agriculture is a concept explored by South African, Dr Hlami Ngwenya, where she identified the PERFECT opportunities available in agriculture as an acronym for all sectors and their associated career paths (Table 1). She created it to challenge people to broaden their view to seek alternative pathways to attract brilliant and innovative youth, including those out of the mainstream agricultural field (2019).

Table 1. Dr Hlami Ngwenya's PERFECT opportunities in agriculture (2019).

	Career Opportunities
P	Policies
E	Education and training
R	Research
F	Finance and Farming
E	Extension and advisory services
C	Communication
T	Technologies and Trade

All career options under the PERFECT banner, at all levels (local, state, national and global), need to incorporate the term agriculture into their dialogue to increase the proportion of the population involved in agriculture. This will lead to a higher probability that youth will interact with someone involved in agriculture on a daily, weekly or annual basis. Furthermore, parents, family and close friends may find themselves under the agricultural banner which creates a more powerful dialogue with the interested youth.

Chapter 3: Conceptual Framework of Science Capital

3.1. Why a framework is needed

If youth, from 12-16 years old, is presented with a rigorous, well-resourced agricultural course at a school led by a knowledgeable and inspirational teacher, then it may be assumed that they were provided with ample opportunities to pursue their studies in agriculture post-16. However, this idealistic situation does not exist in enough schools throughout Australia; therefore, we need to use an organised and tested method to attract them into a career in agriculture rather than relying on a chance interaction.

There are some high quality and successful programs that already exist and are seamlessly implemented into a mainstream science topic, but they are currently occurring in isolation for the individual youth. Some are not receiving the quality and/or quantity of interactions at pivotal times between the age of 12-16 that encourage them to pursue a career in agriculture post-16. Luckily, a chance discussion with Jennie Devine at the National Farmers Union (NFU) in the UK where she mentioned that she used the conceptual framework of Science Capital to design and deliver agricultural classroom lessons to primary school aged students (Figure 4). Although this framework was designed for the teaching of science, its adaption into agriculture teaching should be an easy translation.



Figure 4. Discussing Science Capital framework with Jennie Devine, NFU (Peltzer, 2019).

3.2. Definition of Science Capital

Science Capital is a conceptual tool for measuring an individual's exposure and knowledge of science. It is used to help to understand why some people participate in post-16 science and others do not. It is a term coined by Professor Louise Archer and her team in the UK, based on work conducted by the sociologist Pierre Bourdieu's concept of capital (referring to economic, cultural and social resources) – in short, Bourdieu proposed that the more you have of the 'right sort' of capital, the better you are able to 'get on' in life (Archer et al., 2015). They applied Pierre Bourdieu's model with an aim of finding out how to develop a teaching approach to

improve science engagement and understand what produces unequal patterns in science participation.

3.3. Methodology of the research conducted

The impact of Professor Louise Archer and her team’s Science Capital work draws from two research projects; ASPIRES/ ASPIRES 2 and Enterprising Science. ASPIRES/ ASPIRES 2 constitute a ten-year longitudinal study, tracking a student cohort from age 10-19 to understand the influences of family, school, careers education, social identities and inequalities on science and career aspirations. They surveyed 40,000 students in the UK and conducted over 650 in-depth interviews with young people and parents (British Educational Research Association, 2019). The results were statistically analysed to identify the eight key dimensions of Science Capital. These dimensions are the aspects of Science Capital which are most closely related to post-16 participation and for fostering a sense of science is ‘for me’. That is, the more a young person has, the more likely they are to plan to continue with science in the future (Archer et al., 2015).

The concept of Science Capital can be imagined like a ‘holdall’, or bag, containing all the science-related knowledge, attitudes, experiences and resources that an individual acquires through life. Figure 5 represents the bag that includes what science they know, how they think about science (their attitudes and disposition), who they know (e.g. if their parents are very interested in science) and what sort of everyday engagement they have with science (Archer et al., 2015).

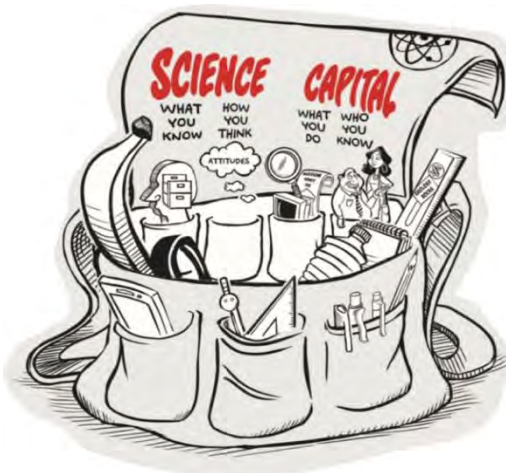


Figure 5. A cartoon to represent the bag of science capital an individual acquires (Archer et al., 2016).

3.4. Current application of the Science Capital framework

The research conducted by Professor Louise Archer and her team has dramatically changed science education policy and practice both in the UK and internationally, shifting understanding, policy and practice across government departments, national institutions, museums, science centres, and major science and engineering professional societies. It has been integrated into professional training and new practice networks of teachers and added

as a criterion in national awards schemes, including the primary science quality mark which reaches 240,000 children and 9,000 teachers annually.

The Science Capital concept has not been integrated into science teaching here in Australia to date. Being based on strong empirical research from the UK, it may be reasonable to expect that the findings are applicable to the Australian schooling system. Furthermore, due to its success and the close relationship between science and agriculture, it can be translated to suit agriculture, and then used as a framework to analyse and redirect the current system in Tasmania.

Chapter 4: Agricultural Capital

4.1. Applying Science Capital framework to agriculture

4.1.1. Why the Science Capital framework can be used

Similarities exist between the challenges of attracting youth into post-16 studies in both science and agriculture. Although science is the basis of many aspects of agriculture, there are other parallels to be drawn between the two, allowing the Science Capital framework to be successfully applied for the same purpose in agriculture. For example, both careers are perceived with stereotypical older, white males working hard in low-paying jobs. Although this perception is generally incorrect, it is difficult for both industries to alter these views to attract more youth into pursuing post-16 studies in either field.

4.1.2. Differences between science and agriculture

Although there are several obvious similarities, there are still some differences that need to be identified to allow for the application of this model while knowing its limitations.

Table 2. Differences between science and agriculture as subjects delivered at secondary schools in Tasmania

	Science	Agriculture
Enrolment	Every school has science courses available and due to it being compulsory for most of those years with strong enrolments.	The number of viable programs is declining, consequently the number of students served by the program are declining too.
Availability	Available in every school from lower primary to upper secondary. Compulsory for majority of those years.	Generally, it is up to the individual school to choose to include it into their curriculum.
Current curriculum	Updated as often as the other core courses. The concepts taught in science are generally static, but the applications adapt to the current climate.	Some of the content taught has failed to keep up with modern agriculture, i.e. the recent Irish agricultural curriculum had not been updated for the past 30 years.
Uneven quality	The quality is carefully monitored by teachers from consecutive years as content is cumulative.	Due to a low number of available courses, measures are not in place to ensure even quality of courses.
Academic rigour	Carefully monitored by adjustments made in the curriculum, within assessments and remains high through feedback from tertiary providers.	Generally lower than other sciences.
Cohort of students	Science is compulsory for Year 7-10, then a choice for Year 11-12. A prerequisite for many university degrees.	Routine processes are required to evaluate the curriculum content to ensure it continues to attract a cross-section of

		students in terms of academic ability and tertiary education aspirations.
Access to Continuous Professional Development (CPD)	Higher number of courses available which theoretically reduces the distances to travel to the CPD.	Limited number of courses, which leads to larger distances to be travelled. Online courses could be a successful method to connect teachers.
Teacher support in school	As it is compulsory in every school, generally, there is a team of science teachers who can provide and receive support with their content, pedagogy or assessment tasks.	As an option in some schools, generally, there is a limited number of agriculture teachers so lack of timely support with their content, pedagogy or assessment tasks.
Teacher education	Many science and specialised science teaching degrees at tertiary providers.	Very limited number of specialised agriculture teaching degrees at tertiary providers.

4.2. Agricultural capital

The Science Capital ‘carry all’ can be further dissected into eight key dimensions identified as reasons why students pursue science in their post-16 studies. These have been adapted to an agricultural setting as seen in Table 3. The definitions will ensure that the dimensions are correctly interpreted and can be applied to a range of different programs/activities both in and out of school to ensure targets are being reached.

Table 3. Agricultural capital with definitions and examples of the eight key dimensions

Agricultural capital dimension number	Agricultural capital defined as:
1 – Knowledge of agriculture	A young person’s knowledge and understanding about agriculture and how agriculture works. This also includes their confidence in feeling that they know about agriculture.
2 – Agriculture related attitudes, values and dispositions	The extent to which a young person sees agriculture as relevant to their everyday life (for instance, the view that agriculture is ‘everywhere’).
3 – Knowledge about the transferability of agricultural skills	Understanding the utility and broad application of agricultural skills, knowledge and qualifications (e.g. that these can lead to a wide range of jobs beyond, not just in, agricultural fields).
4 – Consumption of agriculture-related media	The extent to which a person, engages with agriculture-related media including television, books, magazines and internet content.
5 – Participation in out-of-school learning activities	How often a young person participates in informal agricultural learning contexts, such as agricultural museums, farming and country shows.
6 – Family agriculture skills, knowledge and qualifications	The extent to which a young person’s family have agricultural-related skills, qualifications, jobs and interests.
7 – Knowing people in an agriculture related job/role	The people a young person knows (in a meaningful way) among their wider family, friends, peers, and community circles who work in agricultural-related roles.

8 – Talking to others about agriculture in everyday life	How often a young person talks about agriculture with key people in their lives (friends, siblings, parents, neighbours, community members) and the extent to which a young person is encouraged to continue with agriculture by key people in their lives.
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4.2.1. Monitoring and re-filling the Ag Bag

Professor Louise Archer and her team coined the term, a ‘carry all’ as an analogy (depicted in Figure 5) where students collect information, experiences and a feeling during their time learning about science, both in and out of school. To bring the analogy into agriculture, it can be termed the ‘Ag Bag’ as it can be filled with information, experiences and feelings about agriculture acquired over time. The contents of the bag come from interactions with the eight key dimensions that can be accrued through personal experiences with friends and family, in school, through community events and from interactions with society.

The quality of these interactions can vary with different experiences at pivotal times. The individual can fill their Ag Bag with differing amounts from the same experience depending on their personal background and previous experiences. Some programs will meet multiple dimensions at once, while others will just meet one dimension at a time.

The contents of the Ag Bag are dynamic, and potentially decreases over time unless replaced with new information, experiences or feelings on a timely basis up until the student is 16 years old. For example, an experience at 12 years old will need to be updated and increased if it is going to be of any value post-16. The value of the contents will also change over time too. For example, a high-quality experience at 13 years old will hold a different value compared to a similar experience at 16 years old.

Therefore, the quality, quantity, and timing of interactions with agriculture needs to be closely monitored for an individual. The aim of this framework is to ensure that the agricultural programs/activities align to meet the eight key dimensions at strategic times for the 12-16-year old individual. In order to fully demonstrate the usability of the framework, it will be applied to the highly agriculture-dependent state of Tasmania. The following chapter highlights the ways in which this framework aligns the existing programs/activities for maximum number of youth pursuing agriculture post-16. In addition, it introduces new programs/activities from other nations that fill the holes identified by the framework and have the potential to succeed in Tasmania.

Chapter 5: Future strategies for Tasmania's agricultural education system

As one of the seven states and territories of Australia, Tasmania currently has a population of ~500,000 people and a land mass comparable in size to the Republic of Ireland. The agricultural sector is a key pillar of Tasmania's economy, contributing 5.6% of Gross State Product and sustaining jobs and economic activity in the rural and regional areas (Department of Primary Industries, Parks, Water and Environment, 2017). The Deputy Premier and Minister for Primary Industries and Water at the time, Jeremy Rockcliff, stated that the Tasmanian Government has an ambitious goal to increase the annual value of the agricultural sector to \$10 billion by 2050. To reach \$10 billion, the sector will need to grow at more than double the growth rate experienced over the past 20 years (DPIPWE, 2017). With a dominance of agriculture economically and throughout the landscape, it would be expected that a continuous stream of youth, graduates and apprentices would be entering all aspects of PERFECT agriculture. On the contrary, the continuum is weak and generally disorganised and therefore Tasmania is a suitable candidate for the application of the Agricultural Capital framework in order to fill the Ag Bag of the youth of Tasmania.

5.1 Perceptions of the agricultural industry and career options

Perception is a very powerful concept that can attract or repel youth into pursuing a career in agriculture. Unfortunately, agriculture has a stereotype created by TV, movies, cartoons, news and limited personal experiences. A job in agriculture requires hard, manual labour, is only about farming, tractors and paddocks, and unprofitable based on perceptions from 512 school students (16-18 years old) from Western Australia (Department of Primary Industries and Regional Development, 2017). The benefits for agricultural graduates, such as job security, high salaries and constantly evolving industry, are not well-understood by youth. They also highlighted their misunderstandings by providing the following reasons against considering an agricultural career, including:

- Not being from a farming family/background.
- Cannot afford a farm.
- Do not want to move to the country/a regional area.
- Do not know what jobs are involved in the agricultural industry.

- No jobs available for 'people like me'.
- Can earn more money in a different industry.
- Lacks technology/innovation.

It can be assumed that 16-18-year old students from Tasmania hold similar perceptions of agriculture as their Western Australian counterparts. In 2014, Turner and Hawkins conducted research with older students currently attending the University of Tasmania and found that it is essential to recognise that for the average Tasmanian young person, the initial, or default expected outcomes for choosing agricultural science as a career are generally negative. This is largely due to the background environmental influences of negative public perceptions and learning experience, and subsequent assumptions that a low level of ability is required to pursue this career path (Turner & Hawkins, 2014). Throughout the interviews, the students consistently referred to a career in agriculture being viewed as 'just' or 'only' farming within their spheres of influence, reflecting not only a lack of awareness of the many career options available but also a lack of value placed on farming and the wider agricultural industry in Tasmania (Turner & Hawkins, 2014).

Therefore, both school-aged students and current university students do not see the vast opportunities available within PERFECT agriculture. These views are detrimental to building capacity, but many other industries have misconceptions too, so it is important to be aware of these and actively realign them when given the opportunity. Everyone within the whole of PERFECT agriculture has a role to play in this respect.

5.2 Current school system

The agricultural education system in Tasmania has a broad spectrum of practice. It ranges from high quality, well-implemented programs to weakly funded and fragile programs. As presented in Table 2, if it is even an option offered at the school, then it may come with its own challenges. Therefore, the workforce required in agriculture should not solely depend on the school system, but alternatives outside of school should be assessed, modified and supported.

5.3 Applying the Agricultural Capital Framework to Tasmania

The Agricultural Capital Framework will work well within the Tasmanian system as it is a small island with a high concentration and economic dependency on agriculture. With short

distances to a wide range of agricultural enterprises and examples of PERFECT agriculture, interactions of youth with agriculture has the potential to be more accessible compared to other states of Australia. Additionally, the large discrepancy between the quality and quantity of schools teaching agriculture, there is a need to include non-school based methods to attract youth into agriculture.

The strengths of this framework in Tasmania are:

- The number of highly professional businesses within suitable distances of the major metropolitan areas – Hobart, Launceston and Devonport.
- The high number of stakeholders from government positions through to business owners interested in having a strategic approach to attracting youth into the industry.
- Well-resourced, funded and successful programs currently exist.

Despite the strengths with this framework, limitations within this state include:

- Accessibility to willing people within all aspects of PERFECT.
- True collaborations between PERFECT agriculture for a common goal.
- The need for annual reassessments of this framework to be modified and adapted to suit changes within the forward-moving agricultural sector.
- Remaining as a non-political framework.
- The difficulty of ascertaining its success as a numerical piece of data to compare its success year-on-year.

Addition of an independent body

The introduction of an intermediary group to bridge the gap between producers and consumers is necessary to help connect and communicate questions and concerns about agriculture. Ireland has a charitable trust, Agri Aware, created to improve the image and understanding of agriculture, farming and the food industry among the general public (Jaghoe, 2019). Tasmania would benefit from having a politically independent body to meet the same goals as improved communication will help in promoting the following programs and activities.

Suitable programs/activities for Tasmania

There are several programs/activities that currently exist within the Tasmanian landscape and calendar. Further suggestions from international examples to improve these current programs/activities are mentioned and mapped to the eight key dimensions in the Agricultural Capital framework (Table 4).

Table 4. Demonstrating matching the eight key dimensions with suitable programs/activities in Tasmania

	1 – Knowledge of agriculture	2 – Agriculture related attitudes, values & dispositions	3 – Knowledge about the transferability of agricultural skills	4 – Consumption of agriculture related media	5 – Participation in out-of-school learning activities	6 – Family agricultural skills, knowledge and qualifications	7 – Knowing people in an agriculture related job/role	8 – Talking to others about agriculture in everyday life
Large community agricultural events	X	X	X	X	X			X
Farm open days	X		X		X		X	X
Option of a gap year	X	X	X		X		X	X
Utilising social media	X			X	X		X	
Young Farmer Clubs	X	X	X	X	X	X		X
Bringing agriculture to the school	X		X				X	X

Large community agricultural events

Historically, country shows attracted families from urban, regional and rural areas to showcase all aspects of farm life in the heart of the community. Some of these shows no longer exist or fail to attract the numbers previously achieved for future sustainability. Alternatively, Tasmania hosts a very successful three-day agricultural and machinery field-day event, Agfest, that has been operating for 37 years, attracting 63,383 patrons and 728 exhibitors in 2019. Ireland’s Ploughing Championships is a similar concept but draws a crowd of 300,000 people. However, does this one-day interaction make the most of this perfect opportunity to excite and connect with the 12-16-year-old people entering the gates? Can the interaction be strengthened by including side-events or post-events aimed at these youth? With an

abundance of resources (physical and people) and a captive audience, it would be a relatively simple time and place to capitalise on this opportunity.

Farm open days

A prominent constraint on the industry to date is that it has failed to inform interested consumers about what happens in agriculture currently. Now, more than ever, the sector needs to open 'gates' to all interested parties to allow for two-way communication. This can be achieved through allowing individuals, families and special interest groups into businesses so they can gain perspective into the current issues faced by all those working in agriculture.

The Irish agri-food sector semi-state authority, Teagasc, were astounded when 10,000 people attending their Moorepark '19 National Dairy Open Day event in July (Kelly, 2019). All dairy farmers, dairy industry stakeholders and other interested people are invited to this event which concentrates on the theme of 'growing sustainably'. The event was further promoted through Twitter, with over one million hits. Farmers were asked to add the hashtag #ThisIsDairying on family-orientated dairying photos to share the positive attributes of the dairy sector.

Linking Environment and Farming (LEAF) in the UK have *Open Farm Sunday* as an annual event for the public. While these one-off days are beneficial, increased frequency of these interactions is more powerful.

Also, in Ireland, *Family Farm*, will open their doors in summer 2020 as a shared place for consumers and producers to interact. Developed by Agri Aware and the Dublin Zoo, it is an acre of land with cows, sheep, goats and pigs close to Dublin providing an interactive day for families and school groups, where they will learn how to milk a cow, make butter and grow vegetables. By simulating a working farm in a safe and exciting way, the real messages are not being lost. To take this model a step further, it would be advantageous to identify a suitable month or season where an example of a PERFECT Tasmanian agricultural business was open every Sunday. Each business would only need to open for one day during the period, but it would allow more people/families with the opportunity to attend at least one day. The variety showcased would ensure that individuals learn about more than just one aspect of agriculture as there will be an opportunity to interact with 4 – 12 businesses within the year. There would be three separate programs run near the metropolises in the South, North and North-Western part of Tasmania. It would be promoted by all industry bodies and communities involved. It

encourages individuals and families to move into the regional or rural parts of the state and individuals will be able to ask pertinent questions to the farmers/business owners and other industry members.

Option of a gap year

With insight from the Australian Farm Institute that Australian agriculture faces an immediate labour shortfall in excess of 101,000 full time equivalent works in 2030, the National Farmers' Federation 2030 Roadmap highlights the opportunity to increase the labour force in agriculture through establishing an 'Ag Gap Year' program to get young Australians to try their hand at agriculture (2018). Chief Executive Officer Tony Mahar noted that this program has not currently been progressed but it is an option being considered in the next few years (2019).

Many schools in Tasmania offer work experience programs for 16-year-old students for a working week. Although this is a great opportunity, five days may not allow them enough experience to gain the feeling of 'it's for me' and pursue a different career path. Alternatively, the Irish offer an optional one-year school programme, 'Transition Year', that can be undertaken by students at the age of 16, prior to completing their Leaving Certificate. It is an opportunity for a non-academic year of learning life skills and sports, where working in agriculture is a viable option. The strength of this program is that it is recognised as a credible option before completing the final two years of compulsory schooling, and students would be able to try out different aspects of PERFECT agriculture for a true sense of the career opportunities available. Post-secondary schooling, Cotton Australia (the peak body for Australia's cotton producers), offer a 'Cotton Gap' program to connect cotton farmers with keen operational youth who are interested in either a long-term career in the cotton industry or 12 months employment in the form of a 'gap year'. As with any 'gap year', it needs to be well-structured, with suitable employers and recognition by industry and the education sector as being a credible alternative to continuing with academic learning. Furthermore, it could be a suitable model for people within career breaks or sabbaticals for career movement into agriculture.

Utilising Social Media

The role and power of media is a relatively untapped source of marketing by the agricultural sector for building capacity. Julie Neale, the Education Programme Coordinator at LEAF in the UK, conducted research into gaining a greater understanding of the way in which 12-18 years old view food and farming (2019). They questioned over 1,000 teenagers across the UK in June

2018 and found that 86% of teenagers would search online or take to social media to find out more about farming with Snapchat, followed by YouTube, as their preferred channels. Nearly 89% say social media is either very important or important to them and they use it several times a day (63%) or once a day (25%) (LEAF, 2018). A short (30-second) video is teenagers' preferred format of online content. With these insights, the industry knows how and where the captive audience is and can provide them with engaging and informative content.

Generally, communication within agricultural spheres is consistent and informative; however, the industry does not communicate adequately with others outside these seemingly closed groups. This role can, and should, be conducted by both individuals, industry groups and large corporations. Sandi Brock, Sheepishly Me, is an indoor prime lamb producer from Ontario, Canada, and has 83,000 subscribers to her YouTube Channel with up to 290,000 views of a 17-minute video within six weeks of being produced (Figure 6). She is a sensation to farming and non-farming individuals and families of a wide age range from around the world. Her videos inform and educate others about the strengths and challenges of



Figure 6. Sandi Brock uses social media to share information about sheep farming (Peltzer, 2018).

sheep farming. *“It is a time-consuming interest, but the followers thoroughly enjoy it. Not every farmer is suited to this type of media, but those who are should be telling our story”* (Brock, 2019). Depending on the platform used, there are different requirements in terms of video length and frequency of adding new content. Tasmanian farmers would require training and mentoring to maximise their impact, but it is a cheap and viable option for attracting youth into agriculture.

When discussing the role of the John Deere brand in attracting youth into agriculture, Dr Lane Arthur, Director Digital Solutions, JD Precision Agriculture stated that *“labour will be the pinch point – not just steering the combine, but fully understanding it”* (2019). It was suggested that their promotional videos could act as a powerful motivator in fulfilling their capacity requirements. Nine months after such discussions, the advertisement ‘We’re for ground-breakers’ has circulated the internet highlighting the need for creative, courageous and gumptious people to change the world. It is a positive step towards creating space for youth

to enter the industry, and other companies using visual media in advertising should aim to meet this requirement.

Young Farmer Clubs

Youth community-based clubs, independent of a school, exist in most countries visited. Generally, these clubs are for 16-30 year-old, farming background, likeminded youths where the older members usually hold key positions to organise events. For example, the Young Farmer Club in New Zealand run regional and national competitions and were fortunate to have them televised nationally during primetime TV in 2018. Unfortunately, due to poor funding choices, this opportunity has been revoked (Campbell, 2019). As these clubs are heavily reliant on volunteers, it can be difficult to attract and retain passionate members into key positions to ensure that all intended outcomes are met annually.

Alternatively, some clubs are sustainably funded and fully immersed into the community. An example of this is the 4-H program that exists in many countries around the world. In Delaware in the United States of America, the 4-H program is open to all children between the ages of five to 19 and is sponsored by the University of Delaware, where a portion of the extension agent's salary is allocated towards organising the local and state clubs (Figure 7; Garey, 2019). This ensures funding requirements are met, adult mentorship is conducted, and resources are available.



Figure 7. Learning about 4-H with Susan Garey and Mark Isaacs, University of Delaware, Delaware (Peltzer, 2019).

Tasmania has numerous Rural Youth clubs throughout the state. Strengthening their connection with the University of Tasmania would also create a cyclic opportunity to attract these youth into further education within their state. Furthermore, lowering the age bracket of members down to five-years old would bring in whole families and not necessarily just those from farming backgrounds.

Bringing agriculture to schools

Undoubtedly, school is the ideal setting for teaching youth about agriculture. If an explicit course is not included into the curriculum, there are still alternatives to incorporate

agricultural content into other subjects or days. Once the school has defined their timeframe, outcomes and resources available, they can determine their limiting factors to find a suitable program/activity. Limiting factors include:

- Inadequate content knowledge of teachers.
- Lack of hands-on authentic experiences at school.
- Interactions with a professional in agriculture.

Inadequate content knowledge of teacher

Many industry bodies pride themselves on developing units with age suitable content, delivery suggestions and mapped to the curriculum of multiple subjects. For example, Lisette van der Kallen of ZuivelNL, the Dutch dairy industry body, shared the physical and digital resources developed for 4-18-year-old students (2019). The concept is similar to Dairy Australia's education resources and those developed by the NFU in the UK. However, the national government subsidises the implementation of these programs in schools under their Jong Leven Eten (young learn eat) initiative which will continue until 2025 to address the current funding issues that exist in schools. Furthermore, 46 states of the United States of America implement the Curriculum for Agricultural Science Education (CASE) model into their school. It supports teachers with curriculum, professional development, assessment and certification which ensures that teachers are properly equipped and trained to optimise student learning. With nearly 78,000 students being taught with CASE in the 2019-2020 school year, it is a successful model for Tasmania to aspire towards (CASE, 2019).

To support teachers with content and connections to farmers, the UK Government funds nine positions that are geographically spread throughout the UK. These 'Recs' are ex-teachers who work for the department for 1.5 days per week helping schools develop and analyse their agricultural programs. They help strengthen connections between schools and the agricultural sector. This model would be successful in Tasmania with face-to-face interactions with current and past teachers.

Lack of hands-on authentic experiences at school

Access to authentic hands-on agricultural experiences is difficult for both urban and regional schools. It is usually expensive and time-consuming to go on class excursions to a working farm. However, in New South Wales, Australia, Steve Mansur and Kate Zlotkowski designed a mobile farm unit known as iFarm trailers to teach students about farming, use of water, waste management and solar energy. Although aimed at city primary schools, the concept could be feasible for sharing resources between schools in Tasmania.

Another transferable concept is AgriLearn, an independent business in Timaru, New Zealand, that works with secondary schools to deliver skills-based training to complement the practical portion of their agricultural education. For example, Fiona Jessep of Mount Hutt College, uses AgriLearn to teach and assess her students with their fencing skills for their



Figure 8. AgriLearn teaching and assessing students with agricultural skills at Mt Hutt, New Zealand (Peltzer, 2019).

technical agricultural course (Figure 8). Furthermore, Australia's Tim Gentle and his team at Think Digital, are using Virtual and Augmented Reality (VR and AR) to teach, connect and excite students about agriculture without attending farm-based school excursions (2018) which can teach students to safely operate a tractor from the classroom.

Interactions with a professional in agriculture

Teachers may choose to include a professional within agriculture to complement the content being taught. Tom Martin, UK, created a concept to connect the school classroom with the farm by harnessing the power of digital communications to inspire, engage and educate young people with 'FaceTime a Farmer'. The LEAF Global Impact Report 2019 showed how 300 UK farmers have been paired with 9,000 children for an average of 18-minute 'real-time' sessions every fortnight (LEAF, 2019). LEAF organise the logistics of initially connecting the farmers with the schoolteachers and from there, the teacher and farmer will create connections between the current content in the curriculum and what is happening on the farm. The impact of these frequent and high-quality interactions is relatively easy to obtain where time, content and internet reception are the only considerations. This idea is a feasible option in a primary school setting but will be harder to achieve in the 12-16-year-old classes where the curriculum is

more focused on content rather than social development. Alternatively, the older students may benefit from an agricultural professional talking to them in whole school assemblies about current issues facing international food and fibre production. For example, these students are retrieving information from social media sources about pertinent issues such as decreasing red meat consumption to mitigate climate change, where the alternative perspective needs to be delivered too. NFU members in the UK are currently being trained for these Q&A type sessions with secondary school students under a new program called 'Speakers for Schools'.

5.4 Business as a result of a Nuffield Scholarship

On returning to Tasmania with a wealth of knowledge acquired through extensive travelling, the opportunity to develop and organise Educational Agri Tours of this unique island state was created to benefit both the educational and agricultural sectors. With a change in soil, climate and terrain in relatively short distances, a wide variety of high-quality produce is available. This business brings school students to Tasmania for an immersive experience where they will interact with professionals working in all aspects of the agricultural industry. It demonstrates the full breadth of career opportunities available while strengthening networks within agriculture. Connections will be formed and maintained through a social media presence.

Conclusion

Youth is a crucial piece of the puzzle for determining solutions to the current challenges in international agriculture. However, they are not entering the workforce at the rates required to solve these issues. It is a complex matter as there are multiple independent factors at play, such as the perception of agriculture, career opportunities available, and the timing of interactions with agricultural programs/activities. These have a negative effect on attracting youth into agriculture.

This project concentrates on providing 12-16-year-old students with multiple opportunities to encourage them to consider pursuing agriculture in their post-16 studies. In order to meet this goal, a well-researched framework for this purpose in science has been modified and applied to agriculture. The framework can be used to identify deficiencies in the interface between a 12-16-year-old person and agriculture. Each of the eight key dimensions of the framework needs to be 'hit' with a quality program/activity, at a high rate of incidence and in a timely manner in order to fill their 'Ag Bag'. Furthermore, the framework can be used as a tool to assess the success of current programs/activities. For example, the Science Museum Group, UK, uses the eight key dimensions of the Science Capital framework to identify practical considerations which they can apply to their practice and be used as guiding principles to inform the design and outcomes of their varied experiences and resources (Hawkins, 2016).

Therefore, the Agricultural Capital framework can be used in a similar way to ensure that all efforts into attracting youth into a career in agriculture is due to strategic interactions, rather than leaving it up to chance. The state of Tasmania can act as the pilot study for this framework due to its dependency on agriculture and ease in adapting or introducing programs into the current space.

Recommendations

- Industry wide acceptance and use of Dr Hlami Ngwenya's acronym PERFECT opportunities in agriculture (refer to p.14).
- All within PERFECT agriculture to help address any misperceptions about a career in agriculture (refer to p.14).
- Apply the Agricultural Capital framework to the current system in Tasmania to attract youth into pursuing agriculture in post-16 studies (refer to p. 19).
- Find successful programs/activities from other countries to integrate into the Tasmanian Agricultural Capital framework for further use (refer to p. 23).
- Potential to apply the Agricultural Capital framework to other states or countries.

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Plain English Compendium Summary

Project Title:

Attracting youth into agriculture

Developing a strategic framework to encourage young people to pursue a career in agriculture. A model for Tasmania

Nuffield Australia Project No.:

1903

Scholar:

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Objectives

- Highlighting the imperative need to attract youth into a career in agriculture internationally and within Australia.
- Broadening the perceived definition of agriculture by applying Dr Hlami Ngwenya's PERFECT opportunities acronym.
- Recognise the strength of Science Capital as a strategic framework.
- Adapting and applying the Science Capital framework to agriculture.
- Analysing international programs that could be implemented into the Tasmanian system to fill the 'Ag Bag'.

Background

In Australia, the continuum of youth entering a career in agriculture is lower than required to meet the current challenges facing food and fibre production systems. The full spectrum of career prospects available in agriculture are not well understood and therefore not pursued. An interest in agriculture can be sparked through interactions both in school and through outside school programs/activities.

Research

School, universities and agricultural industry advocates were interviewed across six countries to determine suitable programs/activities to be integrated into the Tasmanian system using a suitable framework to encourage youth to pursue post-16 studies in agriculture.

Outcomes

The study revealed the need for a strategic framework to ensure a high number of quality interactions are acquired by individual youth both in school and through outside school activities/programs in order to fill their 'Ag Bag'. Professor Louise Archer and her team in the UK researched and analysed reasons why youth pursue post-16 studies in science. This framework was adapted for agriculture and applied to the current Tasmanian system with international suggestions for strengthening existing activities/programs. The aim is to increase to number of youth entering the agricultural industry.

Implications

Youth will interact with agriculture at pivotal times through accessing quality programs/activities that will lead to an increase in youth pursuing post-16 studies in agriculture. This framework will be a common document used by schools, industry bodies and other stakeholders in Tasmania where the aim will be to ensure the youth's 'Ag Bag' will be filled and remain full so they pursue post-16 studies in agriculture. The framework can be adopted by other regions, states or countries.

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What career pathways can an apprenticeship in nursery horticulture lead you to?

What are your study options?

How can you apply to be a part of our team?

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Andreasens Green Wholesale Nurseries have been a major supplier of plant material to the landscape industry and local government since its establishment in 1981. Based in Sydney's west, Andreasens has grown to become one of Australia's leading wholesale nurseries with over 150 acres under production across our nursery sites in NSW and QLD.

Andreasens Green has been involved in a wide range of iconic projects over the years, supplying all levels of government, residential and commercial projects on the East coast. Each project memorable in some way; whether it was cutting edge design, construction or presenting a new set of delivery logistics, the challenges as many as they were varied.

Andreasens Green has supplied many iconic sites; Darling Harbour and Sydney Olympic Park were enormous supply contracts for their time. Recently Andreasens Green has been growing plant material for a new era of iconic Sydney projects, namely the World's largest vertical garden at One Central Park on Broadway which will be home to a wide range of species totalling 100,000. Our Mangrove Mountain Nursery has been producing in excess of 70,000 groundcovers, shrubs and advanced trees for installation at the new Headland Park as part of the Barangaroo Point development.

Our growing locations include:

- **Lansvale - South West Sydney, NSW (Est. 1981)** The birth place of the Andreasens Green operation, today this 10 acre nursery houses our propagation facilities and a wide range of mature evergreen trees.
- **Kemps Creek - Western Sydney, NSW (Est. 1995)** The head office, sales and despatch centre for our NSW operation. This 50 acre site holds a wide range of native and exotic 150mm - 200lt litre stock and our production site for 400-1000 litres deciduous trees.
- **Mangrove Mountain - Central Coast, NSW (Est. 2004)** This site is primarily set up as our advanced tree production and contract growing site. We have 25 acres currently under production and a further 25 acres for immediate expansion as required.
- **Yatala - South of Brisbane, QLD (Est. 2002)** This is the Sales and Despatch centre for our QLD operation. A wide range of species from 150mm-100lt are produced at this site. Yatala boasts an 8 acre production area under shade.



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- ✓ How to manage a small team of staff
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- ✓ How to safely apply agricultural chemicals
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- AHCCHM303 Prepare and apply chemicals
- AHCCHM304 Transport and store chemical
- AHCIRG306 Troubleshoot irrigation systems
- AHCNSY301 Maintain nursery plants
- AHCNSY306 Implement a propagation plan
- AHCPCM301 Implement a plant nutrition program
- AHCPCM302 Provide information on plants and their culture
- AHCPMG301 Control weeds
- AHCPMG302 Control plant pest, disease and disorders
- AHCWHS301 Contribute to WHS processes

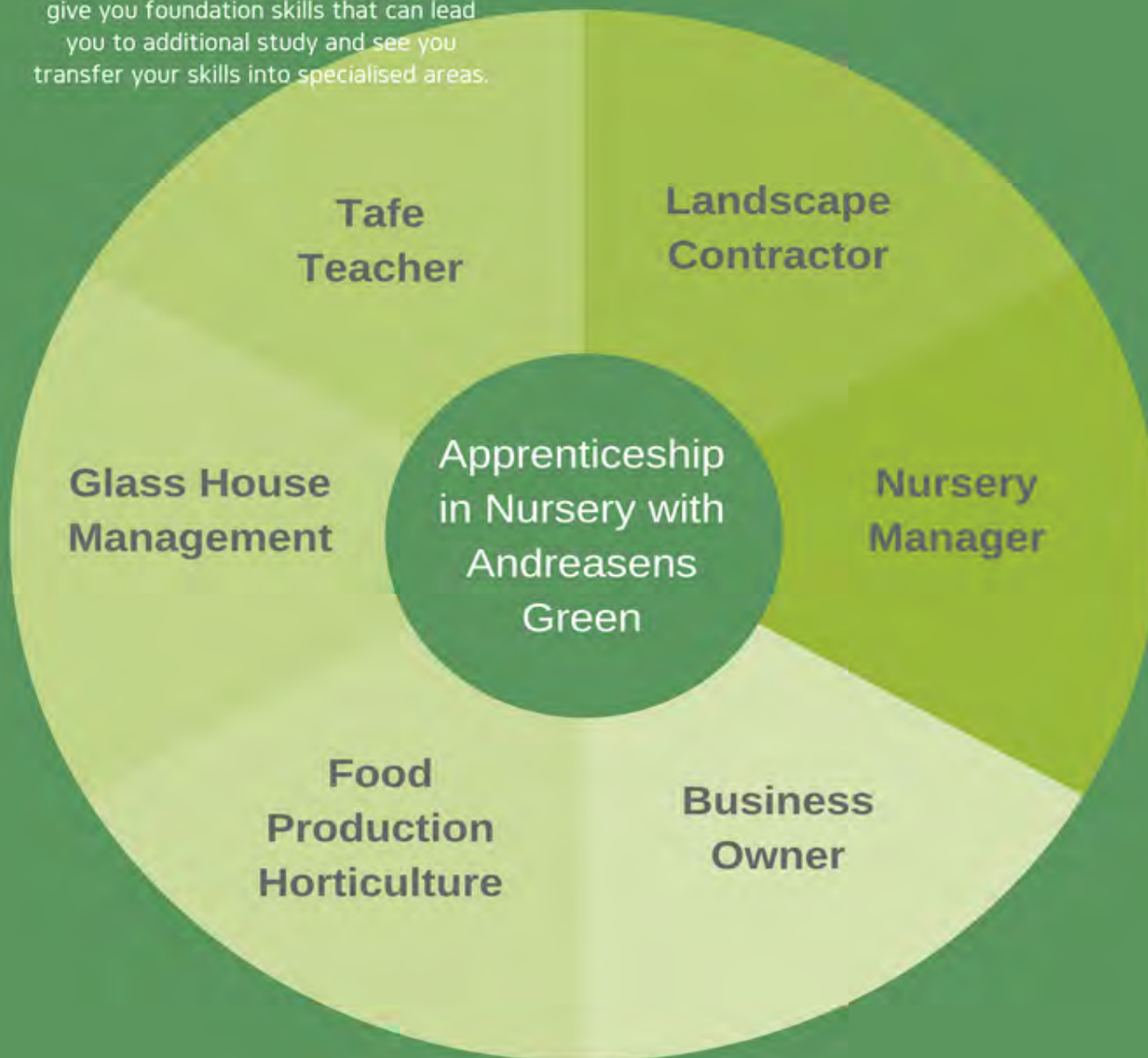
Elective Units

- AHCNSY201 Pot up plants
- MEM18001C Use hand tools
- Plus select 3 of the following units to create a complete qualification.
- AHCMOM304 Operate machinery and equipment
- AHCWRK309 Coordinate work site activities
- SIRXPDK001 Advise on products and services
- AHCSOL201 Assist with soil and media sampling and testing

Andreasens are also looking into onsite delivery of this course.

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- What is your highest level of schooling?
- Do you have your own transport?
- Which Andreasens Nursery site are you applying for?

Email your details to daniele@andreasensgreen.com.au

Strengthening Skills

**Expert Review of Australia's Vocational
Education and Training System**

The Honourable Steven Joyce



Strengthening Skills

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Foreword

It is my pleasure to present this report of the Review of Australia's Vocational Education and Training system.

In line with the terms of reference, the Review considered ways to make the vocational education system more effective in providing Australians with the skills they need to be successful throughout their working lives.

A high quality vocational education sector is crucial for ensuring Australian businesses of all sizes have the skills they need to support their business growth, whether they be located in cities, regional or rural areas.

During the Review I consulted with a broad range of stakeholders in each State and Territory capital city, and in regional areas. I'd like to thank all of those who took the time to meet me in person or make a submission. I appreciate the passion and dedication they showed for this important and rewarding sector. I'd also like to thank the taskforce team for working so hard to assist me with this Review.

Finally, I would like to thank the Prime Minister and the Minister for Small and Family Business, Skills and Vocational Education for the opportunity to undertake this important task. I firmly believe that the recommendations of this Review will help to significantly strengthen and improve Australia's vocational education system and ensure that the Australian workforce is well trained and skilled both for our current world and into the future.

Steven Joyce



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Executive summary

For decades, vocational education and training (VET) has been one of the key pillars of Australia's economic success story. Generations of tradespeople and skilled workers have successfully developed their skills and knowledge in a practical work-based learning environment.

Vocational education today remains an effective and efficient way of imparting the skills needed for employment. If anything it's likely that work-based learning models will be more important in the future as technology-driven changes to the 'way we do things' need to be quickly transmitted across industries and around workplaces. Our fast-moving world will need flexible and applied ways of learning, so people can lay strong foundations for their careers and then build further skills and knowledge in order to participate in new and changing industries.

This Review set out to conduct a health check of the Australian VET sector to determine how ready it is to step up to the challenge of training more Australians, now and in the future.

Some good work has been done, particularly in setting up the key elements of an integrated national framework such as the national regulator, the Australian Skills Quality Authority (ASQA), and nationally-portable qualifications. The Government's creation of a universal student identifier and the new VET Information Strategy are further steps in the right direction. And the recent reforms to address the VET FEE-HELP issues have helped restore confidence in the sector that had been lost.

Most participants in this Review were very passionate about the vocational training model. They believe that 'learning while you earn' is critical for a fast-changing work environment.

However, many were also concerned whether the current VET systems and processes can deliver the sort of flexible work-based learning models that would help Australians obtain the necessary skills for the future of work.

Slow qualification development, complex and confusing funding models, and ongoing quality issues with some providers were cited as issues that needed addressing. Careers education, VET in schools and access for disadvantaged learners were also cited as needing attention to ensure VET continues to deliver for Australians.

These concerns are backed up by empirical evidence. Employer surveys show confidence in the sector declining, and numbers of qualification-seeking students decreasing.

This Review argues that there needs to be a significant upgrade to the architecture of the VET sector so it can successfully deliver the skills needed for Australia's future.

It proposes a new vision for vocational education in Australia as a modern, applied and fast-paced alternative to classroom-based learning. This Review recommends a six point plan for change and a roadmap for achieving it. The plan seeks to deliver a stronger skills sector which is a positive choice for many more Australians, whether they are starting their working lives or need new skills to advance their career.



In total, the Review makes 71 separate recommendations around the six points of the plan:

- Strengthening quality assurance,
- Speeding up qualification development,
- Simpler funding and skills matching,
- Better careers information,
- Clearer secondary school pathways, and
- Greater access for disadvantaged Australians.

The plan requires strong intergovernmental cooperation with the States and Territories, and would need to be delivered over a number of years. There are several first steps that can be taken quickly by the Australian Government that will make an immediate positive impact for employers and students using the VET sector.

Early actions the Government can take include:

- Bringing forward implementation of reforms to strengthen ASQA and quality assurance in the sector.
- Piloting a new business-led model of Skills Organisations for qualification development, and extending work-based VET further into less traditional areas.
- Establishing a new National Skills Commission to start working with the States and Territories to develop a new nationally-consistent funding model based on a shared understanding of skills needs.
- Revamping and simplifying apprenticeship incentives to increase their attractiveness to employers and trainees.
- Establishing a new National Careers Institute.
- Creating new vocational pathways for introduction into senior secondary schools.
- Providing new support for second chance learners needing foundation language, literacy, numeracy and digital skills.

These are steps that the Commonwealth can take on its own and should do so.

The Review is very conscious that the vocational education system in Australia is shared between the Commonwealth and the States and Territories. Many of the 71 recommendations will require the shared agreement of the two levels of government. The Review recommends the Commonwealth, States and Territories meet early to develop an agreed vision and a strategic plan which addresses all the recommendations over the next five to six years.

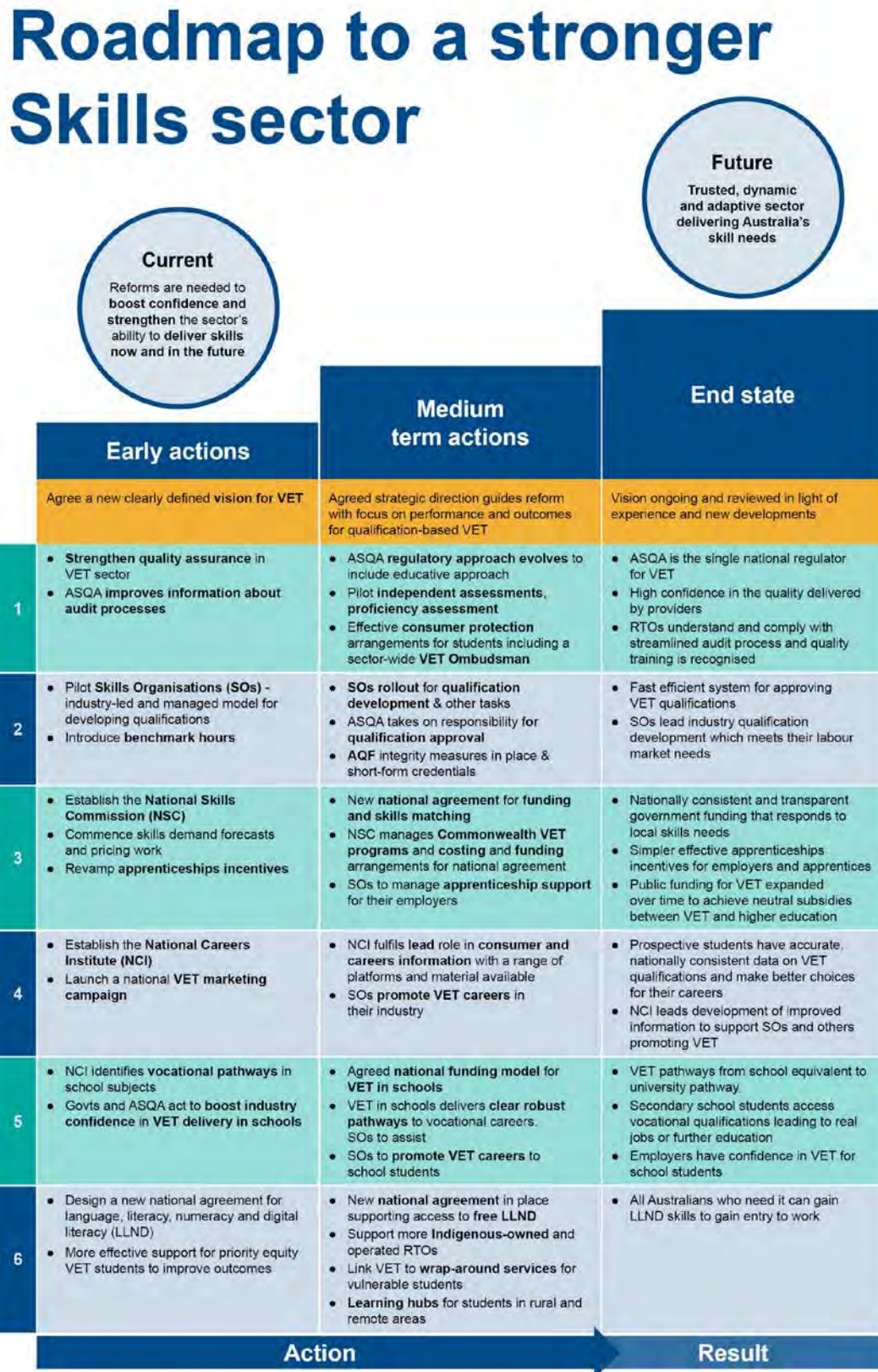
The successful execution of this plan will go a long way to lifting the confidence of employers, students and trainees in the vocational education sector. Crucially, it will elevate the status of VET to see it sit genuinely alongside higher education in the ambitions of young Australians and their communities.



These reforms will set up a system of skills education that delivers more successfully for industry today and is ready to respond dynamically to the demands of tomorrow. Most importantly, it will ensure millions more Australians are ready and able to take advantage of new opportunities for skilled work whenever and wherever they arise.



Roadmap to a stronger Skills sector



View the text alternative for the [Roadmap to a stronger Skills sector](#).



About the Review

The Australian Government commissioned this Review of the Vocational Education and Training system to examine how the system can better deliver for Australian job-seekers and employers now and into the future.

The Review was asked to bring fresh eyes to the consideration of Australia's VET sector and insights from the New Zealand reform experiences.

The Prime Minister, the Honourable Scott Morrison MP, and the Minister for Small and Family Business, Skills and Vocational Education, Senator the Honourable Michaelia Cash, announced the Review on 28 November 2018. The terms of reference are as follows:

- The Review will have regard to VET funding, policy and regulatory settings and how they can be optimised to support both school leavers and workers to maximise the achievement of relevant skills and employment outcomes from the VET sector.
- It will examine skills shortages in VET-related occupations, in particular any tension between VET outcomes and the needs of industries and employers, and what might be done to better align these.
- It will consider expected changes in future work patterns and the impact of new technologies and how the VET sector can prepare Australians for those changes and the opportunities they will bring.
- The Review may consider the flexibility of qualification structures, particularly for mid-career workers, and for industries seeking rapid deployment of new skills.
- The Review may have regard to community perceptions of the effectiveness of the VET sector and the accessibility and utility of information about VET options and outcomes, both for employers and students, including information linking training options to employment outcomes.
- It may review whether additional support is needed for vulnerable cohorts, including those currently unemployed and at risk of unemployment, or those with low literacy and numeracy skills.
- The Review may seek out case studies of best practice in VET, and consider whether specific trials should be undertaken to test innovative approaches likely to deliver better outcomes.
- The Review should have regard to the scope and outcomes from any previous or forthcoming reviews, consultation to date, and inputs made by industry and peak groups.

The Review sought to engage with as many stakeholders as possible, seeking their views, experiences and aspirations for the VET system. Engagement took three forms: submissions, consultations and a student survey.



A public submission process was open from 11 December 2018 to 25 January 2019. Interested parties could provide a short submission through the web portal or upload a written submission. In total, 192 valid submissions were received from a broad cross-section of stakeholders including peak bodies, Commonwealth, State and Territory government agencies, VET providers, employers, students, and former students. Of the total number of submissions, 144 gave their consent to publish; these are listed at Appendix A.

Consultations were held on 23 days in every State and Territory capital city, and in the regional centres of Ballarat and Cairns. They included engagement with Commonwealth, State and Territory Ministers; Commonwealth and State and Territory departments; the Shadow Minister for Skills, Technical and Further Education (TAFE) and Apprenticeships; peak bodies; industry; VET providers; small businesses; unions; key position holders in the VET sector; and others with experience in the VET field. Organisations and individuals the Review consulted with are listed at Appendix B.

To capture the views of students, a survey was conducted by Qualtrics on behalf of the Review. It obtained the views of 2,160 school leavers aged between 17 and 22 years through a panel of survey participants Australia wide, including Aboriginal and Torres Strait Islander Peoples and young people in regional areas. In addition to the Qualtrics panel, the survey was advertised to other interested students on a number of social media platforms.

The Review was cognisant of a number of other reviews recently or currently being conducted in relation to aspects of the VET sector or tertiary education. It was informed and assisted by those reviews.

In particular, guidance was drawn from the Review of Australian Higher Education (2008); the Productivity Commission's Shifting the Dial: Five Year Productivity Review (2017); the Review of the *National Vocational Education and Training Regulator Act 2011* (2018); the current Australian Qualifications Framework Review; and the Regional Education Expert Advisory Group. These insights were further informed by the significant reforms to the apprenticeship and industry training system in New Zealand over the last decade and by other international systems.



1 The labour market and vocational education

The labour market challenge

The Australian economy has experienced almost three decades of uninterrupted growth. Over this time shifting demographics, technological advancements and increased pressure from overseas-based competitors have shaped the composition of the labour market, including an ongoing structural shift away from employment in primary production and manufacturing towards a more service-based labour market. This has created both challenges and opportunities.

Alongside the shift towards services, there has been a steady shift towards higher skilled occupations. The share of employment in skill level 1 occupations (generally requiring a bachelor degree or higher qualification) has increased from 23 per cent in 1988 to 32 per cent in 2018, while the share of employment at skill level 5 (generally requiring Year 12 or below) has fallen from 21 per cent to 17 per cent.¹ These trends are expected to continue.

New digital technologies are changing the way Australians live and work. Emerging technologies such as the internet of things, artificial intelligence, automation and robotics will affect the nature and type of jobs available and the skills and capabilities required to perform both new and existing jobs.² While it is difficult to anticipate precisely the scale and impact of these changes, we can be reasonably confident that the jobs of tomorrow will require new skills, and some existing skills will become obsolete.³

The changing nature of job roles is not exactly new. Technology has made largely obsolete jobs like photographic developers and printers, sewing machinists and switchboard operators over the last 30 years,⁴ and roles in occupations as diverse as accounting, agriculture and transport logistics have dramatically changed. The mix of roles is changing too. There are, for example, many fewer labourers in agriculture, forestry and fishing than 30 years ago but a rise in machinery operators, reflecting increasing capital intensity.⁵

¹ Australian Bureau of Statistics 2018, *Labour Force Australia – Quarterly, November 2018*, cat. no. 6291.0.55.003, Canberra (*Department of Jobs and Small Business trend*).

² World Bank 2019, *World Development Report 2019: The Changing Nature of Work*, Washington. DC: World Bank.

³ International Labour Organisation (ILO) 2019, *Work for a brighter future – Global Commission on the Future of Work*, Geneva: ILO.

⁴ Australian Bureau of Statistics 2018, *Labour Force Australia – Quarterly, November 2018*, cat. no. 6291.0.55.003, Canberra (*Department of Jobs and Small Business trend*).

⁵ Australian Bureau of Statistics 2018, *Labour Force Australia – Quarterly, November 2018*, cat. no. 6291.0.55.003, Canberra, original data.



However, it is generally accepted that the pace of change is picking up. Predictions vary,⁶ but the Organisation for Economic Co-operation and Development (OECD) estimates that in coming decades approximately 14 per cent of current jobs are at high risk of automation, while another 32 per cent are likely to be affected by significant modifications, changing how jobs are carried out.⁷ Non-routine, cognitive jobs, involving an emphasis on non-technical skills, are likely to be the most resilient in the face of automation.⁸ The World Economic Forum has highlighted the importance of non-technical skills such as creative thinking, originality, initiative, analytical thinking, innovation and complex problem solving in Australia's future skills needs.⁹

*Technological advances have the potential to boost productivity and enhance the competitiveness of all industries, but in so doing many of today's jobs will change. The trend of non-routine jobs comprising an increasing share of total employment is likely to continue.*¹⁰

While the changes to work and 'new skills' attract many of the headlines, there are industry-specific jobs that are currently in high demand and will remain so in the future.¹¹ The Government's agenda of new infrastructure projects will require increased numbers of skilled construction workers, the increased digitisation of the economy will require more people with information and communications technology (ICT) skills, and our ageing population will need personal carers with appropriate skills. Technology changes will affect how we work in most industries, but the purpose of many occupations will remain fundamentally unchanged.

To be work-ready, graduates have always needed a combination of technical skills and general employability. While the balance of these skills may shift, we should expect students will continue to need training that builds both. Training should aim to equip students with the skills needed for their first job, and the flexibility and adaptability to navigate future career transitions. As we cannot fully predict the future workforce landscape and the skills required, we also need a system that supports workers to upskill or retrain throughout their lives. In our increasingly computerised world, digital skills will be critical for the vast majority of workers.

⁶ Taylor, Charlie, Jules Carrigan, Hassan Noura, Seckin Ungur, Jasper van Halder, Gurneet Singh Dandona 2019, *Australia's automation opportunity: reigniting productivity and inclusive income growth* McKinsey & Company; Committee for Economic Development of Australia 2015, *Australia's future workforce?* Melbourne.

⁷ OECD 2018, *Job Creation and Local Economic Development 2018: Preparing for the Future of Work*, Paris: OECD Publishing.

⁸ Heath Alexandra 2017, 'Skills for the Modern Workforce', speech, Remarks to the Victorian Career Advisors Conference, Melbourne, Victoria, 1 December.

⁹ World Economic Forum 2018, *Future of Jobs Report: 2018*, Geneva.

¹⁰ Innovation and Science Australia, Submission to the VET Review, p 1.

¹¹ Department of Jobs and Small Business projects strong growth in care related occupations such as child carers (27,600) and education aides (18,800).



Sustained jobs growth in Australia to continue

Over the 10 years to November 2018, almost two million additional jobs were created in Australia, half of which were in just three industries: Health care and social assistance (up by 565,900 jobs), Professional, scientific and technical services (up by 308,000 jobs) and Education and training (up by 234,800 jobs).¹²

The Government has committed to the creation of a further 1.25 million new jobs over the next five years. The Department of Jobs and Small Business projects that the largest share of new jobs over this period will be in Health care and social assistance, the Construction industry, Education and training, and Professional, scientific and technical services.¹³ These projections also predict that 90 per cent of all new jobs will require some form of post-school education.

In view of Australia's ageing population and the operation of the National Disability Insurance Scheme, the Department of Jobs and Small Business (DJSB) projects that employment of aged and disability carers will increase by 39 per cent over the five years to May 2023. Additionally, ICT support technicians are projected to increase by 19 per cent and chefs by 17 per cent over the same period.¹⁴

The Australasian Railway Association has estimated that there will be a 28 per cent workforce gap (the difference between labour demand and supply, accounting for attrition) in the rail industry by 2023–24;¹⁵ and the Government's \$90 billion investment for naval-ship building projects is expected to generate an additional 25,000 jobs in South Australia alone.¹⁶ Given there will also be a need to replace existing workers as they retire or change occupations, there will be significant ongoing demand for skilled workers.

Skills shortages

Skills shortages already exist in many parts of the Australian labour market. They can be due to a number of complex and interacting factors, not all directly related to training or the number of people being trained. High levels of aggregate demand are resulting in a tightening labour market in some states. For some occupations, relatively low wages, unattractive working conditions, regulatory changes or high staff turnover limit the ability of employers to attract and retain sufficient workers.

¹² Australian Bureau of Statistics 2018, *Labour Force Australia – Quarterly, November 2018*, cat. no. 6291.0.55.003, Canberra, trend data.

¹³ Department of Jobs and Small Business 2018, *Industry Employment Projections, five years to May 2023* Canberra: Australian Government.

¹⁴ Department of Jobs and Small Business 2018, *Occupation Employment Projections, five years to May 2023* Canberra: Australian Government.

¹⁵ The Australasian Railway Association, Submission to the VET Review.

¹⁶ Christopher Pyne, Simon Birmingham and Karen Andrews, "Naval shipbuilding college to meet naval shipbuilding needs", joint media release, 3 April 2018.



Skills shortages are particularly prevalent in trade related occupations, with shortages evident in nearly all trade occupations surveyed in 2018.¹⁷ For many of these occupations, the shortages are long-standing, having been evident for most of the last decade. Notably, they are in occupations for which an apprenticeship is the main training pathway; low training wages for up to four years were cited by respondents to the Review as one reason why young people are less attracted to the traditional apprenticeship model.

Businesses are able to use migration to help meet their skills needs. In 2017–18 around 111,000 people entered Australia through the Skill stream of the Migration Program, of which 6,640 were for Technician and trades workers occupations.¹⁸ In addition to permanent skilled migration, employers are able to meet short term skills needs through temporary visas. As at 30 June 2018, there were 83,470 temporary skill visa holders in Australia, of which 23,010 were for Technicians and trades workers occupations and a further 1,540 were for Community and personal service workers.¹⁹

With changes to Australia's approach to skilled visas and significant projected employment growth in certain occupations, there will be further pressure to digitise and automate to fill skills gaps. It is critical that the vocational education sector is able to deliver quality training in a flexible and innovative manner to help prevent skills gaps from emerging and to keep pace with the rate of technological change.

The Australian vocational education and training system

Features of the VET sector

Students

In 2017, an estimated 4.2 million students participated in the national vocational education and training sector across Australia. Around half of VET students undertook training in a short course – these included skillsets or subject-only enrolments, such as first aid courses and Responsible Service of Alcohol. The remainder were training in an Australian Qualifications Framework (AQF) qualification. Of all VET students, just over one-third (35 per cent) were studying an institutional VET qualification and 8 per cent were undertaking an apprenticeship or traineeship.²⁰ Around 6 per cent of VET students were school students undertaking VET as part of their senior secondary certificate of education, including around 20,000 undertaking an Australian School-based Apprenticeship. Figure 1.1 provides details.

¹⁷ Department of Jobs and Small Business 2018, *Ratings Summary – Labour Market Analysis of Skilled Occupations 2018*, Canberra: Australian Government.

Note: the Department of Jobs and Small Business skill shortage research covered around 25 per cent of all technician and trade occupations in 2018.

¹⁸ Department of Home Affairs 2018, *2017–18 Migration Program Report: Program year to 30 June 2018*, Canberra: Australian Government.

Note: These data refer to primary visa holders (whose skills are assessed against an occupation for visa purposes) and secondary visa holders (that is, spouses and dependents who are not assessed against an occupation or aligned to an occupation for visa purposes).

¹⁹ Department of Home Affairs 2018, *Temporary resident (skilled) report at 30 June 2018*, Canberra: Australian Government.

Note: Data refer to primary visa holders for both subclass 457 and 482.

²⁰ NCVET 2018, *National VET Provider Collection*, Adelaide: NCVET (accessed via VOCSTATS).



Figure 1.1: VET students, by training type, 2017²¹



Notes:

1. The proportion of students of each training grouping is illustrative only and does not account for students undertaking study of more than one type.
2. 'Short courses' includes subject-only enrolments and skillsets.
3. In this diagram, qualifications delivered as part of an apprenticeship or traineeship are categorised under 'Apprentices and Trainees'; whereas 'Institutional VET qualifications' includes programs that have an AQF level but are not delivered as part of an apprenticeship or traineeship.

View the text alternative for [Figure 1.1](#).

In 2017, around 1.2 million VET students received some amount of government subsidy. Of these, over three-quarters (76 per cent) were training in a VET course that was not an apprenticeship or traineeship.²²

Nearly all apprentices and most trainees received a government subsidy. Around half of students undertaking an institutional VET qualification, who are not an apprentice or trainee, received a subsidy.

Government-funded VET enrolments are highly responsive to policy changes. From 2009 to 2012, the number of government-funded VET students increased by around 21 per cent; this was mainly driven by growth in enrolments in certificate III and IV qualifications resulting from the introduction of the entitlement to government funding system in Victoria in 2009.²³

²¹ NCVER 2018, *National VET Provider Collection* (accessed via VOCSTATS).

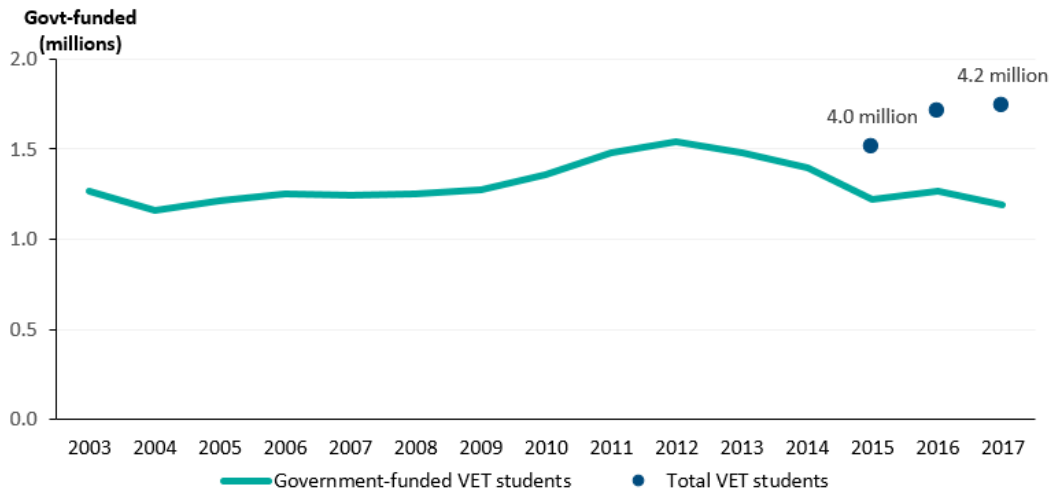
²² NCVER 2018, *National VET Provider Collection* (accessed via VOCSTATS).

²³ Burke, Gerald 2018, *Changes in funding in Australian vocational education and their effects*, Victoria: L H Martin Institute, Graduate School of Education, University of Melbourne.



From 2012 to 2017, government-funded VET enrolments fell by around 23 per cent. This was driven by several policy changes, including the withdrawal of employer incentives for existing worker traineeships and tightening of the entitlement schemes in several jurisdictions, including Victoria and South Australia.²⁴ Government-funded VET enrolments in 2017 were very similar to 2004 levels. See Figure 1.2 for trends in total and government-funded students from 2003 to 2017.

Figure 1.2: Trends in total and government-funded students, 2003 to 2017²⁵



Note: The total VET students and courses data collection commenced in 2014. The data collection is not yet sufficiently mature to undertake robust trend analysis.

View the text alternative for [Figure 1.2](#).

In 2017, of all VET students:

- nearly one-third were aged less than 25 years, around 42 per cent were aged 25 to 44 years and around 24 per cent were aged 45 years or over,
- 51 per cent identified as male, and 47 per cent as female,
- 28 per cent trained in regional locations and 3 per cent in remote or very remote locations. This compares to 27 per cent of the Australian population living in regional areas and 2 per cent living in remote or very remote areas,²⁶
- 3 per cent identified as Indigenous, similar to the proportion of the total Australian population,²⁷
- 4 per cent reported as having a disability, and
- 4 per cent were international students.

See Appendix C for information about VET student demographics.

²⁴ Hargreaves, Jo, Stanwick John and Skujins Peta 2017, *The changing nature of apprenticeships 1996–2016*, Adelaide: NCVER; Bowman, Kaye and Suzy McKenna 2016, *Jurisdictional approaches to student training entitlements: commonalities and differences*, Adelaide: NCVER.

²⁵ NCVER 2018, *National VET Provider Collection* (accessed via VOCSTATS).

²⁶ Australian Bureau of Statistics 2017, *Census of Population and Housing – 2016*, cat no. 2017.0. Canberra.

²⁷ Australian Bureau of Statistics, *Census of Population and Housing – 2016*, cat no. 2017.0.



Qualification levels and courses

In 2017, there were nearly 3.4 million VET program enrolments. This includes enrolments in training package qualifications, skillsets and accredited courses and excludes subject-only enrolments. Nearly three-quarters (74 per cent) of program enrolments were in a training package qualification. Around 18 per cent were in a nationally or locally accredited course and 8 per cent were in a nationally or locally accredited skillset.

In 2017, there were 2.5 million reported program enrolments across 59 training packages. Business Services accounted for the largest share of enrolments (14 per cent), followed by Community Services (13 per cent) and Tourism, Travel and Hospitality (9 per cent). The top 20 training packages by enrolments in 2017 are shown in Figure 1.3.

Figure 1.3: Top 20 training packages by enrolments, 2017²⁸



Notes:

* Information and Communications Technology

** Agriculture, Horticulture and Conservation, and Land Management

^ Electrotechnology

Hairdressing and Beauty Services

View the text alternative for [Figure 1.3](#).

At the qualification level, the most commonly enrolled qualifications were related to childhood education and care, and business. The top 10 enrolled qualifications are shown in Table 1.1.

Appendix D provides a list of all training packages and their associated qualifications.

²⁸ NCVET 2018, *National VET Provider Collection* (accessed via VOCSTATS).

**Table 1.1: Top 10 qualifications by enrolments from VET training packages, 2017²⁹**

	Number of enrolments	Percentage of total enrolments
Diploma of Early Childhood Education and Care	67,532	2.7%
Certificate III in Individual Support	61,935	2.5%
Certificate III in Early Childhood Education and Care	54,226	2.2%
Certificate III in Business	45,712	1.8%
Certificate II in Business	44,293	1.8%
Certificate I in Construction	42,600	1.7%
Diploma of Leadership and Management	41,205	1.6%
Certificate II in Skills for Work and Vocational Pathways	35,240	1.4%
Certificate II in Hospitality	34,922	1.4%
Certificate III in Electrotechnology Electrician	33,617	1.3%
Total training package qualifications	2,507,352	

Apprentices and trainees

The latest estimates from the National Centre for Vocational Education Research (NCVER) show that as at 30 September 2018, there were 267,400 apprentices and trainees in-training. Of these, 173,090 (65 per cent) were training in a trade-related occupation (Australian and New Zealand Standard Classification of Occupations major group 3 Technicians and trades workers).³⁰ A total of 18 per cent of trade apprentices were training to be a bricklayer, carpenter or joiner, 16 per cent to be an electrician, 13 per cent to be an automotive electrician or mechanic, and 10 per cent to be a plumber.

Since 2012, the total number of apprentices and trainees in-training has nearly halved (down by 45 per cent), from 485,500 as at 30 September 2012 to 267,400 as at 30 September 2018. The main reduction has been in non-trade apprentices (down by 66 per cent), which was driven by the removal of employer incentives for existing worker traineeships and apprenticeships not on the National Skills Needs List (NSNL) in 2012 and 2013.³¹

For trade occupations, the number of apprentices in-training fell by 18 per cent over the same period, mainly in trade occupations not on the NSNL.³² See Figure 1.4 for the trend in apprentices and trainees in-training from 30 September 2008 to 30 September 2018.

²⁹ NCVER 2018, *National VET Provider Collection* (accessed via VOCSTATS).

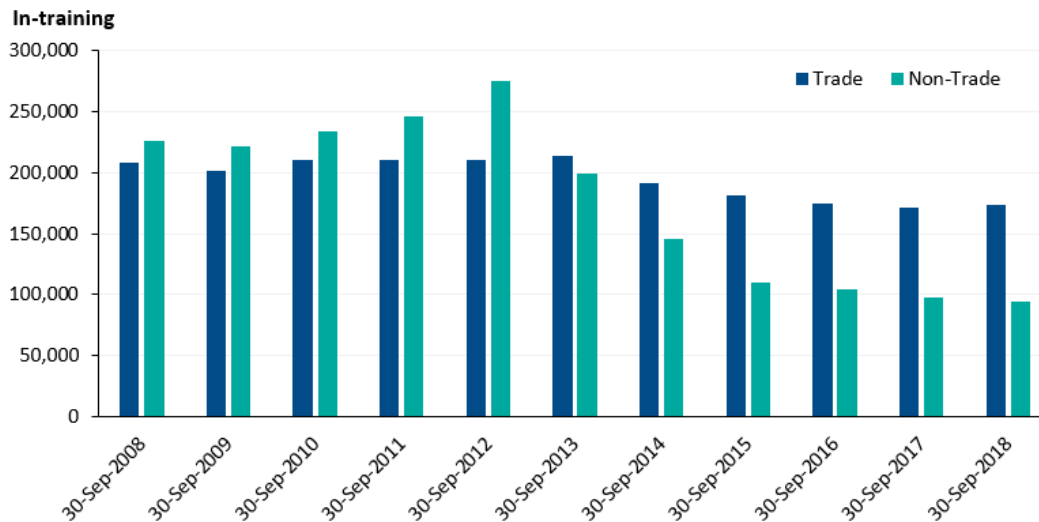
³⁰ NCVER 2018, *National VET Provider Collection* (accessed via VOCSTATS).

³¹ Hargreaves, Stanwick and Skujins, *The changing nature of apprenticeships 1996–2016*.

³² From 30 September 2012 to 30 September 2018, there was a 60 per cent reduction in the number of apprentices in-training in non-NSNL occupations and a 4 per cent reduction in NSNL occupations.



Figure 1.4: Trend in apprentices and trainees in-training by trade and non-trade occupations, 30 September 2008 to 30 September 2018³³



View the text alternative for [Figure 1.4](#).

Employers

In 2017, 54 per cent of employers used the VET system to meet their training needs, while 51 per cent arranged or provided unaccredited training to their staff. Large employers were more likely to use the VET system (85 per cent), compared with small employers (48 per cent).³⁴

Registered Training Organisations

As at 1 February 2019, there were a total of 4,302 Registered Training Organisations (RTOs) registered to deliver national recognised training.³⁵ Of these, 75 per cent were private training providers. The remainder were publicly funded institutions such as TAFE institutions, some dual-sector universities and schools and other providers such as community education providers, enterprise providers and industry and professional associations.³⁶ Around 89 dual-sector providers are registered to deliver both VET and higher education courses.³⁷

Over 60 per cent of all VET students trained at a private Registered Training Organisation (RTO) in 2017, with the next largest group being at TAFEs (16 per cent). However, around 30 per cent of students who were studying a VET qualification did so at a TAFE.³⁸

³³ NCVER 2018, *Apprentices and Trainee Collection*, Adelaide: NCVER (accessed via VOCSTATS).

³⁴ NCVER 2017, *Australian vocational education and training statistics: employers' use and views of the VET System 2017*, Adelaide: NCVER.

³⁵ "RTO Count", Training.gov.au, accessed 20 February 2019, <https://training.gov.au/Reports/RtoCount>.

³⁶ Professional associations provide professional development for a particular industry.

³⁷ Tertiary Education Quality Standards Agency (TEQSA) 2018, *Statistics report on TEQSA registered higher education providers 2018*, Melbourne.

³⁸ NCVER 2018, *National VET Provider Collection* (accessed via VOCSTATS).



TAFEs received around 72 per cent of government funding in 2017, and trained about 49 per cent of total government-funded VET students. Non-TAFE providers received about 28 per cent of government funding and trained just over half of government-funded students.

In terms of student cohort size, TAFEs had the largest student cohorts with an average estimated 16,600 students per TAFE compared with an average of 808 students per private RTO. However, there are also private RTOs with large student cohorts.

Key parts of the VET architecture

The Commonwealth and State and Territory governments have joint responsibility for the VET sector. These arrangements, including objectives and outcomes, are set out in the National Agreement for Skills and Workforce Development (NASWD).

The States and Territories are largely responsible for the delivery and operation of VET in their own jurisdictions, including funding of RTOs and the matching of funded training delivery to local economic priorities.

Over time, the Commonwealth has become increasingly involved in VET policy particularly in the areas of qualifications and quality assurance. The Commonwealth and States and Territories share responsibility for the architecture that provides national qualifications that are recognised across all States and Territories. The Council of Australian Governments (COAG) Industry and Skills Council (CISC), comprising Commonwealth, State and Territory government industry and skills ministers, is mandated to provide leadership and direction for the sector.

The Australian Industry and Skills Committee (AISC) comprises government-appointed industry representatives from the Commonwealth and each State and Territory who advise CISC on policy directions and decision making in the national training system as well as coordinating the development of training packages.

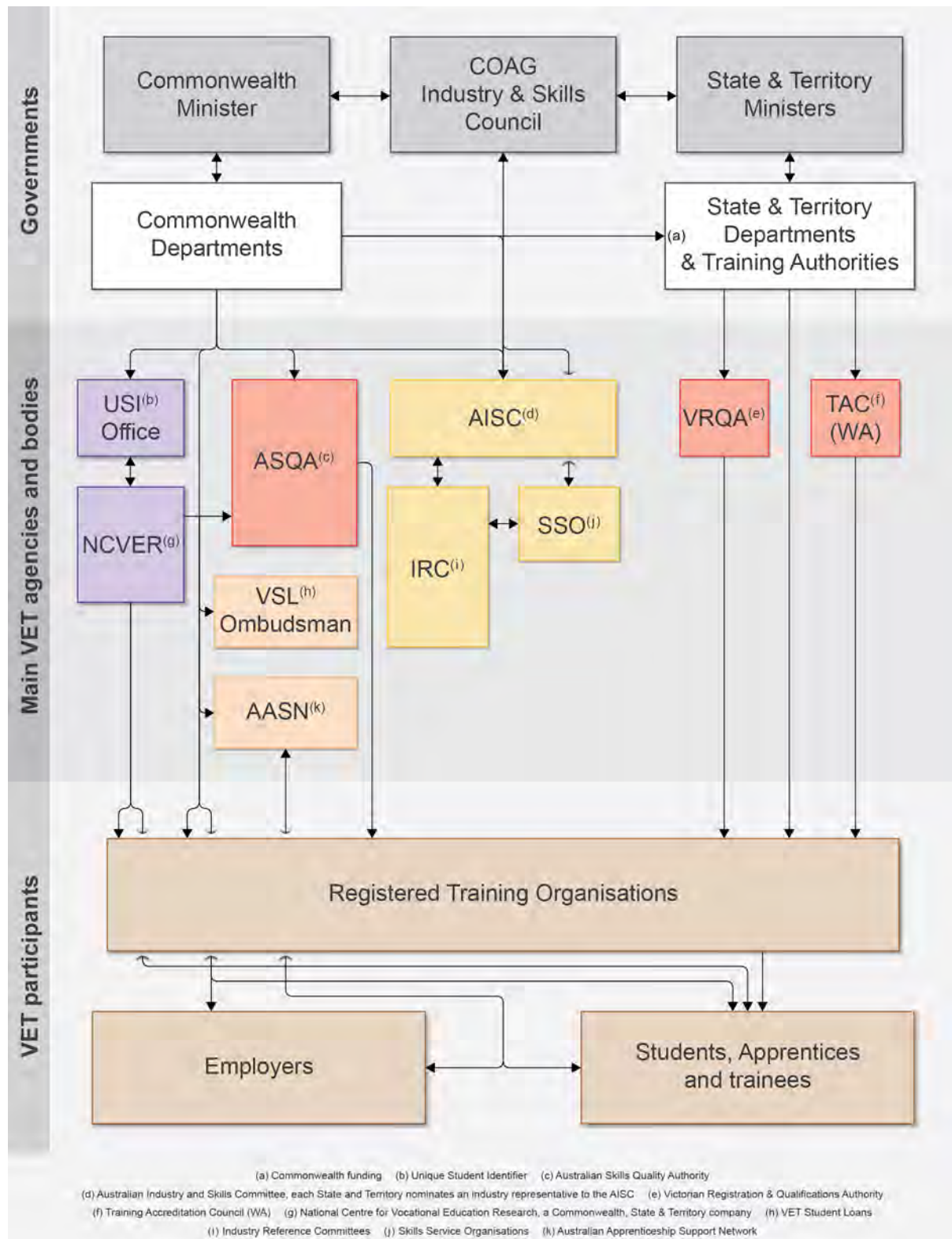
A training package is a set of nationally endorsed standards and qualifications for recognising and assessing people's skills in a specific industry, industry sector or enterprise. Training packages are developed by Industry Reference Committees (IRCs) working with Skill Service Organisations (SSO), to ensure that industry skill requirements are reflected in the national training system. Industry Reference Committees report to the AISC, which refers training packages to CISC for final approval.

The relatively new national regulator of VET, the Australian Skills Quality Authority, registers training providers, monitors compliance with national standards and investigates quality concerns, for all States and Territories that have referred their powers. In the two States that haven't referred, Victoria and Western Australia, ASQA regulates providers who enrol international students and multi-jurisdictional providers while remaining RTOs are registered with the Victorian Registration and Qualifications Authority and the Training Accreditation Council Western Australia.

See Figure 1.5 for a schematic of the current VET system.



Figure 1.5: Schematic of the current VET system



View the text alternative for [Figure 1.5](#).



Short history of vocational education in Australia

The Australian VET system evolved gradually. The initial expansion of apprenticeships across a variety of fields and the establishment of vocational institutions (for example, technical colleges) occurred differently in each State and Territory and with little Commonwealth funding.

A greater Commonwealth involvement in VET commenced during the 1970s.³⁹ The Kangan Committee report of 1974, *TAFE in Australia*,⁴⁰ began a significant expansion of the VET sector. During this period, the apprenticeship model was extended to a much wider range of occupations, mainly non-trade,⁴¹ and the Australian Traineeship System was introduced (1985) for jobs in the service industries.⁴²

In 1990, the Commonwealth, State and Territory governments agreed on a national approach to VET with shared responsibility, and in 1992 the national Vocational Education and Training System Agreement was signed.⁴³ The agreement made provisions for nationally recognised competency-based training, recognition of an individual's prior learning, a role for industry in driving the system and the development of a more open national training market.

The Australian National Training Authority (ANTA) was established in 1994, the National Training Framework also in 1994 and the AQF in 1995.

The VET system has undergone a number of changes in the last decade as the Commonwealth, State and Territory governments have introduced reforms in federal financial relationships and public funding programs, revised national structures in qualification development and quality assurance, and made changes to the governance of government-owned training providers. At the same time, the States and Territories have undertaken reforms of their training subsidies and their own training providers.⁴⁴ See Table 1.2 for key changes that have occurred.

³⁹ Department of the Prime Minister and Cabinet 2014, *Roles and responsibilities in education part B: reform of the Federation White Paper issues paper 4*. Canberra: Australian Government. Retrieved from Analysis and Policy Observatory Website: <https://apo.org.au/node/56124>.

⁴⁰ Kangan, Myer, Australian Committee on Technical and Further Education 1974, *TAFE in Australia: report on needs in technical and further education, April 1974 [Kangan report]*, Canberra: Australian Government Publishing Service.

⁴¹ Committee of Inquiry into Labour Market Programs 1985, *Report of the Committee of Inquiry into Labour Market Programs [Kirby Report]*, Canberra: Australian Government Publishing Service.

⁴² Ray, John 2001, *Apprenticeship in Australia: An historical snapshot*, Leabrook, Adelaide: NCVER.

⁴³ Bowman, Kaye and Suzy McKenna 2016, *The development of Australia's national training system: a dynamic tension between consistency and flexibility*, Adelaide: NCVER.

⁴⁴ Bowman, Kaye and Suzy McKenna 2016, *Jurisdictional approaches to student training entitlements: commonalities and differences*, Adelaide: NCVER.



The general objective of the reforms has been to improve skills in Australia to support economic growth through stronger labour force participation and productivity. The reforms have supported more student and employer choice in training providers, with targeted subsidies and income-contingent loans from governments being made available to a broader range of public and private RTOs. In recent times, as a result of budget pressures, demand-driven programs have become increasingly targeted to priority skills areas, support for first qualifications, those impacted by structural adjustment, and/or people who need assistance to engage in training, including foundation skills.

The operations of publicly owned providers, the TAFEs, have become more independent to allow greater flexibility in meeting the needs of students and industry. There are clearer subsidies for training separate from general support for the public institution. Changes to subsidies and governance under demand-driven models have led to budget pressures and adjustment challenges for the TAFEs.

The NASWD was updated in 2012, and a new National Partnership Agreement on Skills Reform (NPASR) was agreed to drive reforms of the national training system, including the introduction of demand-driven contestable market funding and a national training entitlement. This also involved expanding access to income-contingent loans for subsidised higher level courses (VET FEE-HELP).⁴⁵

Further changes were made by Commonwealth and State and Territory governments as a result of unintended consequences associated with this agreement. Poor provider behaviour related to the national training entitlement, government subsidies and the VET FEE-HELP scheme necessitated stronger contracting arrangements to stop exploitative behaviour.

Table 1.2: Australian VET system – selected key reforms

1990s	<p><i>Vocational Education and Training Funding Act 1992</i> enabled the Commonwealth to provide funding to the States and Territories for VET delivery (to 2005). The ANTA was established in 1994 and continued until 2004.</p> <p>New apprenticeship model (now Australian Apprenticeships) introduced along with user choice (employee and employer could choose the RTO), part time and existing worker arrangements as well as the introduction of school-based apprenticeships and traineeships. National training packages started to replace State and Territory-based course material for qualifications. Public funding expanded from TAFEs to include some private training providers. Apprenticeship incentives introduced and expanded.</p>
1998-2006	<p>Expansion of the 'New Apprenticeships package' including a new incentives program, expanded VET in schools and school-based apprenticeships and traineeships, plus introduction of a New Apprenticeship Access Program to provide support for job-seekers to obtain a New Apprenticeship. Also introduced New Apprenticeship Centres.⁴⁶</p>
2005	<p><i>Skilling Australia's Workforce Act 2005</i> introduced to enable the Commonwealth to continue financial assistance to the States and Territories for VET (to 2017). Australian Technical Colleges and Tools for your Trade initiative introduced.</p>

⁴⁵ Council of Australian Governments 2012, *National Partnership Agreement on Skills Reform*, Canberra.

⁴⁶ Ray 2001, *Apprenticeship in Australia: An historical snapshot*, Leabrook, Adelaide: NCVER.



2008	Skills Australia established (renamed the Australian Workforce and Productivity Agency in 2012) (continued until 2014).
2009	NASWD came into effect as part of the new Intergovernmental Agreement on Federal Financial Arrangements (current). Commonwealth's income-contingent loan ⁴⁷ scheme (VET FEE-HELP) to VET students in diploma and advanced diploma full-fee qualifications was introduced (previously loans had only been available for higher education students).
2011	Building Australia's Future Workforce reforms announced including establishment of the National Workforce Development Fund, incentives for competency-based progression of Australian Apprenticeships and trade apprenticeship mentoring. ⁴⁸ ASQA established as the national regulator. States and Territories (except Victoria and Western Australia) join over the next few years.
2012	A new NPASR agreed. This included the introduction of demand-driven contestable market funding and a national training entitlement (to 2017). States and Territories introduced reforms to subsidy systems, and also reformed their TAFEs, noting that Victoria started reforms in 2009 and South Australia in 2012. ⁴⁹ Access to VET FEE-HELP for subsidised higher level courses expanded to a broader range of public and private providers.
2012-2013	Apprenticeship incentives for a range of employers and existing workers discontinued, including apprenticeships and traineeships not leading to occupations on the NSNL.
2014	Tools for your Trade payments ceased and converted to Trade Support Loan Program.
2015	AISC by CISC along with IRCs and SSO. Australian Apprenticeship Support Network (AASN) introduced.
2017	VET Student Loans (VSL) replaced VET FEE-HELP.
2018	New National Partnership Agreement, the Skilling Australians Fund, agreed to support apprenticeship numbers. New South Wales, South Australia, Western Australia, Tasmania, Northern Territory and the Australian Capital Territory are signatories to the Skilling Australians Fund.

Current reforms in VET

A number of key reforms are currently under way in the VET sector. Some of the more significant pieces of work include the Government's response to Professor Valerie Braithwaite's independent review of the *National Vocational Education and Training Regulator Act 2011* (NVETR Act).⁵⁰ Professor Braithwaite's review examined the legislative capacity of ASQA to ensure effective regulation of the VET sector.

⁴⁷ An income-contingent loan is a loan for which repayments are not required unless a person's income reaches a certain threshold and with repayments that vary according to income above that threshold.

⁴⁸ Australian Government 2011, *Budget Paper No. 2, Budget Measures 2011-12*, Canberra.

⁴⁹ NCVET 2016, *Jurisdictional approaches to student training entitlements: commonalities and differences*, Adelaide: NCVET.

⁵⁰ Braithwaite, Valerie 2018, *All eyes on quality: Review of the National Vocational Education and Training Regulator Act 2011 report*. Canberra: Australian Government.



The Commonwealth, State and Territory governments, industry peak bodies and the AISC are working together on training package reform. A 2017 discussion paper, 'The Case for Change', informed the work, which is focused on qualification design.

The training package reform work is linked to a review of the AQF. The intent of that review is to 'ensure that the AQF continues to meet the needs of students, employers, education providers and the wider community'.⁵¹ The AQF review will be completed by September 2019.

As part of its regional education package, the Commonwealth established an Expert Regional Education Advisory Group to develop a strategy to address education and training opportunities in regional communities. This will include improving access, opportunity and choice in post-secondary education. The Group is scheduled to deliver its final report by 28 June 2019.

Additionally, the CISC is working to improve VET performance information available for consumers, including a new employer survey, an RTO performance dashboard on the My Skills website and improved data linkages to show VET pathways and outcomes.

The Commonwealth is working to improve the data available to students to help them identify pathways to job opportunities through education through a Jobs and Education Data Integration project. This project is expected to include a Skill Transferability Tool by mid-2019.

Public funding for VET

Total public funding into the VET sector increased rapidly from \$7.8 billion in 2008–09 to a peak of \$9.4 billion in 2014–15.⁵² The increase was partially driven by the expansion of the VET FEE-HELP scheme in 2012, with the removal of the requirement that VET FEE-HELP courses had to articulate into a higher education course. This was exploited by unscrupulous providers who enrolled unqualified students in courses, leaving the students with a debt and no qualification.

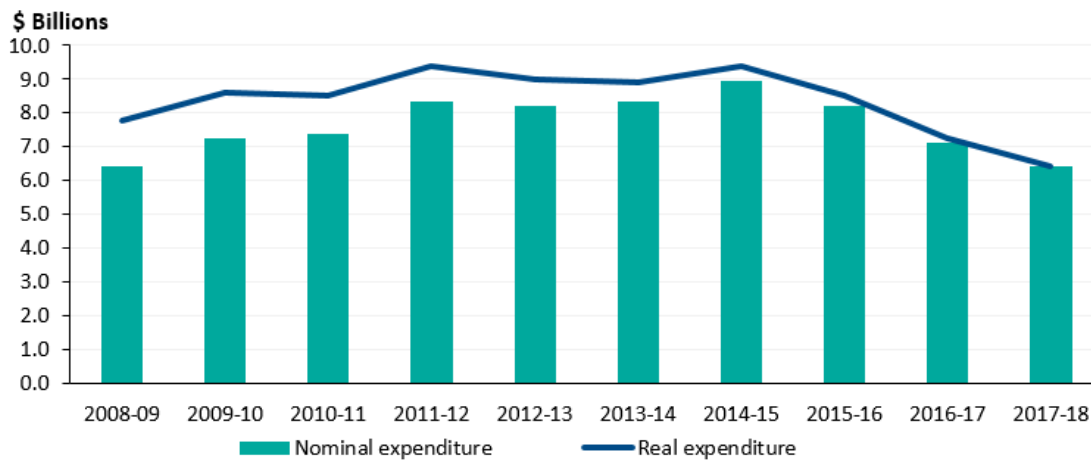
In 2016, the Commonwealth announced the closure of the VET FEE-HELP scheme and in 2017, replaced it with the more targeted VSL program. This change, along with the removal of employer incentives for existing worker traineeships and non-NSNL trade apprentices in 2012 and 2013, and a decline in State and Territory subsidy funding from 2012–13, contributed to total public funding falling by 32 per cent to just over \$6 billion in 2017–18 (see Figure 1.6). Funding is discussed further in Chapter 5.

⁵¹ Department of Education and Training, "Australian Qualifications Framework Review", <https://www.education.gov.au/australian-qualifications-framework-review-0>.

⁵² Department of Education and Training, *Annual Reports*; Australian Government, *Final Budget Outcome papers*, 2008–09 to 2016–17; NCVET 2018, *Australian vocational education and training statistics: financial information*, 2008 to 2017, Adelaide: NCVET; Australian Bureau of Statistics 2019, *Consumer Price Index, Australia, December 2018* cat.no. 6401.0; Department of Education and Training, unpublished data.



Figure 1.6: Total government expenditure into the VET system⁵³



Notes:

1. Excludes capital expenditure.
2. Includes cash outlays for income contingent loans, i.e. VET FEE-HELP, VSL and Trade Support Loans.
3. Real expenditure (base = 2017–18).

View the text alternative for [Figure 1.6](#).

Current VET sector performance

Completion rates

For government-funded VET programs, the completion rate was 39 per cent for programs commenced in 2014, a slight decrease from 40 per cent for courses commenced in 2012. NCVET projects that the completion rate for all VET programs commenced in 2016 will be 47 per cent.

Government-funded VET programs commenced in 2014 at the diploma level and above had the highest completion rate, 51 per cent, compared to other VET qualification levels. NCVET has projected that in 2016, certificate IV programs will have the highest completion rate at 54 per cent.⁵⁴

⁵³ Department of Education and Training, *Annual Reports*; Department of Education and Training, *Portfolio Additional Estimates Statements, 2017-18*; Australian Government, *Final Budget Outcome papers, 2008–09 to 2017–18*; NCVET 2018, *Australian vocational education and training statistics: financial information, 2008 to 2017*, Adelaide: NCVET; Australian Bureau of Statistics 2019, *Consumer Price Index, Australia, December 2018* cat.no. 6401.0; Department of Education and Training, unpublished data.

⁵⁴ NCVET 2018, *VET program completion rates 2016*, Adelaide: NCVET.



The individual completion rate for apprentices and trainees commencing in 2013 was 60 per cent for all occupations;⁵⁵ an increase from 59 per cent for 2011 commencements.⁵⁶ Trade occupations completions were 59 per cent while non-trade occupations were 60 per cent.

Employment outcomes

Employment outcomes for VET students are generally positive. In 2018, around 59 per cent of students who graduated from a VET course in 2017 stated that their employment status had improved after the training.⁵⁷ Of those who were not employed before training, 48 per cent were employed after training – this was similar regardless of whether they completed a subject or a full qualification.

Around 85 per cent of students who graduated from a VET course in 2017 were employed or enrolled in further study after training. People who complete higher VET qualifications generally earn more money than those without qualifications. Those with a certificate III or IV averaged median weekly earnings of \$1,087 in 2018, compared to those with no post-school qualification, who averaged \$844.⁵⁸

Apprenticeship and traineeship graduates had much higher rates of employment after training, at 71 per cent compared with 56 per cent for other VET graduates. Of graduates who undertook their training as part of an apprenticeship or traineeship in 2017, 80 per cent were employed in 2018.

In 2018, the median annual income of 2017 VET graduates employed full time after training was \$56,600. This can be compared with the median salary of \$61,000 for graduates from undergraduate courses who are employed full time.⁵⁹

Employer satisfaction with training

Employer satisfaction with the Australia VET system has been declining in recent years. In 2017, a survey of employers with jobs requiring VET found that approximately 75 per cent were satisfied that vocational qualifications provide employees with the skills they need for the job. This compares with a peak of 85 per cent in 2011. Employer satisfaction is now at its lowest rate in 10 years.⁶⁰

⁵⁵ NCVER 2018, *Australian vocational education and training statistics: completion and attrition rates for apprentices and trainees 2017*, Adelaide: NCVER.

⁵⁶ NCVER 2017, *Australian vocational education and training statistics: completion and attrition rates for apprentices and trainees 2016*, Adelaide: NCVER.

⁵⁷ NCVER 2018, *Australian vocational education and training statistics: VET student outcomes 2018*, Adelaide: NCVER.

⁵⁸ Australian Bureau of Statistics 2018, *Characteristics of Employment, Australia August 2018*, cat. no. 6333.0, Canberra.

⁵⁹ Social Research Centre 2019, *2018 Graduate Outcomes Survey – National Report*. Canberra: Department of Education and Training.

⁶⁰ NCVER 2017, *Employers use and views of the VET System 2017*, Adelaide: NCVER.



In 2017, 78 per cent of employers with apprentices and trainees were satisfied that students were obtaining skills they need from training (down from 82 per cent in 2015), while 82 per cent of employers who were using nationally recognised training were satisfied with training (down from 84 per cent in 2017). Of the 11 per cent of employers that were dissatisfied with vocational qualifications, poor training quality, not teaching relevant skills or not enough focus on practical skills were raised as the prevailing concerns.⁶¹

In comparison, of the 51 per cent of employers who used unaccredited training in 2017, 89 per cent reported that they were satisfied with this training. Of the employers who used unaccredited training, 11 per cent said there was comparable nationally recognised training available. When asked why they chose unaccredited training instead, the most common reasons were cost effectiveness (37 per cent) or that the approach was tailored to their needs (26 per cent).

A further 25 per cent of the employers using unaccredited training did not investigate the availability of national training, with other research suggesting a lack of awareness and the complexity of VET are both barriers to employers engaging with the system.⁶²

Student satisfaction with training

Students reported relatively high levels of satisfaction with VET with 87 per cent of 2017 qualification graduates satisfied with the overall quality of training. This result was slightly higher than the previous year (85 per cent).

Domestic fee-for-service graduates recorded slightly lower satisfaction rates (86 per cent) compared with Commonwealth and State or Territory funded graduates (87 per cent).

In 2018, 90 per cent of students who had completed subjects reported that they were satisfied with the overall quality of training. Unlike graduates, fee-for-service subject completers recorded higher satisfaction rates (92 per cent) compared with government-funded subject completers (80 per cent).⁶³

⁶¹ NCVER 2017, *Employers use and views of the VET System 2017*.

⁶² White, Ian, Navida De Silva and Tony Rittie 2018, *Unaccredited training: why do employers use it and does it meet their needs?* Adelaide: NCVER.

⁶³ NCVER 2018, *VET Student Outcomes 2018*.



International attraction

Internationally, Australia's education system is well regarded and highly attractive to international students. In 2018, the VET sector accounted for approximately 27 per cent of all international student enrolments in Australia, with a total enrolment of approximately 240,000 in VET, an increase of 14 per cent from the preceding year. India (12 per cent), China (9 per cent) and Brazil (8 per cent) are the top three source countries for enrolment in VET in Australia.⁶⁴ Annual growth is likely to continue, with VET enrolments projected to experience the greatest growth from the Philippines and India.⁶⁵ A survey of international students found 82 per cent of those studying in the VET sector indicated that Australia was their first choice for overseas study, with students expressing an overall satisfaction rate of 87 per cent.⁶⁶

⁶⁴ Department of Education and Training 2019, *International Student Data 2018*, Canberra, <https://internationaleducation.gov.au/research/International-Student-Data/Pages/InternationalStudentData2018.aspx>.

⁶⁵ Deloitte Access Economics 2016, *Growth and Opportunity in Australian International Education: A report prepared for Austrade*, Canberra.

⁶⁶ Department of Education and Training 2017, *International Student Survey Results for VET 2016*, Canberra.



2 Leadership of the VET system

The current state of VET

The vocational education sector in Australia is best known as the sector which trains people for jobs. While it encompasses a wide range of responsibilities, including foundation and second chance learning, and a wide range of qualifications and courses, it is the concept of work-based vocational learning that is most readily understood, valued, and articulated by industry and sectoral representatives.

Vocational education is hugely important to Australia's economic and social success. The ability to train people quickly and effectively, and then re-train them when technology and circumstances change, is crucial to ensuring that every Australian is able to participate in a strong and growing economy throughout their working lives.

Work-based learning has many strengths, and stakeholders in the sector are passionate about it. Many, if not most, of those who responded to this Review felt that the Australian vocational sector is currently performing respectably. Notwithstanding many issues of concern, most people are seen to be getting trained effectively and achieving qualifications that help them perform their work.

Many of those who participated in the Review went to some length to communicate that their various criticisms of the VET sector did not add up to a need for a wholesale rebuild of the system. Variations on 'don't throw the baby out with the bathwater' were regularly heard.

The flexibility of the current system, its ability to support students to design their study around their individual needs, the 'hands-on' nature of training and the delivery of job-ready graduates were all positives cited by respondents. The tenor of these comments chimed well with the results of surveys of employers and students.

However, the Review also heard about a number of issues facing the VET sector, and the concerns were largely consistent across the country. People want to see improvements in the processes that govern the system, in the marketing of the system and in access to it.



Main issues in the VET sector

The key issues being experienced in the VET sector by those who participated in the Review can be summarised as follows:

- Continuing variations in quality between providers, and concerns about the relationship between the regulator and providers.
- A cumbersome qualifications system that is slow to respond to changes in industry skills needs.
- A complicated and inconsistent funding system that is hard to understand and navigate, and which is not well matched to skills needs.
- A lack of clear and useful information on vocational careers for prospective new entrants.
- Unclear secondary school pathways into the VET sector and a strong dominance of university pathways.
- Access issues for Aboriginal and Torres Strait Islander Peoples and second chance learners seeking skills that will help them obtain and stay in meaningful work.

This Review has investigated all these issues and they will be addressed in some detail in subsequent chapters of this report. There is, however, a broader issue that needs to be addressed.

Recent experiences of poor provider behaviour, unduly short courses and variability in the quality of training have tarnished the sector's reputation. The fallout from the now closed VET FEE-HELP scheme in particular was regularly raised as an issue during the Review.

On top of that, there are the broader competitive issues that have been brewing for decades. Vocational education has been steadily losing the battle for hearts and minds with the university sector. Fewer young people aspire to undertake vocational education courses. Many consider VET as less prestigious and only for students who are of low academic ability.⁶⁷ The Review's own student survey confirmed that a lower number of students aspire to VET careers.

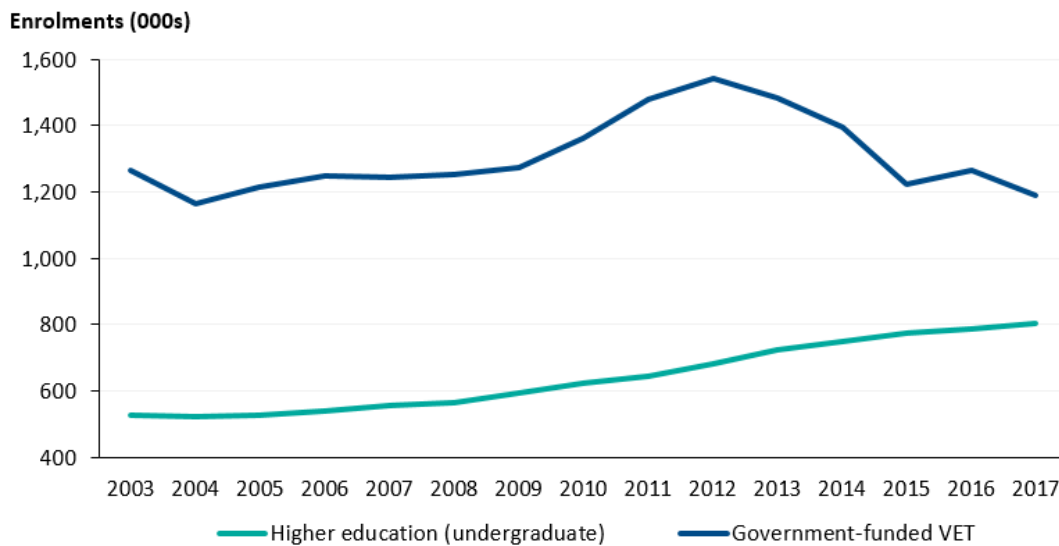
Competition from higher education providers is strong. Universities are offering sub-bachelor qualifications overlapping with qualifications offered in the VET sector. At the same time, increases in the school leaving age mean that more young people remain in school for longer. VET providers, particularly the bigger TAFE providers, are feeling squeezed in the middle.

Figure 2.1 indicates that over the last five years enrolments in higher education have risen while at the same time, government-funded VET enrolments have declined.

⁶⁷ Gore, Jennifer, Hywel Ellis, Leanne Fray, Maxell Smith, Adam Lloyd, Carly Berrigan, Andrew Lyell, Natasha Weaver and Kathryn Holmes 2017, *Choosing VET: investigating the VET aspirations of school students*, Adelaide: NCVET.



Figure 2.1: Government-funded student enrolments by sector, 2003 to 2017⁶⁸



View the text alternative for [Figure 2.1](#).

As we've seen, qualification enrolment numbers are decreasing and employers are reporting less satisfaction with the VET sector. Government-funded enrolments are also decreasing, and some public and private RTOs are struggling to break even.

Employers, trainees, their families, training providers and funders are reducing their reliance on the vocational education system. The Review heard of industries and employers that are no longer using the national system and are focusing on credentialing (private qualifications) instead.

Governments have collectively reduced funding for vocational education. After the turmoil of VET FEE-HELP and traineeship issues together with reduced State and Territory subsidies in recent years, funding for the sector is currently lower in real terms (down 7 per cent)⁶⁹ than what it was nearly a decade ago. Over the same period, total government university funding has gone up by 28 per cent and funding for schools has gone up by 24 per cent.⁷⁰

It is hard to come to any other conclusion than that, while the concept of work-based vocational education is understood and valued, some of the system architecture which is designed to support providers, students, employees and trainees is currently holding them back.

⁶⁸ NCVER, *National VET Provider Collection* (accessed via VOCSTATS); Department of Education and Training 2018, *Selected Higher Education Statistics – 2017 student data* (accessed via uCube).

Note: data for higher education is restricted to domestic students.

⁶⁹ Department of Education and Training, *Annual Reports*; Australian Government, *Final Budget Outcome papers*, 2008–09 to 2016–17; NCVER, *financial information*, 2008 to 2017; Australian Bureau of Statistics 2019, *Consumer Price Index, Australia, December 2018* cat.no. 6401.0; Department of Education and Training, unpublished data.

Note: Time period is 2008–09 to 2016–17.

⁷⁰ Department of Education and Training, *Annual Reports*; Department of Education and Training, *Portfolio Additional Estimates Statements 2008–09 to 2016–17*; Productivity Commission 2019, *Report on Government Services 2019, Part B Chapter 4A School Education*; Department of Education and Training, unpublished data.

Note: Time period is 2008–09 to 2016–17.



Some good work has been done in recent times, particularly in setting up the key elements of an integrated national framework such as the national regulator, ASQA, and nationally-portable qualifications. The Government's creation of a universal student identifier and the new VET Information Strategy have been further steps in the right direction. And the recent reforms to address the past VET FEE-HELP issues have helped restore some confidence.

However, the vocational education system clearly needs a new vision and a new reform plan, to help it improve its reputation and meet Australia's skills needs now and in the future.

A new vision and a new plan

The vocational education sector is hugely important in the Australian workplace and it could be even more important in the future. As the pace of technological change speeds up, the demand for work-based education methods that both train new entrants and update the skills of existing employees will only grow. Similarly, the need for employers to have an independent up-to-date record of the skills possessed by new employees will also increase.

However, for vocational education to meet the significant skills needs in Australia and again become the asset to Australian industry it once was, its systems and processes need a significant upgrade.

First, it needs a strong new commitment from the Commonwealth and the States and Territories as to its importance for meeting Australia's skill needs.

As we have seen, in recent years vocational education has declined in favour of universities. While university education is very important, it is not the only or even the most suitable method in many industries for learning the skills workers need to succeed. And, if nothing else, it would be extremely expensive and inefficient to train all Australians through the university system.

The changing nature of work is likely to make the vocational education system even more important in creating a productive workforce that is flexible and adaptive to change. It is crucial that all governments signal to the sector that they acknowledge its importance and are committed to it meeting a greater proportion of Australia's training requirements.

2.1 The Commonwealth and the States and Territories to agree a new vision for the VET sector that places work-based learning at the forefront of Australian skills development.

This new vision and strategy needs to position VET as a modern, fast-paced alternative to classroom-based education. It needs to enhance its reputation as a trusted, dynamic and adaptive sector that can deliver Australia's skills needs, now and in the future.



There needs to be a shared vision for VET that is endorsed by governments and stakeholders, and is publicly available. It should make clear the expected role for VET, including the roles and responsibilities of all participants in the system.

The vision should be supported by a detailed strategic plan that is updated regularly by ministers.

A six point plan to fix the system's issues

There has been considerable effort made over recent decades by governments to improve the VET system. The introduction of national qualifications, a national regulator and a universal student identifier are all important steps forward but they are not sufficient on their own to ensure the success of the VET system.

This Review proposes a six point plan and a roadmap to lift confidence in the governance and oversight of vocational education and encourage the sector to grow. The plan addresses the current pressures and inefficiencies in the sector's systems and processes, and will allow vocational training providers to perform their roles more effectively.

The proposed changes will strengthen industry's role at the heart of the system so relevant skills are developed through quality teaching and experience in workplaces. Through it, Australians will use VET as their direct path into the labour market – whether for their first job, for career progression, for transition to new industries or to create their own business.

2.2 The Commonwealth and the States and Territories adopt a six point plan to improve the architecture of the vocational education system and grow its contribution to training Australians, including:

- strengthening quality assurance,
- speeding up qualification development,
- simpler funding and skills matching,
- better careers information,
- clearer secondary school pathways, and
- greater access for disadvantaged Australians.

This Review does not call for a 'Commonwealth takeover' of the VET system. Such an approach has been discussed previously, and some stakeholders argued for it in this Review. While a Commonwealth-led and funded approach has made for a simpler university system, it would likely reduce the flexibility of the vocational education system to respond to the needs of each State's local economy beyond what was acceptable to the States and Territories or to industry.

The Review does, however, agree with many stakeholders that the current NASWD leaves the division of roles and responsibilities between the Commonwealth and the States and Territories loosely defined and that reduces accountability. This directly contributes to the system's problems. The Review makes a number of recommendations to clarify those responsibilities to ensure a nationally coherent vocational education system with sufficient flexibility to respond to local needs.



A clearer definition of VET

The current definition of the VET sector is very broad. When people talk about 4.2 million Australians participating in vocational training each year, they are not actually talking about work-based training that leads to a qualification.

As we saw in Chapter 1, more than half of those people are in fact being trained in short courses such as first aid and Responsible Service of Alcohol, often for regulatory reasons. Around 43 per cent are actually being trained in vocational AQF qualifications. Of these, about 80 per cent are in institutional VET qualifications⁷¹ and around 20 per cent in formal apprenticeships and traineeships.⁷²

Many people use various definitions of VET interchangeably. This adds to the complexity of the sector and makes it hard to accurately measure performance over the whole sector and across different parts of it.

The flexibility and variety in VET are strengths but also a weakness. The differences between a 'hobby course', a professional development course, literacy and numeracy training, workplace tickets or licences, single units of competency, full VET qualifications and higher education are blurred and frequently misunderstood.

Sometimes VET is associated with quite narrow interpretations such as only being traditional trade apprenticeships or only public TAFE institutes. It is often not associated with para-professional jobs in health care or high-tech industries driving the modern workforce. This has obscured the role of VET as a main training pathway for a number of careers.

There is a disconnect between formal definitions of VET and what is happening on the ground. While there exists a relatively formal definition of VET as defined by the NVETR Act,⁷³ governments currently bundle foundation skills including language, literacy and numeracy courses and some non-accredited, industry-specific training delivered by RTOs, under the umbrella of VET for funding purposes.

The Review recognises that the sector has evolved to deliver training outside its original remit and does not propose to unwind that. However, it is important to define VET in a way that cuts through the complexity of the system and boosts VET's reputation as well as confidence in its qualifications.

The Review considers that there is a need to critically examine the breadth and width of VET functions and classify the distinct 'streams' of VET. This will demystify the sector for outsiders, allowing them to identify where and how they can gain their first qualification, upskill or re-skill. Governments will be able to clearly target incentives and adjust policy settings in one stream without distorting or affecting other areas of VET.

⁷¹ Excludes formal apprenticeships and traineeships.

⁷² NCVET 2018, *National VET Provider Collection* (accessed via VOCSTATS).

⁷³ The *National Vocational Education and Training Regulator Act 2011* defines VET as covering all National Recognised Training including, accredited courses, training packages, qualifications, units of competency and skillsets being delivered by training organisations that are registered by the National VET Regulator (Australian Skills Quality Authority) as a Registered Training Organisation.



Breaking down the VET umbrella into streams will improve monitoring of the system, allowing for the creation of new performance measures that better align to the intended purpose of each part of the VET system. This will support the identification and regulation of underperforming RTOs, while rewarding strong performers.

- 2.3 The Commonwealth and the States and Territories agree new names and descriptions for each part of the vocational education sector, to be used to measure the performance of each distinct stream of provision:
- qualification-based training that leads to vocational careers (including courses and skillsets),
 - short courses,
 - foundation education (lower level courses for language, literacy, numeracy and digital literacy), and
 - VET in schools.

Each stream should have specific performance criteria. For example, the foundation education stream would be measured on how it improves language, literacy, numeracy and digital literacy. Funding (where it is provided) can then be applied accordingly.

It is proposed that VET in schools be in its own category because the system currently finds it hard to measure exactly what is being delivered across the country in schools. This subject is addressed further in Chapter 7. Once VET in schools is more clearly measured it may be counted either as full qualification training or as foundation education (as in pre-trades), for example.

Qualification-based vocational education

The qualification-based training stream would be the part of VET that is specifically delivering workplace training and qualifications. It would also meet international definitions of vocational education and training.

This component should be elevated as the primary stream of VET to re-establish the clear link between vocational education and employment. It is also the stream of VET that can be most compared with the university sector, which is important for determining the relative performance of the two sectors.

That comparison should be made clearly and regularly.

Over time, government funding support for students should be neutral as to whether enrolment at a particular AQF level takes place in a university or work-based learning environment. Funding support for students should include the tuition subsidy and/or income-contingent loan programs.

- 2.4 The Commonwealth and the States and Territories commit over time to reducing the differential in the level of student funding support at a particular Australian Qualification Framework level between qualification-based vocational education and university education.



Mandating work experience

There is an expectation that VET students are 'work ready' when they graduate. The most direct way to achieve this is to incorporate work-based training in qualifications.

There is also an implicit expectation in the vocational education brand that it involves work experience. Currently, however, only 20 per cent of qualification-based vocational students undertake a traineeship or apprenticeship.⁷⁴ The other 80 per cent is institution-based, with only some undertaking true work experience, although the high number of people employed while training will include many who are gaining work-based experience.

The OECD has proposed that modern vocational educational and training include a significant work-based component.⁷⁵ As a competency-based training system, vocational training should at least be providing evidence that students can demonstrate the skills they learn in a workplace setting.

Given the close linkages between VET and industry, incorporating more work-based training would allow students to develop the experience and competencies expected by employers, as well as making the sector more attractive and unique. This would give employers a greater role and ownership of the training being delivered and make sure it is relevant for today's jobs.

The Review therefore recommends that, over time, work-based learning be incorporated into all government-funded vocational qualifications. However, as this would be a significant change it therefore should be set as a long-term goal for the system.

2.5 To ensure the strength and uniqueness of the vocational education system, the Commonwealth and the States and Territories should set a long-term goal that all funded qualification-based vocational education should include formal work-based elements.

A new brand and a new focus for vocational education

Serious consideration needs to be given to applying a new overall brand to vocational education at the same time as upgrading the architecture of the VET system.

As we have seen, there has been damage caused to VET's reputation in recent years. Consideration needs to be given to re-branding the system to signify the changes that are occurring and encourage learners, their families and school teachers to re-rate vocational education away from being a second choice to university study.

⁷⁴ NCVET 2018, *National VET Provider Collection* (accessed via VOCSTATS).

⁷⁵ Martin, John P 2018, *Skills for the 21st Century: Findings and Policy Lessons from the OECD Survey of Adult Skills*, OECD Education Working Paper No. 166, Paris: OECD.



As things stand, the Review has learnt that the term VET or vocational education means different things to different people. Some people were unaware that they had participated in VET or even had a VET qualification. Even the term VET was confusing, with a few responses to the Review addressing issues related to veterinary science or defence veterans.

On the other hand, some people only relate VET to public TAFEs or what is generally considered a traditional trade apprenticeship. Others refer to TAFEs in a generic way, interchangeable with the term vocational education as in, 'are you going to a private TAFE or a public one?'

The Review therefore considers it appropriate to make a brand change to help bring new impetus to the sector. Terms like 'Professional Education', 'Technical Education', 'Technology Education', and 'Industry Education' are all used internationally to describe work-based learning towards established qualifications. On balance, the Review recommends 'Skills Education' for Australia which can be abbreviated to 'Skills Ed', but this should be suitably market-tested along with other alternatives before any change is made.

2.6 The Commonwealth and the States and Territories re-brand the overall VET sector to an alternative such as 'Skills Education' in conjunction with the system changes proposed in this Review, and market the sector as a modern, fast-paced skills acquisition alternative to institution-based learning in a university environment.

At the same time, the sector needs to be more active in emerging skills areas in order to be seen as a more modern method of education. Timely qualification upgrades in more traditional trades and skills will help the sector's reputation, but there are huge opportunities in industries such as digital technologies and human services for vocational training to fill workforce gaps, particularly at higher levels (for example, diploma and AQF levels 5 and 6).

Consideration needs to be given to a significant investment in qualifications development and funding in areas such as these, to help with the re-branding and marketing of the modern 'Skills Education' sector.

2.7 The VET sector be funded by the Commonwealth to develop strong and successful qualification pathways in growing employment areas such as digital technologies and human services, including higher-level diplomas and apprenticeships at levels 5 and 6 on the Australian Qualifications Framework.



3 Strengthening quality assurance

Variable quality and concerns about regulatory practice

Quality assurance is one of the parts of the VET system architecture that needs an upgrade. While much has already been done in this area, there remains more to do. Past problems with provider quality have caused some of the most serious reputational and confidence issues in vocational education.

Variation in the quality of provision between providers was one of the biggest concerns raised by participants in this Review. While those concerns were undoubtedly and significantly coloured by unscrupulous behaviour in the now closed VET FEE-HELP scheme, it is clear some issues are more current.

Many providers and employer representatives spoken with by the Review team were concerned about the continuing presence of what they called 'tick and flick' providers. These providers encourage people to complete qualifications in a much shorter time than is standard (for example completing what is generally acknowledged as a six month course over a three day weekend). It was argued that the presence of even a few such rogue providers gave the sector a continuing bad name.

Some employer groups and RTOs noted that it could be superficially attractive to students to be able to obtain a qualification in a fraction of the time, but graduates would discover too late they have paid for a qualification that may not be valued or possibly even accepted by employers. A number of employers cited the presence of 'tick and flick' providers as eroding their confidence in vocational education, because of fear of being duped by such a provider.

At the heart of such issues is the challenge of ensuring 'competency' in a particular skill. In order to be deemed competent in the Australian vocational education system, individuals are expected to demonstrate a consistent application of knowledge and skill to the standard of performance required in the workplace, and to demonstrate an ability to transfer and apply skills and knowledge to new situations and environments.

However, the model describes competency without reference to any benchmark level of time that may be expected to achieve such competency. It can be argued this provides a loophole for providers to assert competency when someone has acquired a relatively superficial level of understanding of a topic, with the resulting qualification not differentiating that graduate from someone who has a deeper and more thorough understanding of the skill and can demonstrate the application of the skill.

It is important to point out that concern about poor providers is now perceived as a few bad apples ruining it for everyone else, and damaging the reputation of the sector as a result. While a few submitters to the Review believed that 'all private providers are bad and should be banned', most agreed that most providers, public and private, are doing a reasonable and professional job of training their students.



NCVER survey results indicate that the Australian VET system generally provides high-quality training to its students. In 2017, a survey of employers found 75 per cent of employers with vocational qualifications as a job requirement were satisfied that these qualifications provide employees with the skills they need for the job. Additionally, 78 per cent of employers with apprentices or trainees were satisfied that students were obtaining skills they need from training, and 83 per cent of employers using nationally recognised training were satisfied that this training provides employees with the skills they need for the job.⁷⁶

At the same time as hearing concerns about rogue providers, the Review also heard frustration with ASQA from a range of RTOs.

ASQA has responsibility for regulating and auditing most providers in Australia. Many providers, both public and private, had concerns about the way ASQA currently conducts its audits. These included concerns with the inexperience of some auditors and in particular what they saw as an excessive focus on minor issues that did not impact on the quality of teaching and learning. They were also critical of variability between the treatment of providers by different auditors and a lack of positive guidance from the regulator.

While there was general acceptance of the need for a robust national regulator, particularly after the damage caused to the reputation of the vocational education sector during the VET FEE-HELP scheme, there was a strong sense that the approach the regulator is taking to its role is causing its own problems. Most concerningly, industries and RTOs in a number of jurisdictions, particularly smaller ones with thin training markets, cited examples of good long-term smaller providers leaving the sector because of the perceived risks and compliance costs associated with the way the ASQA regulatory regime is currently being implemented.

The sheer numbers of audits required of providers operating in the government-funded portion of the vocational sector adds to concerns about compliance costs. RTOs report having to deal with sometimes up to five separate audit regimes once state funding authorities, Commonwealth funding authorities (often more than one), and professional licensing bodies were all included.

The Australian Skills Quality Authority

ASQA is a relatively new regulator. It was established on 1 July 2011 under the NVETR Act. ASQA monitors RTO compliance against the requirements of the NVETR Act and its VET Quality Framework.⁷⁷ Its primary functions are to oversee the entry of RTOs into the market, accredit courses, carry out compliance audits and penalise non-compliance, including cancelling the registration of poor providers.⁷⁸

⁷⁶ NCVER 2017, *Employers use and views of the VET System 2017*.

⁷⁷ Braithwaite, *All eyes on quality: Review of the National Vocational Education and Training Regulator Act 2011 report*.

⁷⁸ Braithwaite, *All eyes on quality: Review of the National Vocational Education and Training Regulator Act 2011 report*.



ASQA regulates RTOs operating within States and Territories that have referred their regulation powers, which is all States and Territories except Victoria and Western Australia. It also regulates providers in non-referring States that operate across state boundaries, and providers in these States that offer courses to overseas students, both onshore and offshore.⁷⁹ Across Australia, ASQA regulates over 4000 RTOs, while in 2018 the Victorian Registration and Qualification Authority regulated 228 providers⁸⁰ and the Western Australia Training Accreditation Council regulated 224 providers.⁸¹

The size of the market ASQA oversees is significant, and in the early stages of its operation it focused on applications for registration and removing unscrupulous, low-quality or inadequate providers. Over time ASQA has sought to improve its audit practices. In 2016 it developed a new student-centred audit approach that focuses on RTO practices and behaviours during the key phases of the student experience: marketing and recruitment, enrolment, support and progression, training and assessment, and completion.⁸² This move towards a risk-based model from the prior process-based approach was well received by stakeholders at the time.⁸³

ASQA operates under a partial cost recovery funding model where fees and charges are placed on different regulated entities, including on RTOs and VET accredited course owners to fund ASQA's operations.⁸⁴ It is the Government's intention (Budget 2018–19) that ASQA will transition to a full cost recovery model by 2020–21.⁸⁵

ASQA was allocated an additional \$18.6 million of Commonwealth Government resourcing in the 2018–19 Budget, to be spent over the next four years. ASQA reports it will use this resourcing to 'increase its audit activity and enhance its regulatory scrutiny on high-growth areas... [it] will also contribute to managing reviews of ASQA's regulatory decisions requested by registered training organisations'. The new resourcing will expand ASQA's average staffing level from 184 to 199 people.⁸⁶

⁷⁹ ASQA website, *Jurisdiction*, last accessed 13 March 2019, <https://www.asqa.gov.au/about/agency-overview/jurisdiction>.

⁸⁰ Victorian Registration and Qualifications Authority 2018, *Victoria's Education and Training Regulator Annual Report 2017–18*, Melbourne: Victorian Government, p 14.

⁸¹ Government of Western Australia 2018, *Training Accreditation Council Annual Report 2017–18*, Perth: Government of Western Australia, p 17.

⁸² ASQA website, *ASQA's student-centred audit approach*, last accessed 13 March 2019, <https://www.asqa.gov.au/news-publications/publications/fact-sheets/asqas-student-centred-audit-approach>.

⁸³ Braithwaite, *All eyes on quality: Review of the National Vocational Education and Training Regulator Act 2011 report*, p 7.

⁸⁴ Australian Skills Quality Authority 2018, *Cost recovery implementation statement: Regulation of the vocational education and training (VET) sector 2018–19*, Australian Government, p 4.

⁸⁵ ASQA website, *Fees and charges*, last accessed 13 March 2019, <https://www.asqa.gov.au/about/fees-and-charges#what-is-cost-recovery->.

⁸⁶ Australian Skills Quality Authority 2018, *Annual Report 2017–18*, Australian Government, p 2-3.



Victorian and Western Australian regulators operate in a similar way to ASQA and the three regulators meet regularly and share information. Technically, however, they operate under their own legislation and standards, which are not identical to the national system.⁸⁷ The audit approaches have some differences from ASQA, partly due to the size and nature of the markets, and hence providers have greater familiarity with the personnel at the State regulators.

The Braithwaite report

The Commonwealth has recently overseen a scheduled review of the NVETR Act, which began six years after the Act commenced and ASQA was established. Professor Valerie Braithwaite released her report, *All eyes on quality: Review of the National Vocational Education and Training Regulator Act 2011* in January 2018. The NVETR Act review contained 23 recommendations.

The Commonwealth released its response to the review on 22 June 2018. It supported nine recommendations from the report to progress, and a further 11 recommendations in principle.

Rather than repeat the work of Professor Braithwaite, this Review has read her report carefully, and considered its conclusions in the context of its own submissions and consultations. The Review has chosen to underline some of her conclusions in this report, and these are noted in this chapter.

ASQA needs to take an educative approach

Most of those submitting to the Review and attending in-person consultations remained supportive in principle of ASQA as the national regulator for the VET sector, although the currently non-referring States seem in no hurry to refer their powers to ASQA.

It is the view of the Review that operating a single consistent national regulator is important for improving the reputation of, and confidence in, the vocational education sector. Students and employers should be able to expect all RTOs meet the same standards across Australia, and RTOs should be confident they are all held to the same national standard. We see no advantage in moving away from that.

⁸⁷ ASQA and the Western Australia Training Accreditation Council (WA TAC) audit against the *Standards for Registered Training Organisations (RTOs) 2015*, whereas the Victorian Registration and Qualifications Authority (VRQA) audits against the *Australian Quality Training Framework (AQTF) Essential Conditions and Standards for Continuing Registration* and the *VRQA Guidelines for VET Providers*. In terms of legislation, WA TAC operates within the *Vocational Education and Training Act 1996* and the *Vocational Education and Training (General) Regulations 2009*; the VRQA was established under the *Education and Training Reform Act 2006*, with reforms to its regulations in 2013 and 2017; and ASQA was established under the *National Vocational Education and Training Regulator Act 2011*.



3.1 The Commonwealth and the States and Territories to confirm their support for the Australian Skills Quality Authority as the single national regulator to provide consistent quality assurance to the vocational education sector. Once the further recommendations about quality assurance and qualifications made in this report are implemented, non-referring States should again consider referring their powers to the Australian Skills Quality Authority.

However, the Review is concerned about the quite surprising high levels of disquiet in the provider community about the way ASQA currently conducts its regulatory activity. There is always some tension to be expected between the regulator and the regulated, but it is apparent the issues expressed in this case go beyond that sort of healthy tension. The disquiet was also picked up by Professor Braithwaite in her review of the NVETR Act.⁸⁸

Many providers worry whether ASQA will treat them fairly and reasonably during the audit process. They have little understanding of the approach ASQA will take when it comes time for their next audit.

Some of these worries appear to boil down to a lack of information and guidance. The Review heard that there was limited proactive engagement and guidance by ASQA and this left RTOs confused and worried about meeting requirements. Although ASQA's regulatory standards are publicly available and the organisation engages with the sector through regular newsletters, providers said the standards were difficult to understand and difficult to act on.

This lack of information is not surprising. ASQA made it clear to the Review that it does not see its role as providing additional guidance and education to RTOs on its auditing process and compliance. It sees itself as purely a regulator, and doesn't believe it is funded to perform guidance and education functions.

This Review takes a different view. It is crucially important that guidance is provided by regulators to the regulated. A measure of a good regulator is not so much who it catches out as ensuring that the whole regulated community is operating confidently and effectively within the regulations set by the governing jurisdiction. Viewed in that way, the provision of guidance and advice is a crucial part of the role.

RTOs need to develop a strong familiarity with ASQA's auditing processes to ensure that they are not sanctioned for non-compliance through misunderstanding the requirements. In her report, Professor Braithwaite noted, '...often failure to comply in such systems is not the result of unwillingness, but rather being overwhelmed with the enormity of the task of compliance.'⁸⁹

⁸⁸ Professor Braithwaite identified a number of concerns, including 'the compliance burden on RTOs, the inconsistency of audits and auditors, the difficulty in making sense of ASQA's regulatory approach, and a disconnect from what RTOs considered important for regulation of the sector... [in short that] the sector's anxieties are increased by a lack of supportive regulatory conversations.'

Braithwaite, *All eyes on quality: Review of the National Vocational Education and Training Regulator Act 2011 report*, p 8.

⁸⁹ Braithwaite, *All eyes on quality: Review of the National Vocational Education and Training Regulator Act 2011*, p 51.



3.2 The Australian Skills Quality Authority to provide more information and guidance to Registered Training Organisations as to how it conducts its regulatory activities in order to improve ongoing understanding of and compliance with the Australian Skills Quality Authority requirements, and to reduce the cost and compliance burden to Registered Training Organisations.

At the time of the Review, ASQA was undertaking public consultation to help it better engage stakeholders in its regulatory practices, and to discern how it can best recognise and support improvement, building on Professor Braithwaite's recommendations.⁹⁰

A simple place to start would be the publication of all completed audits and compliance notices so that providers can actually see where ASQA is drawing the lines. ASQA does not currently publish the outcomes of its audits for providers, funding bodies or any other interested parties to access. Professor Braithwaite recommended that ASQA be required under the NVETR Act to publicly release all of its audit reports to better educate providers.⁹¹ The present Review considers this essential to provide increased transparency and accountability, and to better inform providers about the standards and requirements of an ASQA audit process.

3.3 The Australian Skills Quality Authority be required to publicly release all concluded audit reports to ensure all Registered Training Organisations can be fully informed about the regulator's activities (as per recommendation 15 of the review of the *National Vocational Education and Training Regulator Act 2011*). This recommendation should be implemented immediately.

It is important that ASQA be adequately resourced to perform the guidance and educative role and to perform its role more generally. In many jurisdictions there is an understood difference between parts of the regulator's activity that should be directly funded by the regulated through cost recovery arrangements versus what are broader activities for the 'public good', and should therefore be government funded.

There are clear activities where ASQA's costs can be passed onto the sector as part of the existing cost recovery arrangements. However, there is a range of activities that should be performed by ASQA that exceed the direct regulatory function and move into a policy assessment or system supervisory role including broad education and guidance. In the opinion of the Review, this broader range of activities should be directly funded by the government. These activities are part of ASQA's broader responsibilities in delivering a well-regulated and quality training sector as a benefit to wider Australian society.

⁹⁰ ASQA website, *Latest News*, last accessed 13 March 2019, <https://www.asqa.gov.au/news-publications/news/invitation-participate-consultation>.

⁹¹ Braithwaite, *All eyes on quality: Review of the National Vocational Education and Training Regulator Act 2011 report*, p 79.



3.4 The Commonwealth to consider whether the Australian Skills Quality Authority should be specifically resourced to provide broad education and guidance to the VET sector, and to engage more proactively and positively with providers to build trust and understanding between the regulator and the regulated.

A focus on risk in regulation is different to identifying and encouraging quality. Encouraging quality is not a current feature of the Australian system and so would take time to develop. The New Zealand Qualifications Authority (NZQA) operates an external evaluation and review process that assesses the quality of providers, including polytechnics, private training establishments and government training establishments. The process produces statements of confidence on providers' educational performance and organisational self-assessment. There are four categories ranging from a Highly Confident judgement to a Not Confident judgement. NZQA publishes the category of each provider on its website alongside the review report. This system increases the level of scrutiny faced by providers and, as a result, is a key driver for providers improving the quality of their offerings and management.⁹²

If applied in the Australian context, this rating system would identify and publicly praise high performing providers, and would play a powerful role in encouraging poorly performing providers to improve. In time, the rating system could be used to decide which providers receive government funding, in terms of both tuition subsidies and trainee support.

3.5 In the longer term, the Australian Skills Quality Authority to expand its auditing role to ranking providers on the quality of their educational offering and their management, in a similar vein to the New Zealand system, and work with Commonwealth and State and Territory funders to encourage high quality providers.

In discussions, ASQA representatives advised that one of their most resource-intensive roles is registering new providers. They stressed that having a low hurdle for registration was a weak point in the regulatory system, providing a low entry bar to high-risk and likely low-quality providers. Professor Braithwaite addressed this at some length in her review and this Review also agrees with ASQA's concerns.

Work to further explore and implement the NVETR Act review's recommendations is currently underway in the Department of Education and Training. This Review considers that work on three of Professor Braithwaite's recommendations should be fast-tracked for immediate implementation, to improve RTO entry-to-market standards. These changes will significantly help lift the quality of the system and help ASQA perform its role.

⁹² New Zealand Qualifications Authority (NZQA) Website, *Provider categories*, last accessed 14 March 2019, <https://www.nzqa.govt.nz/providers-partners/approval-accreditation-and-registration/provider-categories/provider-categories-eer/>.



- 3.6 That the Australian Skills Quality Authority urgently be given the new powers recommended by the review of the *National Vocational Education and Training Regulator Act 2011* to better control the registration of Registered Training Organisations specifically:
- knowledge of and commitment to education (recommendation 4),
 - the fit and proper person test (recommendation 5), and
 - the requirement to provide training (recommendation 6).

It is not simply the job of providers to better understand ASQA's audit processes; it is also important for ASQA to seek improvement of its own processes and communications. In 2017–18, ASQA sought feedback from RTOs through roundtable meetings, industry engagement, communication protocols and consultation on its Cost Recovery Implementation Statement.⁹³ At that time, ASQA undertook a survey of the quality of its engagement with the regulated community, in which 69 per cent of providers rated ASQA's engagement as 'excellent' or 'good'. This was slightly below ASQA's target of a 70 per cent satisfaction level.⁹⁴

These results are significantly at odds with those of many of the providers who interacted with this Review and do not reflect the concerns articulated by Professor Braithwaite.⁹⁵ One possible reason for the difference is providers could be being less than frank with their regulator.

It may be easier to obtain more objective feedback if providers are offered a process whereby they can provide their views on ASQA's performance in a guaranteed independent format. It is important for that to occur – so ASQA and the Commonwealth can see the continuing evolution of ASQA into a transparent trusted regulator of the sector. The Review therefore proposes that the Department of Education and Training, as the policy department, is the logical agency to manage annual independent surveys of ASQA's performance.

- 3.7 The Department of Education and Training to manage annual independent surveys of the Registered Training Organisation community in order to assess the Australian Skills Quality Authority's performance and the performance of its auditors in the eyes of those it regulates.

⁹³ Australian Skills Quality Authority, 2018, *Self-Assessment Report against the Regulator Performance Framework 2018*, Australian Government, p 5-6.

⁹⁴ Australian Skills Quality Authority, 2018, *Self-Assessment Report against the Regulator Performance Framework 2018*, Australian Government, p 6-7.

⁹⁵ See footnote 88 for information on concerns raised in Braithwaite's report.



The Review heard a great deal about the heavy compliance burden on providers associated with the multiple audits required of them. ASQA and the two remaining State regulators meet regularly to discuss common issues and to streamline their practices. However, as well as being audited by ASQA (or the State regulator in Victoria or Western Australia), training providers are often audited separately by their State or Territory training authorities under their funding arrangements, as well as by the Commonwealth in relation to student loans. If a provider operates in more than one State or Territory, their audits can multiply rapidly. Providers noted that different rules relating to access to funding, plus different penalties and fees for non-compliance, made it difficult to harmonise reporting and be compliant with funding guidelines.

A formal program of simplification and information sharing between the regulators and the Commonwealth, State and Territory funders would be hugely beneficial for providers. If combined with the provider ranking approach recommended above (Recommendation 3.5), these reforms would improve efficiency across the sector and provide information that State and Territory funders could use to determine which providers receive priority funding.

3.8 The COAG Industry and Skills Council mandate an immediate and ongoing agenda to reduce any duplication and minimise reporting burdens for all Registered Training Organisations by negotiating common audit standards and information sharing between the quality assurance regulators and Commonwealth and State and Territory funders.

Preventing unduly short courses

During consultations the Review was made aware of significant support for Australia's competency-based system of VET. Many countries, including the United Kingdom, France, Canada and Germany, use some form of competency-based training, but how they determine and assess competencies varies across systems. In Australia, competency in VET is considered on an industry-by-industry basis and assessed against specific forms of evidence identified in a training package.

The quality standards for RTOs define competency as:

...the consistent application of knowledge and skill to the standard of performance required in the workplace. It embodies the ability to transfer and apply skills and knowledge to new situations and environments.⁹⁶

Many participants talked positively about the mix of flexibility and national consistency possible in a competency-based system. They liked that training can be delivered to individuals in a way that acknowledges their experience and knowledge. The same unit of competency can be delivered quickly to a person with extensive relevant industry experience or over an extended period for a beginner.

⁹⁶ Federal Register of Legislation, *Standards for Registered Training Organisations (RTOs) 2015*, <https://www.legislation.gov.au/Details/F2017C00663>.



Further, units of competency can be assembled to create programs of training that meet the specific needs of employers or industry while the competencies themselves are consistent across Australia.

From an industry perspective, the competency-based system avoids unnecessary delays in training people and the provision of unnecessary training. This can be illustrated by comparison with the higher education sector, where qualifications are defined in set numbers of years and the curriculum is determined by the provider.

However, the risk in a competency-based system is that with no length of training mandated, the training provided to an individual might be insufficient for them to truly achieve the designated competency.

A successful competency-based training system depends heavily on the assessment process. This involves the observation and judgement that an individual can perform the competencies as described in the training package. As participants in the Review observed, it is the assessment that a person has gained the competency that matters rather than how long they spent to get it. For this reason, assessment has been called the gatekeeper in the competency-based system.

Problems occur when so-called 'tick-and-flick' providers run very short courses on a qualification, and then assess students as competent provided they can recall the information, despite those students not truly meeting the definition of competency.

These concerns go to the heart of confidence of the Australian VET system and its quality assurance. When students graduate and receive a qualification without being properly trained for it, the reputation of the whole sector is placed at risk with employers, trainees and the public.

Participants in the Review indicated the prevalence of 'tick and flick' providers has decreased, but that they still provided a reputational risk to the industry. They have previously been the subject of an ASQA strategic review of unduly short courses, which identified areas for improvement.

ASQA is responsible for dealing with poor provider behaviour but its reference point for assessing provider performance is the delivery of training in accordance with the training packages. ASQA can determine if the provider has materials covering each of the required competencies, but there is no point of reference to determine if the amount of training provided using those materials was enough to develop competency.

Using hours as a measure of training

The Australian vocational qualification system's reliance on an assessment of competencies without reference to the time students have spent on their training is not absolute. Learning hours and other time-based measures of training are often re-introduced into the system to deal with some problematic aspects of the competency model.



Funding of training must, of course, be based on something, and it is generally based on the providers' chief inputs (the time taken to train a person). The Victorian Government's 'nominal hours' is used widely by the States and Territories for funding and reporting purposes. While this primarily is to determine a unit that funding can be attached to, there were indications that the nominal hours feature in State and Territory contract systems is a measure to judge whether providers were delivering the right 'amount' of training.

Many training packages also specify a set number of hours of work placement. This occurs particularly in the health and community services areas. Completion of the set hours within a workplace context is a requirement for registration in the relevant occupation. Similarly, a number of governments or licensing bodies set a minimum number hours of training as part of meeting the licensing requirements.

Some qualification developers and IRCs use a 'points' system to determine the relative weight of certain competencies in relation to students' progression through award classifications, for example the Manufacturing training package. While this is used to ensure apprentices and trainees are paid at the correct award rate, it can also be an indicator of a student's volume of learning.

ASQA's review of unduly short courses recommended the use of a volume of training measure for high risk courses. Some stakeholders, however, were reluctant to set mandatory requirements because they would 'undermine' the competency-based system. This is despite governments almost universally using 'nominal hours' in a funding context. The Review accepts that setting mandatory amounts of training could undermine the flexibility of the competency-based system. We propose instead identifying benchmark hours of training for a qualification for use by ASQA and other regulators in assessing whether the amount of training is adequate.

The benchmark hours should be set at the average amount of training required for a new learner with no experience in the industry to develop the required competency.⁹⁷ A new learner can be thought of as a person entering the industry who has never held a job in the relevant occupation. The benchmark hours would need to be consistent with the 'amount of training' framework in the RTO standards.

Once benchmark hours for a competency are specified, ASQA could use them to assess how much training was delivered by a provider and whether the variation from the benchmark was reasonable given the circumstances. An unreasonable variation might not be cause for sanctioning a provider on its own, but it could be a trigger for a more in-depth investigation.

⁹⁷ Different new learners will develop competencies at different paces but the range from the average is unlikely to be large compared to a new learner versus a person with work experience in the relevant occupation.



3.9 Benchmark hours should be specified in qualifications by qualification developers as a guide to the average amount of training required for a new learner with no experience in the industry to develop the required competencies in the qualification.

Benchmark hours should be developed for Australian Skills Quality Authority designated 'high-risk' qualifications first and then progressively introduced. They can be used by the Australian Skills Quality Authority and other quality assurance regulators as a guide to assist in determining whether delivery times in courses and qualifications are of a reasonable length.

The Review acknowledges averaging is required in moving to any specification of hours of training but the evidence suggests the competency-based system needs to be better anchored to a simpler measure that can be used to help determine the quality of training.

It is important that industry has a strong role in determining the benchmark number of hours for each unit of competency. The role of industry in qualification development is discussed in Chapter 4.

Improving assessment

The other important step that needs to be taken in improving quality is to improve assessment. The consequences of poor-quality assessment are serious, as the Training and Assessment Working Group noted:

*An incompetent graduate that is deemed competent could have a negative impact on employers and the workplace or seriously affect public safety, including through endangering individuals or the community.*⁹⁸

Poor quality assessment can come about for a range of reasons. The Review heard that sometimes an RTO may deem students who do not have the appropriate skills as competent in order to gain access to funding without incurring costs. The experience of VET FEE-HELP shows there are providers that will, if not well regulated, game the system in this way. During the transfer of students following the closure of VET FEE-HELP providers, the accepting providers found many students could not demonstrate the competencies ascribed to them.

For some providers and their trainers, a lack of capability, outdated industry knowledge or simply time can lead to the assessment process being inadequate. The previous issues with poor delivery and assessment of the Certificate IV in Training and Assessment (TAE) to VET trainers undoubtedly contributed to these problems.

⁹⁸ The Department of Education and Training 2016, *Quality of assessment in vocational education and training – Discussion Paper January 2016*, Canberra: Australian Government, p 4.



Some industries overcome assessment concerns through the independent validation of a person's competencies at the end of the course. This can be through a capstone assessment or through independent licensing requirements, such as the electrical and plumbing licensing systems. While there are a number of industries using independent validation of assessment outcomes, most of VET is not currently independently assessed.⁹⁹

Victoria has committed four years' funding for an independent assessment pilot that will work with interested industries to develop a model whereby industry can design the assessment to ensure graduates have the skills they want. It is intended that the independent assessment approach will improve employers' confidence in the quality of VET graduates.

The Review also found that the best international systems have end-of-program independent assessment. For instance, Germany, a nation with a strong international reputation for producing high quality graduates, involves its industry players and chambers of commerce in quality assurance through independent assessment. When apprentices complete their training, they are required to complete examinations set by these bodies before they can be awarded a certificate that certifies their successful completion of the apprenticeship and their possession of employability skills.¹⁰⁰

The use of benchmark hours will go a long way to improving the quality of delivery of VET. A complement to this step is to examine rolling out independent validation of assessment more widely. The widespread use of independent assessment would also assist with recognition of prior learning.

The Commonwealth should work with the Victorian Government and other States and Territories to expand the pilot and examine options to build this into the VET system. The National Skills Commission (NSC - described in Chapter 5), would advise on appropriate funding arrangements for assessors.

3.10 The Commonwealth should work with the States and Territories to pilot independent assessment validation schemes. The National Skills Commission should investigate how funding should be split between providers and independent assessors if these functions were separated into different entities.

In a future state, independent validation of assessment could be performed through the Skills Organisations (SOs), described later in the report. This would bring industry strongly into the assessment process.

⁹⁹ Victorian Skills Commissioner 2017, *Rebalance and Relaunch: Supporting Victoria's economy by enhancing apprenticeship and traineeship pathways as a mechanism for skilling the future workforce*, Victoria: Victoria State Government, p 11.

¹⁰⁰ Federal Institute for Vocational Education and Training (Germany) website, *The dual system in the German VET system*, last accessed 14 March 2019, <https://www.bibb.de/en/77203.php>.



Independent validation of assessment also has an important role in regulating the system. The Review considers that verifying assessment falls within the broad remit of ASQA's responsibilities. It is recommended that the Government confirm whether independent validation of assessment falls within ASQA's remit and, if not, that this power is granted to ASQA as a matter of priority. ASQA should use this power when it has identified a provider with a sufficient number of red flags during an audit to warrant further investigation. While often costly, re-assessment is the strongest tool for determining whether qualifications are being delivered correctly; it is used regularly in other jurisdictions once a threshold of concern about a provider is reached.

An assessment that students are not appropriately competent would be a stronger basis for serious sanctions against a provider.

3.11 The Government should enable the Australian Skills Quality Authority to use independent re-assessment of students as a regular audit and enforcement tool once sufficient concerns have been raised about a particular provider's training and assessment activities. The independent assessment results should be used as evidence in appropriately sanctioning a poor quality provider.

Competency-based assessment with assessment of proficiency

Unlike the higher education system, the competency-based VET system typically does not differentiate between the proficiency levels of graduates undertaking the same qualification, despite a number of dimensions of performance falling on a continuous scale, such as speed, organisational skills and problem solving.¹⁰¹

While marked assessment ranks students based on their performance, under VET's competency-based assessment system prospective employers may not have enough information to determine whether they are hiring the best candidate for the job. Although some individual RTOs have adopted proficiency-based assessment to meet industries' needs for more thorough information about student ability, approaches are inconsistent.¹⁰² The competency-based assessment system also may hinder potential students, as they may wish to decide which RTO to study at based on the quality of its graduates.

In its 2017 report *Shifting the Dial: 5 Year Productivity Review*, the Productivity Commission noted the benefits associated with introducing a proficiency-based VET system, stating that introducing grading would create incentives for students to do well, allow employers to select the best performing candidates for jobs, and boost the reputation of the VET sector as a viable alternative to higher education.¹⁰³

While this Review acknowledges that some RTOs already have some proficiency-based assessment embedded in their training offerings, this should be extended to be properly embedded in qualifications. Change will take time; therefore any proficiency-based assessment should be piloted and evaluated by willing industries as a first step.¹⁰⁴

¹⁰¹ Productivity Commission 2017, *Shifting the Dial: 5 Year Productivity Review, Report No. 84*, Canberra: Australian Government, p 94.

¹⁰² Productivity Commission, *Shifting the Dial: 5 Year Productivity Review, Report No. 84*, p 6.

¹⁰³ Productivity Commission, *Shifting the Dial: 5 Year Productivity Review, Report No. 84*, p 94.

¹⁰⁴ Productivity Commission, *Shifting the Dial: 5 Year Productivity Review, Report No. 84*, p 95.



3.12 Proficiency-based assessment should be piloted with certain qualifications and willing industries, with a view to extending to all relevant industries. The COAG Industry and Skills Council to work with the Australian Skills Quality Authority and Skills Organisations to develop guidance for Registered Training Organisations on the use of proficiency assessment in addition to current assessment descriptions in training packages.

Introduction of proficiency based assessment would need to be supported by recording of proficiency data in student transcripts supplied by RTOs. To ensure the Unique Student Identifier (USI) transcripts reflect this information, adjustments to the NCVET data recording and transcript systems would be required.

Teacher quality

Around a quarter of submissions to the Review identified the quality of trainers as an issue for the sector. Some submissions suggested that greater skills in training and in instructional design were required to ensure students understood the course content.¹⁰⁵

VET trainers are currently required to undertake a TAE, and this qualification is not immune to the broader issues associated with VET, including quality and variability of training and questionable assessments of competency. TAE-qualified trainers could themselves have been enrolled with a poor quality provider and not have been meaningfully engaged in learning about appropriate assessment criteria and behaviour, further compounding wider quality assurance issues.

The Review also heard that VET trainers often did not have relevant industry experience, particularly given the generic nature of TAE, and that there were difficulties attracting industry professionals into related teaching areas.

Many participants in the Review told us that the recent changes to the TAE specifying additional core units of competency had not been effective and in some circumstances had been counterproductive. Stakeholders reported that the requirement for trainers to upskill to have the new core units had caused a huge rush to upgrade qualifications and also seen some trainers leave the system.

High-quality teachers are essential for a high quality training system that is respected by students and employers. The Review heard some suggestions about increasing the qualification for VET trainers, with some submissions suggesting they should only be university-educated trainers.

The risk with continuing to lift universal minimum qualification requirements for VET trainers is that good teachers with current industry knowledge could be removed from the system or would be unable to be recruited into the system. Many providers told us it is very difficult now to recruit experienced trainers with relevant industry experience, especially in regional and remote areas, and in particular specialties.

¹⁰⁵ Callosum Consulting 2019, *VET Review: Submissions analysis data report*, (unpublished), p 16.



The ultimate incentive for RTOs to improve the quality of trainers is to place strong regulatory requirements around the registration and quality assurance of all RTOs. The Review is confident that by implementing the recommendations in this chapter, Governments will be ensuring that minimum teacher quality will be significantly improved.

Governments can complement this system-level approach with targeted measures to encourage and highlight best practice for VET trainers. This can be by recognising and rewarding teacher quality through teaching awards and providing access to quality professional development.

Consumer protection

Variable tuition assurance arrangements

Tuition protection, sometimes termed tuition assurance, is activated when a training provider ceases to deliver a course of study or closes. When tuition protection is activated, different student cohorts receive varying levels of support.

International students studying in Australia are entitled to complete their studies in another course or with another provider or receive a refund of their unspent tuition fees, should their provider close or default on its obligations.¹⁰⁶

VSL students are supported to transfer to a new provider to complete their studies in a comparable course. If there is no comparable course available, students are entitled to a re-credit of their loan for any unit/s of study they had received a loan for and commenced but did not complete.

Student protections for students who pay fees in advance often differ from the protections afforded to other students. Under the RTO standards, if a provider charges a student less than \$1,500 in advance of training, the provider is not required to offer tuition protection.

There are tuition assurance arrangements in some States and Territories for subsidised students and at TAFEs which have provisions specified in their enabling legislation.

This means international, VSL and full fee-paying students may be studying the same course with the same provider, but would receive different support services from different areas of government in the case of provider closure. Some fee-paying students may not be entitled to any support, while classmates receive strong protections and support. This is confusing and unfair for students. It is the Review's position that a student should be entitled to enrol in a course with a clear understanding of how their tuition is protected in the event of a closure, and that the protections offered are sufficient.

The issue of inconsistent tuition protection arrangements was also raised in the Professor Braithwaite's report, which noted that the 'fragmented tuition assurance arrangements across the sector and the inequities created for various student cohorts.'¹⁰⁷

¹⁰⁶ Tuition Protection Service (TPS) website, *TPS Overview for International Students*, last accessed 14 March 2019, <https://tps.gov.au/StaticContent/Get/StudentInformation>.

¹⁰⁷ Australian Government Response 2018, *All eyes on quality: Review of the National Vocational Education and Training Regulator Act 2011*, Canberra: Australian Government, p 13.



Further development of tuition protection arrangements is recommended, although the Review notes that differences between the treatment of loans and fees are likely to continue. Minimum fee levels should be set below which tuition protection arrangements don't apply to manage administrative costs.

3.13 The Government look to implement one standard tuition protection model required of Registered Training Organisations to adequately support all students and which is broadly consistent across all student cohorts.
The Australian Skills Quality Authority to audit providers to ensure compliance in tuition protection arrangements.

One of the major barriers to supporting students when their provider closes and activates tuition protection is access to up-to-date student records. Advice from Department of Education and Training is that providers may not have up-to-date student records, and many students who seek support under tuition protection arrangements also do not have accurate records of their completed units of competencies. While the USI may go some way to addressing this issue, where providers do not report regularly into the Australian Vocational Education and Training Management Information Statistical Standard (AVETMISS), a student's USI transcript can also be out of date.

3.14 All providers be required to maintain accurate student records and reporting on a quarterly basis to the National Centre for Vocational Education Research.

The Review notes that since 2015, all providers in receipt of government funding have been required to report quarterly. Most providers already use AVETMISS compliant student management systems and as at January 2018,¹⁰⁸ the AVETMISS system allows providers to report quarterly.

Strengthening consumer protection

Australian Consumer Law (ACL) is the principal consumer protection law in Australia.¹⁰⁹ ACL applies nationally as a Commonwealth law, and as a law in each State and Territory. While RTOs are subject to ACL, including provisions of deceptive or unconscionable conduct and unfair contract terms, the laws are not consistently applied to protect individual students, and they are confusing for students to navigate.

In her review of the NVETR Act, Professor Braithwaite noted that consumer protection 'has not kept abreast of the increasing commodification of students and the business practices that have exploited them'.¹¹⁰

¹⁰⁸ AVETMISS factsheet, *AVETMISS: Quarterly reporting*, last accessed 19 March 2019,

https://www.ncver.edu.au/data/assets/pdf_file/0020/2455400/CS_4_Fact_Sheet_-_Quarterly_Reporting.pdf.

¹⁰⁹ Australian Consumer Law website, *Legislation, The Australian Consumer Law*, last accessed 14 March 2019. <http://consumerlaw.gov.au/the-australian-consumer-law/legislation/>.

¹¹⁰ Braithwaite, *All eyes on quality: Review of the National Vocational Education and Training Regulator Act 2011 report*, p 9.



Students are unable to seek support from ASQA, since ASQA does not act as a student advocate and will not seek to resolve an individual student's dispute with an RTO, including seeking reimbursement of course fees.¹¹¹

The Commonwealth Ombudsman undertakes some consumer protection functions for VSL students through the VET Student Loans Ombudsman, and for some international VET students under the Overseas Students Ombudsman.

Queensland also has a Training Ombudsman which offers free independent review and resolution of complaints, including for students.¹¹² Other States and Territories have advocacy or complaints handling functions. However, there is no single national authority that considers and assesses complaints about VET courses and provides individual resolutions for domestic students.¹¹³

As an example, complaints made about the quality of a student's educational experience are referred to ASQA. In 2016–17 and 2017–18, the Commonwealth Ombudsman transferred 118 complaints to ASQA.¹¹⁴ However, the Commonwealth Ombudsman acknowledges that ASQA does not directly take a role in resolving student complaints.¹¹⁵

The Review considers that, since ASQA does not see its purpose as individually resolving student complaints about quality, there is a gap in the consumer protection framework that should be redressed. This view is supported in the Commonwealth Ombudsman's submission to the Review, which noted the need for these gaps to be identified and rectified.¹¹⁶

A VET Ombudsman that absorbs the existing Commonwealth Ombudsman's VET functions and expands to have the authority to assist all VET students regardless of their circumstances would assist in lifting confidence in the sector. A VET Ombudsman would ensure equity of access to protections and a streamlined interaction with assurance bodies for students. Once fully operational, it could expand to cover all tertiary students.

The Review considers the VET Ombudsman's office should be independent although co-located with ASQA to encourage information sharing which will assist ASQA with its broader quality assurance obligations.

3.15 The VET Student Loans Ombudsman be expanded to become a VET Ombudsman with the appropriate powers to resolve consumer complaints against Registered Training Organisations and that the new VET Ombudsman be co-located with the Australian Skills Quality Authority.

¹¹¹ ASQA website, *What happens when I make a complaint to ASQA*, last accessed 14 March 2019, <https://www.asqa.gov.au/complaints/what-happens-when-i-make-complaint-asqa>.

¹¹² QLD Ombudsman website, *About us*, last accessed 14 March 2019, <https://www.ombudsman.qld.gov.au/about-us>.

¹¹³ Commonwealth Ombudsman, Submission to the VET Review, p 8.

¹¹⁴ Commonwealth Ombudsman, Submission to the VET Review, p 4.

¹¹⁵ Commonwealth Ombudsman, Submission to the VET Review, p 8.

¹¹⁶ Commonwealth Ombudsman, Submission to the VET Review, p 2.



4 Speeding up qualification development

The core product of the vocational education system is the achievement of a national qualification. A nationally recognised qualification should be a real asset to the graduate and recognisable to relevant employers all across Australia. When employers see a certificate or diploma of a certain level, they should be confident of the skills that a new or prospective employee possesses.

In Australia, each national qualification is made up of a set of competencies. Competencies are the building blocks that are put together to create qualifications. Competencies can also be built up into smaller sub-qualifications called skillsets. All of the competencies, skillsets and qualifications for an industry make up a training package, which can be thought of as a bucket in which all the relevant elements sit.

Many submissions to the Review spoke in favour of the system of national qualifications and training packages. Respondents pointed to the benefits of a standardised system of certification, within the Australian Qualifications Framework, as it helps ensure a common understanding and consistency in graduates.

The use of nationally endorsed qualification standards via Training Packages is a valuable aspect of the VET sector. Use of consistent and known qualification structures and outcomes can bring significant benefits to industry, training and education providers and accreditation/licensing bodies, particularly when graduates change job roles or move between state jurisdictions. While not a guarantee of individual competence, consistent training products can provide industry with a greater understanding of the competence, qualifications and capability of graduates. The use of Training Packages and nationally endorsed qualification standards should continue to be a key feature of the VET sector, however, flexibility should be further increased.¹¹⁷

However, the process of updating training packages and qualifications was one of the most heavily discussed topics during the Review. Industry groups, RTOs, employer organisations and governments all voiced concerns that training packages are very cumbersome and complex and too hard to change. As a result, qualifications quickly fall out of date, and in some cases have been out of date for a long time.

RTOs described the frustration and futility of being required to train people for a set of competencies in a qualification when some of the competencies are obsolete in the industry. Many employers and industry groups told the Review that their sectors were undergoing rapid change, and the training package development process was too slow to meet their skills needs. They expressed concern that the process will not be able to cope with the increasing rate of technology change.

¹¹⁷ Naval Shipbuilding Institute, Submission to the VET Review, p 3.



It was noted by industry and employer representatives that the system was overly bureaucratic with fragmented decision-making processes. Industries and businesses do not feel in control of the content and development of qualifications. They believed the balance of control had moved away over time from industries towards government agencies and their agents. Industries are frustrated having to queue up nationally to be given resources from the training bureaucracy to update their qualifications. Regional employers and RTOs felt their local skill requirements were not being properly allowed for in the national qualifications, and they had little system influence to effect change.

Stakeholders noted there has been a push to include very specific detail in qualifications in an effort to improve quality and outcomes. A number of submissions to the Review indicated that this level of detail makes the training package process difficult to navigate. RTOs spoke of how trivial some of the quality assurance has become as ASQA auditors seek to check off every small element of competencies.

Organisations mandated by government to write qualifications are seen as insufficiently experienced in the industries they provide support to, may not always consult the appropriate stakeholders for the relevant industries and have inconsistent operational standards. One submission even went so far as to suggest that these Skills Service Organisations (SSOs) are more focused on their contractual arrangements with the relevant government department rather than the needs of the industry.

Others recognised that there are benefits to extensive consultation processes to develop and agree a change, although that meant the process could be lengthy.

Getting signoffs for changes to qualifications adds to the uncertainty and time taken. After the AISC agrees to a change to a training package, governments can still reject it using their power through CISC.

The Review heard that links between training packages and wage awards and/or licensing requirements can make the processes more complicated, particularly when these vary between States and Territories.

A number of examples were described of industry and employers avoiding and working around the training package system to build new qualifications, or simply using private credentialing instead.

For example, ASQA recently approved an accredited course, Advanced Diploma of Applied Blockchain outside the training package process.¹¹⁸ When the minerals industry in Western Australia needed their own autonomous vehicle qualification, Rio Tinto collaborated with South Metropolitan TAFE and the Western Australian Government to develop the qualification.¹¹⁹ Other industry representatives and employers are working directly with specific training providers to develop training products, ensuring that the student outcomes meet industry requirements.

¹¹⁸ Australian FinTech 2018, "Australia's first accredited blockchain courses have arrived", last accessed 14 March 2019, <https://australianfintech.com.au/australias-first-accredited-blockchain-courses-arrived/>; Training.gov.au, *Accredited course details: 10747NAT - Advanced Diploma of Applied Blockchain*, last accessed 14 March 2019, <https://training.gov.au/Training/Details/10747NAT>.

¹¹⁹ Rio Tinto 2018, "Rio Tinto partners with TAFE to deliver Australia's first automation qualifications", 4 April 2018, last accessed 14 March 2019, https://www.riotinto.com/media/media-releases-237_25010.aspx.



In creating their own qualifications, industry told the Review they were able to own the process, respond quickly to skills needs and not be held up by the complicated training package process.

Case study

Box Hill Institute in Victoria partnered with industry to accredit a national standardised cyber security qualification in 2017.

The qualification was developed in response to a rapidly emerging skill need. AustCyber reported that 'Australia like other countries has a major skills gap in cyber security work roles making it difficult for employers to recruit appropriately skilled job-ready graduates.'¹²⁰

Box Hill Institute states that its 'cyber security course has been developed in conjunction with a significant industry advisory panel comprising of cyber security specialists in the security, banking, information technology and telecommunications industries.'¹²¹

The increased availability of cyber security courses will provide students with sought-after skills, helping to address the shortage Australia currently faces.

The Review heard many requests for micro-credentials to be added to the qualification system; these are discussed later in this chapter. However, on questioning, many industries and RTOs believed that around half of the enthusiasm for micro-credentials was due to the hope that new skills could find a quicker path through the qualification development system using micro-credentials.

The current system for developing and updating qualifications

In the late 1980s the Australian VET system moved from the previous curriculum-based system to competency-based training.¹²² Training packages and competencies are now a key feature of Australia's VET system. Qualifications usually contain a number of core and elective units of competency.

Units of competency do not prescribe how individuals should be trained but specify the knowledge and skills required by individuals to perform effectively in the workplace.

¹²⁰ Coyne, Allie 2018 "Aussie TAFEs to offer cyber security certifications", 25 January 2018, last accessed 17 March 2019, <https://www.itnews.com.au/news/aussie-tafes-to-offer-cyber-security-certifications-481752>.

¹²¹ Box Hill Institute website, *Cyber Security*, last accessed 17 March 2019, <https://www.boxhill.edu.au/course/ict-information-management/cyber-security/>.

¹²² McDonald, Rod 2004, *Moving on: report of the high level review of training packages*, Brisbane: Australian National Training Authority (Accessed via VOCEdplus: NCVET's international tertiary education research database, <http://hdl.voced.edu.au/10707/87259>).



Training providers use training packages to design training courses and curriculum, and to develop assessment methods that assist individuals to demonstrate that they have the requisite skills and knowledge for the workforce. Training packages also provide the industry's preferred approach to assessment, including the qualifications required by assessors, the design and how assessment should be conducted.¹²³

There has been significant work undertaken to simplify and streamline training packages. Since 2016, the number of training packages decreased from 77 to 59, while the number of national qualifications decreased from 1,611 to 1,458.

The AISC was established by the CISC in 2015 to, amongst other things, oversee the qualification development process, approve new qualifications and recommend qualification updates to CISC.¹²⁴ CISC has legislative authority to endorse (or not endorse) training packages under the *National Vocational and Education Training Regulator Act 2011*.

The AISC agrees to a national review schedule, in accordance with what the AISC believe are the system priorities for determining training package updates.¹²⁵ This schedule is used to ration available resources for the update of qualifications. Industries seeking to change a qualification need to make a case for change through a SSO for consideration by the AISC.

SSOs are mandated to administer qualification changes. They are contracted by the Department of Education and Training and allocated to particular IRCs by the department. There are currently six SSOs. Once the AISC has decided a qualification change can proceed, the SSO is contractually obligated by the Department of Education and Training to consult industry and draft the new or updated qualification.

The main method for industry to seek a qualification change and have input is through IRCs. Membership of IRCs is voluntary and determined by the AISC. Their roles include advising the AISC on industry skills needs, reviewing draft qualification changes and ensuring the industry is adequately consulted on the change.

Once a change has been drafted and consulted on by the SSO, it is referred back up to the AISC for approval. The AISC then publishes the changes to the training package and recommends it to CISC for final endorsement. Once a training package has been updated, RTOs will usually have up to 12 months to transition to the updated training package. If CISC does not endorse it, the IRC must consult further and resolve the issue.

SSOs and IRCs were created in 2016 to replace the previous Industry Skills Councils which were seen at the time as being too remote from employers. Technically speaking, qualifications are drafted by SSOs, with the intent that IRCs advise the SSOs what details should be included in the training package.¹²⁶ However, the Review was advised that SSOs reporting lines tend to be to DET rather than the IRCs.

¹²³ ASQA website, *Training Packages*, last accessed 17 March 2019, <https://www.asqa.gov.au/about/australias-vet-sector/training-packages>.

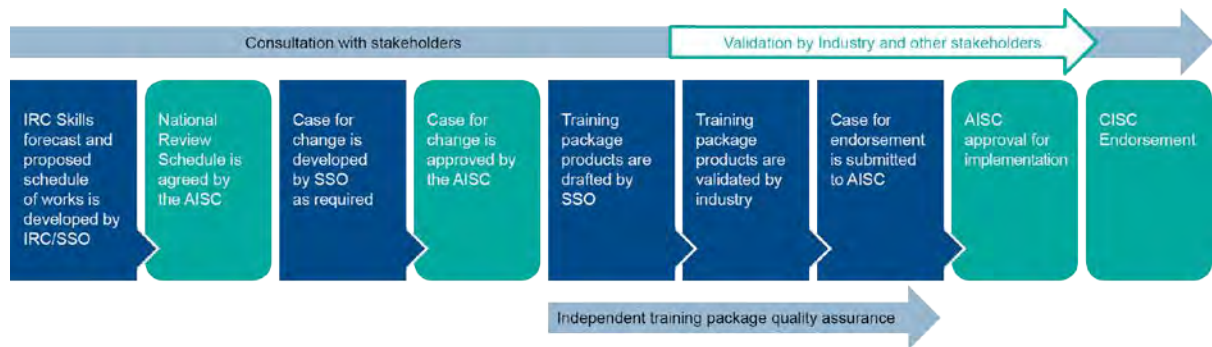
¹²⁴ Australian Industry and Skills Committee website, *About the AISC*, last accessed 14 March 2019, <https://www.aisc.net.au/content/about-aisc>.

¹²⁵ Department of Education and Training 2016, *Training Package Development and Endorsement Process Policy*, Australian Industry Skills Council, Canberra: Australian Government, p 14-15.

¹²⁶ Department of Education and Training 2016, *Training Package Development and Endorsement Process Policy*, Australian Industry Skills Council, Canberra: Australian Government, p 14-15.



Figure 4.1: Training package development and endorsement process policy¹²⁷



View the text alternative for [Figure 4.1](#).

The Department of Education and Training advised the Review that, on average, it takes a little over 12 months to update a training package from when the IRC has been given approval to update the package. However the full process can take considerably longer. The Review was told of many processes that have taken several years. This lengthy process means that training packages can be out of date before they even start to be taught.

There is ongoing work to further improve training packages. In November 2016, the CISC 'agreed that work be undertaken to examine and develop a case for change for enhancements to the design of training products, in partnership with industry and in consultation with the VET sector'.¹²⁸

In 2017, Fyusion was engaged by the AISC to map the national training package development, endorsement and implementation process. The Fyusion report, released in 2018, provides the AISC 'with visibility of activities, stakeholder involvement, and timelines in the end-to-end process as it is currently carried out'.¹²⁹ It described a highly complex set of procedures.

In 2018, CISC agreed to progress training product reform by undertaking pilots and projects to test proposed enhancements to training products, including work on banks of common units of competency.

Nationally recognised qualifications are not limited to those in training packages. Accredited courses are also nationally recognised. These are stand-alone qualifications that sit outside training packages and are approved by the relevant VET regulator (ASQA, or the two State regulators). However, to be accredited, a course must address training needs not already included in a training package, for example, in new or emerging areas.¹³⁰

¹²⁷ Department of Education and Training 2016, *Training Package Development and Endorsement Process Policy*, Australian Industry Skills Council, Canberra: Australian Government, p 10.

¹²⁸ Department of Education and Training 2017, *Training Product Reform: what is the case for change?* Canberra: Australian Government, p 1.

¹²⁹ Australian Industry Skills Council 2018, *Training Package Development, Endorsement and Implementation Process Current State Report*, Canberra: Australian Government, p 6.

¹³⁰ ASQA website, *Accreditation with ASQA*, last accessed 14 March 2019, <https://www.asqa.gov.au/course-accreditation/accreditation-asqa>.



An overly-centralised process

It is clear from describing this model and hearing from those that are required to interact with it that the process for development and amendment of qualifications and training packages in Australia is overly-centralised and bureaucratic and has been for many years.

The 'funnel' for updating qualifications is too narrow, there are too many steps in the process, and the actual voice of industry participants is too weak.

The number of organisations that must give permission for a qualification to be updated is too high. CISC, AISC, Department of Education and Training and SSOs all have more effective power in the process than representatives of the industries involved. It is hard to imagine the university sector coping with such a process. Industries are better placed to determine when and how to update their qualifications.

It was difficult to understand why the process should be so centrally controlled. While a national qualification necessarily requires compromise, it is unclear why industry leaders shouldn't be capable of making those compromises. It was suggested that industry was too self-interested and true industry voices didn't engage enough with the process. A reluctance in industry to participate in the current process or its previous iterations is not surprising.

Overseas VET models, such as in the United Kingdom, provide industry a greater level of control of qualifications development than the current Australian system. In the New Zealand model, Industry Training Organisations (ITOs) are self-organised by particular industries and are responsible for 'setting national skill standards for their industry; providing information and advice to trainees and their employers; arranging for the delivery of on and off-job training (including developing training packages for employers); arranging for the assessment of trainees; and arranging the monitoring of quality training.'¹³¹

It is telling that the most successful and timely examples of qualification development in Australia recently have been using the sort of industry-led model that is in place elsewhere.

The Review believes that it is time for much more industry leadership in the vocational qualifications development system in Australia if it is to successfully meet the needs of industry now and in the future.

Skills Organisations to lead qualification development

The Review recommends that a true industry-owned approach to qualification development is introduced through the establishment of SOs. SOs would be led and owned by employer representatives and other relevant stakeholders (such as unions). SOs should control the qualification development process for their industries.

4.1 Industry-owned and government-registered Skills Organisations to be set up to take responsibility for the qualification development process for their industries and to control their training packages.

¹³¹ NZQA Website, *Accredited Industry Training Organisations*. Last accessed 26 March 2019, <https://www.nzqa.govt.nz/for-business/ito.do>.



Industry-owned organisations would be best placed to control the pace of change of qualifications for their industries and develop their qualifications more quickly and cost-effectively. Businesses in Australia already have processes for developing national representation and accounting for regional differences within their respective industries. SOs will be able to draw on these processes and bring industries together around their qualification process.

SOs would be responsible for their own make-up and governance but they would need to be demonstrably accountable to their industries. SOs would need to apply to the Commonwealth for registration, and show they are supported by industry peak bodies, large and small employers, registration bodies, and other key stakeholders across the States and Territories to obtain and keep the coverage of their industry or industries.

4.2 Skills Organisations would be required to register themselves and their industry coverage with the Commonwealth and renew their mandate regularly (every three to five years). At the time of registration and each renewal they would need to demonstrate the support of their employers and other stakeholders for the performance of their responsibilities.

The Review recommends a greatly simplified process for creating and approving qualifications. SOs would be responsible for contracting the drafting of their training packages and qualifications and running their own consultation processes. Drafting could be done by an RTO or another organisation with the requisite knowledge base, but the resulting qualification and its parent training package would be 'owned' by the Skills Organisation on behalf of the relevant industry.

The final qualification would be approved by ASQA for listing on the national register, training.gov.au. This is a similar but expanded role to the one ASQA currently performs for accredited courses. ASQA would need to be suitably assured by the SO that the new or amended training package, qualification, competency, or skillset is supported by the relevant industry such that it meets the definition of a national qualification.

4.3 Skills Organisations to be responsible for the development of new or amended training products and the consultation process with industry. Final products (qualifications, competencies, or skillsets) would be approved by the Australian Skills Quality Authority for listing on training.gov.au. The Australian Skills Quality Authority would be required to be assured the new product meets the definition of a national qualification and is supported by businesses in the relevant industry.

Skills Organisations will therefore replace the AISC, IRC and SSO structure, and internalise the qualifications development process to each industry or group of industries. The AISC, IRCs and SSOs would be discontinued. ASQA's role would be as the gatekeeper to the AQF, and to provide quality assurance to the National Training Package Framework. One single funnel for national training package development and amendment would be replaced by a number of parallel processes under the control of individual industries or groups of industries.



The Review proposes that each SO be part-funded by the Commonwealth to perform its role based on the number of trainees and apprentices that train each year using the training package or packages it is responsible for. This will help ensure that SOs develop and maintain true industry-relevant qualifications and are encouraged to remove obsolete qualifications. It will also ensure that similar industries are encouraged to collaborate to obtain scale to perform their role.

There are currently 59 training packages in Australia. It is expected there would be no more than 25 to 30 SOs nationally. Related industries should form a single SO. For example, the primary industry bodies – responsible for the animal care and management, horse racing and agriculture, horticulture and conservation and land management training packages – would likely perform well together as one single SO.

Wider roles for Skills Organisations

The Review recommends that the responsibilities of SOs be wider than that of qualification development. As industry training representatives, they logically have roles in assessing skills needs for their industries, marketing their industry to prospective trainees and school students, managing apprenticeships support and endorsing RTOs to deliver their training packages.

These roles would provide positive feedback loops that will assist SOs in their training package ownership and development role, and ensure they truly take responsibility for meeting the skills needs of their industries.

4.4 Skills Organisations should be allocated a number of other responsibilities beyond their training package development role, to ensure they take ownership of, and have responsibility for, meeting the skills needs of their industry(s), including:

- assessing skills needs in their industry(s),
- marketing to prospective trainees and school students,
- managing apprenticeship and traineeship support, and
- endorsing preferred training providers and supporting assessment as appropriate.

Including them in Skills Organisations will help ensure their accountability to industry and ensure industry stakeholders stay actively involved with their Skills Organisation. This will help alleviate the problem of a lack of true industry engagement cited with previous organisational models, and ensure the SO infrastructure is used efficiently and effectively.

The range of functions proposed for SOs would connect them to all parts of the VET system and see them act as a mechanism to 'glue' the VET system together around true industry ownership.

The most current examples of SOs are the New Zealand ITOs which have been in place since 1992. There are also similar Australian entities, albeit without the right to control qualification development. Examples include Construction Skills Queensland, the Tasmanian Seafood Industry Council and the Naval Shipbuilding College based in Adelaide.



Checks and balances on Skills Organisations

A number of checks and balances need to be built into the design of SOs to ensure they remain responsive and accountable to their industry at all times. Independent registration, fixed terms of accreditation, and funding based on the actual training activity for their training packages are important checks to ensure SOs are responsive to industry needs.

SOs should be co-funded by the Commonwealth and employers (through their training fee), and they should be prevented from owning RTOs in their own right (with appropriate processes for managing conflicts of interest put in place for directors who have interests in RTOs).

While only one SO should be able to hold ownership for an industry's training package at a time, SOs should be able to apply to take over responsibility for an industry outside their current scope if that industry requests it, and the SO can demonstrate that support. This will help ensure reasonable levels of competition between SOs.

Industries should control the make-up of the governance boards of SOs. A governance structure that is supported by the industry would be an important consideration when Ministers are considering registering a SO.

- 4.5 The legislative design of Skills Organisations should include checks and balances that incentivise them to deliver effectively and efficiently for industry, including:
- fixed terms of accreditation with a full application process for renewal,
 - a method to extend or reduce industry scope during the term of accreditation,
 - funding based on actual training activity,
 - co-funding from the Commonwealth and employers,
 - being unable to own Registered Training Organisations in their own right,
 - effective management of conflicts of interest, and
 - a governance structure supported by employers and other stakeholders.

To assist with the design of SOs, the Review recommends that the Commonwealth set up one or two pilot SOs in industries which have a significant need for qualification development, and which don't have strong engagement with the current qualifications system. The digital technologies industry would be a logical candidate for a pilot SO.

- 4.6 The Commonwealth should pilot Skills Organisations nationally for one or two industries, including digital technologies, in order to develop and refine the Skills Organisation model.



Where there is no Skills Organisation

Accredited 'courses' should be retained as part of Australia's nationally recognised qualification framework to provide an alternative pathway for creating qualifications. However the nomenclature accredited 'course' can be misleading when it actually leads to a qualification. In these instances, the term 'accredited qualification' should be used. Accredited courses and qualifications should continue to be approved by ASQA, alongside its new role of approving qualifications, competencies and skillsets in training packages.

The accredited qualification approach should be available when a group seeks to create a sufficiently distinctive new qualification and they are unable to do so through a SO.

While most industry groups should be part of SOs, accredited qualifications and courses allow for smaller, niche industries, business or even training providers to work independently of an SO to develop their own qualifications when there is a need that an SO is unable or unwilling to meet. This will also serve as a further check and balance on the roles of SOs.

The Review recommends that the need to review an accredited qualification and courses every five years cease, but the requirement that an accredited qualification only be approved where there is no similar existing qualification should be retained.

In instances where there is a need for a new or updated training package or accredited qualification and no suitable SO exists, the Review recommends that ASQA be responsible for developing these qualifications, working with the relevant industry.

4.7 The Australian Skills Quality Authority should be permitted to approve accredited courses and qualifications for listing on training.gov.au when they are sufficiently unique, there is a demonstrated need for them, and there is no Skills Organisation able or willing to sponsor them as part of a training package. The Australian Skills Quality Authority should also lead the development of qualifications with industries where there is no responsible Skills Organisation.

New tools to improve qualification design

It is recommended that SOs, as the industry bodies responsible for qualification outcomes, be provided the flexibility to use additional tools or methods to address concerns about the quality of training.

With industries controlling appropriate levers to influence quality, it is envisaged that the level of detail recorded in units of competencies will be able to be reduced. Using tools such as benchmark hours and work placements, as discussed in Chapters 2, 3 and 7, to influence quality will help ensure graduates are exiting the VET system with the requisite amount of learning and skills.

Writing units of competency more simply will ensure they do not quickly become 'out of date', since the micro-level of detail currently included will no longer be required. As a result, employers will receive graduates with the right skills, but training packages and qualifications will not need to be updated as regularly.



4.8 Skills Organisations should use the ability to specify benchmark hours and work placement hours to reduce the level of prescriptive detail contained within individual competencies, so they can more easily remain current when technology and standards change.

Improvements to qualification design and provider quality (discussed in Chapter 3) should enable better articulation between VET and higher education.

Some RTOs, such as TAFE Queensland, have detailed articulation policies available for students, which clearly show the formal transfer and credit arrangements the TAFE has with a number of universities. However, the Review heard that the pathways between VET and higher education are generally not clear, and some students enrol in VET qualifications with a misunderstanding that a completed certificate will automatically qualify them for entry into a bachelor level degree.

When developing qualifications, SOs should work with industry, RTOs and higher education providers to include articulation pathways in training package materials, which broadly specify the value of a VET qualification for higher education entry and credit. This will give guidance to higher education providers when assessing a person's previous VET study.

4.9 Skills Organisations should include articulation pathways between VET and higher education in training packages where agreed with higher education providers.

A key guiding principle of the AQF is that qualification types at the same level should have a comparable level of complexity and/or depth of achievement. However, the Review heard many times that the AQF level does not reflect the level of complexity and skill actually required for certain qualifications, such as the trade certificate III. This leads to qualifications on the same level being very different in complexity and what is required to achieve them, creating a risk to the integrity of the AQF and its standing amongst those obtaining and relying on qualifications.

This misalignment may be historic and/or the result of links to industrial relations and wage awards issues. Many of the current apprentice wage awards, for example, are aligned with certificate level III qualifications. If the qualification level was changed (for example to a certificate IV), this could impact the wage awards if apprentices would qualify for higher pay.

Currently, the IRCs determine the AQF level applicable to the qualification. There is a strong argument that this should instead be determined by an independent arbiter, to ensure the integrity of the framework is prioritised. Matters of industrial relations are more appropriately dealt with in other fora, rather than risking the integrity and reputation of the qualifications framework.



The current AQF review, led by Professor Peter Noonan, is exploring the issue of qualification types that may not conform to their AQF level descriptors.¹³² The Review supports a review of qualifications against the AQF to determine appropriate levels.

The Review also recommends that industry should not be responsible for assigning the AQF levels to a qualification, instead, an independent body should assess qualifications to determine the appropriate AQF level.

4.10 An independent panel supported by the Australian Skills Quality Authority should be responsible for determining the appropriate Australian Qualifications Framework levels for qualifications to ensure the broader integrity of the Australian Qualifications Framework.

Short form credentials

There is currently no consistent definition of what a 'micro-credential' is in Australia. The AQF review uses the term 'shorter form credentials' to describe the range of training that is shorter than a qualification and not currently included in the AQF.¹³³

Some shorter form credentials are available in training packages and are nationally recognised. Skillsets are groups of accredited units of competency that together form a 'skillset' which is a level down from the full AQF qualification. This Review heard little commentary about skillsets, which suggests that they are not widely used or understood.

Other shorter form credentials have no mapping to the AQF, for example, the current Australian system does not allow industry, students or employers to capture micro-credentials or ascertain their value against the AQF, meaning they lack any sort of national currency.¹³⁴

There is significant interest from employers and industry representatives in training staff in micro-credentials as an alternative to full qualifications. We were advised that micro-credentials could be particularly useful for upgrading skills of existing workers for new technologies. We were also told that employers often didn't need to train workers for full qualifications, and preferred to train them for the parts of qualifications relevant at the time. It is not clear why skillsets are not used by industry as 'micro-credentials'.

Training workers for part-qualifications raises some interesting policy questions for government, particularly in relation to funding such activity. The main public policy rationale for government funding vocational training towards qualifications is that there is a public benefit obtained when people are trained for a recognised transferable qualification. This value is not necessarily captured by the person who obtains the qualification or, in the case of work-based learning, by the current employer. There is some question whether that public benefit rationale still applies if training doesn't lead to a recognisable qualification.

¹³² Department of Education and Training 2018, *Review of the Australian Qualifications Framework Discussion Paper*, Canberra: Australian Government, p 24.

¹³³ Department of Education and Training, 2018 *Review of the Australian Qualifications Framework Discussion Paper*, Canberra: Australian Government, p 14.

¹³⁴ Department of Education and Training, 2018 *Review of the Australian Qualifications Framework Discussion Paper*, Canberra: Australian Government, p 14.



This issue of short-form credentials is being considered by the AQF review, which is exploring whether a wider range of credentials could be included in the AQF. The Review is supportive of the concept of registering short-form credentials on the AQF and recommends further consideration of them following completion of the AQF review.

4.11 Consideration be given to further encouraging the use of short-form credentials such as skillsets or micro-credentials to provide more flexible training options to industry, following the report of the Australian Qualifications Framework review.



5 Simpler funding and skills matching

The current funding arrangements for vocational education and training are a major frustration for RTOs, industries, employers and apprenticeship coordinators.

Funding system inconsistencies – between States and Territories, between States, Territories and the Commonwealth, and between the VET and higher education sectors – were all identified by Review participants as creating unnecessary complexity and inequity.

While the State and Territory representatives argued positively for the variations between jurisdictions, the pervasiveness of local variation in funding rates, funding rules and what is funded is confusing for nearly all others participating in the VET system.

Providers and employer representatives who responded to the Review were critical of each jurisdiction having its own unique set of funding arrangements. There was extensive feedback on the difficulty of operating across multiple jurisdictions with differing rules, separate audit requirements and variable funding rates.

While this feedback is not surprising when it comes from larger providers and employers operating across multiple States and Territories, it was also a view expressed by small providers delivering in single jurisdictions who had trouble explaining the differences between States and Territories to students and employers.

It can be argued the inconsistency between funding arrangements is not just a burden to those operating across jurisdictions but also a barrier to the growth of small employers and providers who do not have time to navigate multiple sets of rules to deliver training in a new State or Territory.

The Review heard from many providers about frequent changes to the list of qualifications being subsidised by States and Territories and the subsidy amounts. The effect of this approach was to reduce certainty for providers trying to manage their organisations while delivering quality training. Providers were unsure of how to plan their businesses or when and whether to invest in growth.

Many participants in the consultations spoke of the funding incentives that encourage prospective students to choose courses in higher education over VET. Higher education bachelor level students at a public university have access to a government income-contingent loan that covers the full cost of their course without any fee for using the loan, and any course is eligible for a loan.

In VET, government loans are available only for diploma and above qualifications, at a limited set of providers, for only some qualifications, with a cap on the loan amount and a 20 per cent loan fee for many of the students. It was argued that this situation results in people choosing a bachelor course over a VET course even when it does not suit them or their career aspirations.

A wide range of participants were concerned about the decline in overall public funding for VET in recent years. There was a strong connection made between the funding levels, quality issues and the perceived value of VET, particularly in contrast with the growth in funding in the higher education and school sectors over the same period.



The States and Territories argued that in their individual jurisdictions funding declines had been the result of tighter targeting of subsidies to higher quality training with demonstrable employment outcomes. Providers and employers were unconvinced.

A number of employers and employer representatives stated that the amounts and coverage of incentives to employers to take on apprentices and trainees were not adequate and this contributed to declines in apprenticeship and traineeship numbers. AASN providers supported this view and also spoke about the difficulty of attracting qualified candidates for apprenticeships and traineeships in some parts of the country.

A range of participants in the Review expressed concern about the complexity of arrangements for apprenticeships and traineeships and the large number of different agents involved in administering the system. Employers spoke of a bewildering array of RTO representatives, Group Training Organisations (GTO), AASN providers, and State and Territory agents queuing up to help them with their current and future apprentices and trainees.

Current VET funding arrangements

Responsibility for public funding of the VET system is shared between the Commonwealth and the States and Territories according to the *Federal Financial Relations Act 2009* and various related agreements. It is overseen jointly by Ministers and departments through CISC.

The subsidies paid by the States and Territories are partly funded from their own resources and partly from the Commonwealth through the National Skills and Workforce Development Specific Purpose Payment and the associated NASWD.¹³⁵ These payments are effectively annual block grants to States and Territories, over which the Commonwealth has very limited oversight of how the funds are spent.

The Australian Government has recently introduced the National Partnership Agreement on the Skilling Australians Fund (NPSAF),¹³⁶ with six States and Territories (Victoria and Queensland did not participate). The NPSAF aims to boost apprenticeship and traineeship numbers. Commonwealth funding is matched by the States and Territories and directed towards apprenticeships and traineeships across a range of priority areas.

The funding system is complex, with each jurisdiction responsible for determining its own funding policies, including how and where to prioritise funding, and funding levels. Public funding is mostly directed to supporting full qualifications. A large amount of training is not subsidised at all, instead full fee-for-service fees are charged.

¹³⁵ Council of Australian Governments 2008, *National Agreement for Skills and Workforce Development*, Canberra.

¹³⁶ Council of Australian Governments 2018, *National Partnership on the Skilling Australians Fund*, Canberra.



From 2012 to 2017, under the NPASR the States and Territories implemented agreed national reforms to introduce a contestable training market and a national entitlement to a government-subsidised training place to a minimum of a first certificate III qualification in each jurisdiction.¹³⁷ These reforms have been implemented differently in each State and Territory.

Initially, States and Territories undertake skills demand assessments to determine priority qualifications to fund in their jurisdiction. The assessment methodology and processes are not coordinated across jurisdictions or with the Commonwealth. The OECD noted in its report *Getting Skills Right: Australia* that the methodologies across the States and Territories vary.¹³⁸ This is likely to be at least partly why there are wide variations in which qualifications are subsidised.

States and Territories overlay different funding policies on top of their skills demand assessments. Most have made regular, and occasionally quite abrupt, changes to the availability of subsidy funding to different provider types. They have sought to manage their student subsidy arrangements and contestable funding for entitlement schemes amid concerns over expenditure overruns, quality issues, and the viability of TAFEs, which are owned by the States and Territories. As a result, RTOs, trainees and employers have experienced big variations in subsidy levels.

The same qualifications attract different subsidy amounts across jurisdictions. Broadly, all subsidised courses receive a base subsidy rate, with higher rates or loadings applied for courses identified as higher priority for the economy, to compensate for higher costs of delivery or to incentivise target groups. On the basis of publicly available information, there is currently no qualification where the subsidy amount matches between jurisdictions.¹³⁹

There are some big and quite inexplicable variations. One example is the Diploma of Nursing, with subsidies of \$19,963 in Western Australia, \$16,388 in Victoria, \$10,250 in New South Wales, \$8,990 in the Australian Capital Territory and \$8,218 in Queensland – a difference of \$11,745 between Western Australia and Queensland. The subsidy amount for some courses can also be quite similar, with around 5 per cent of courses subsidised in both New South Wales and Victoria having a difference of \$100 or less.¹⁴⁰ In these cases it would be frustrating to employers and RTOs that there is not a common subsidy amount.

¹³⁷ Council of Australian Governments 2012, *National Partnership Agreement on Skills Reform*, Canberra.

¹³⁸ OECD 2018, *Getting Skills Right: Australia*, Paris: OECD Publishing.

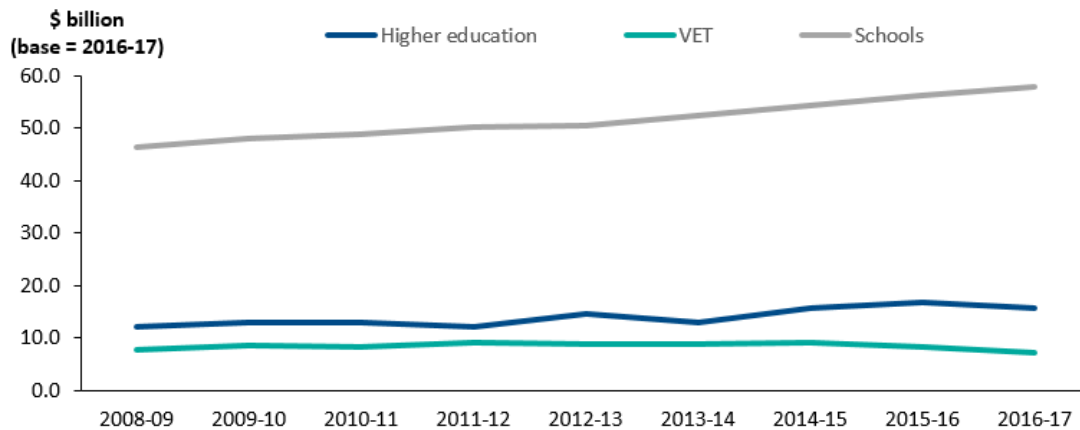
¹³⁹ New South Wales Government, Department of Industry, *Smart and Skilled: Prices and fees – v 8.5*, last accessed 12 March 2019; Victorian Government, Department of Education and Training, *Skills First – 2019 Funded course list and subsidies*, last accessed 12 March 2019; the Australian Capital Territory Government, Skills Canberra, *Skilled Capital Qualification List Feb 2019*, last accessed 12 March 2019; Western Australia Government, Department of Training and Workforce Development, Jobs & Skills WA, *2019 Priority Industry Training*, last accessed 12 March 2019; Queensland Government, Department of Employment, Small Business and Training, *Priority skills list (2018-19 Annual VET Investment Plan)*, last accessed 12 March 2019.

¹⁴⁰ New South Wales Government, Department of Industry, *Smart and Skilled: Prices and fees – v 8.5*, Last accessed 12 March 2019; Victorian Government, Department of Education and Training, *Skills First – 2019 Funded course list and subsidies*, last accessed 12 March 2019.



Total public funding for VET has declined in the past ten years while funding for schools and higher education has increased; see Figure 5.1. Higher education funding is paying for an increasing number of students, some of whom might otherwise have been trained in the VET system.

Figure 5.1: Trends in total public expenditure on higher education, VET and schools, 2008–09 to 2016–17¹⁴¹



Notes:

1. All funding excludes capital expenditure.
2. Higher education expenditure includes government funding for higher education research.
3. Includes cash outlays for income-contingent loans including Higher Education Loan Program, VET FEE-HELP, VSL and Trade Support Loans.

View the text alternative for [Figure 5.1](#).

On a per-place basis, government funding for VET is the lowest of the three education sectors, at around \$12,500¹⁴² per Full-Time Equivalent (FTE) in 2016–17.¹⁴³ Higher education was the highest, at nearly \$22,000¹⁴⁴ per FTE¹⁴⁵ and schools were funded at just over \$15,000 per FTE.¹⁴⁶

¹⁴¹ Department of Education and Training, *Annual Reports*; Australian Government, *Final Budget Outcome papers*, 2008-09 to 2016-17; NCVER, *financial information 2008 to 2017*; Australian Bureau of Statistics 2019, *Consumer Price Index, Australia, December 2018* cat.no. 6401.0; Department of Education and Training, *Portfolio Additional Estimates Statements*; Productivity Commission 2019, *Report on Government Services 2019, Part B Chapter 4A School Education*; Department of Education and Training, unpublished data.

¹⁴² Includes cash outlays for income-contingent loans, i.e. VET FEE-HELP, VSL and Trade Support Loans.

¹⁴³ NCVER, *financial information 2016 and 2017*; NCVER, *National VET Provider Collection*; Department of Education and Training, *VET Student Loans data collection 2016 and 2017*, Canberra; Department of Education and Training, *VET FEE-HELP data collection 2016 and 2017*, Canberra; Department of Education and Training, unpublished data.

¹⁴⁴ Includes cash outlays for the Higher Education Loan Program and government block grants for higher education research.

¹⁴⁵ Department of Education and Training, *Annual Report 2016-17*; Department of Education and Training, *Selected Higher Education Statistics – 2016 and 2017 student data*; Department of Education and Training, unpublished data.

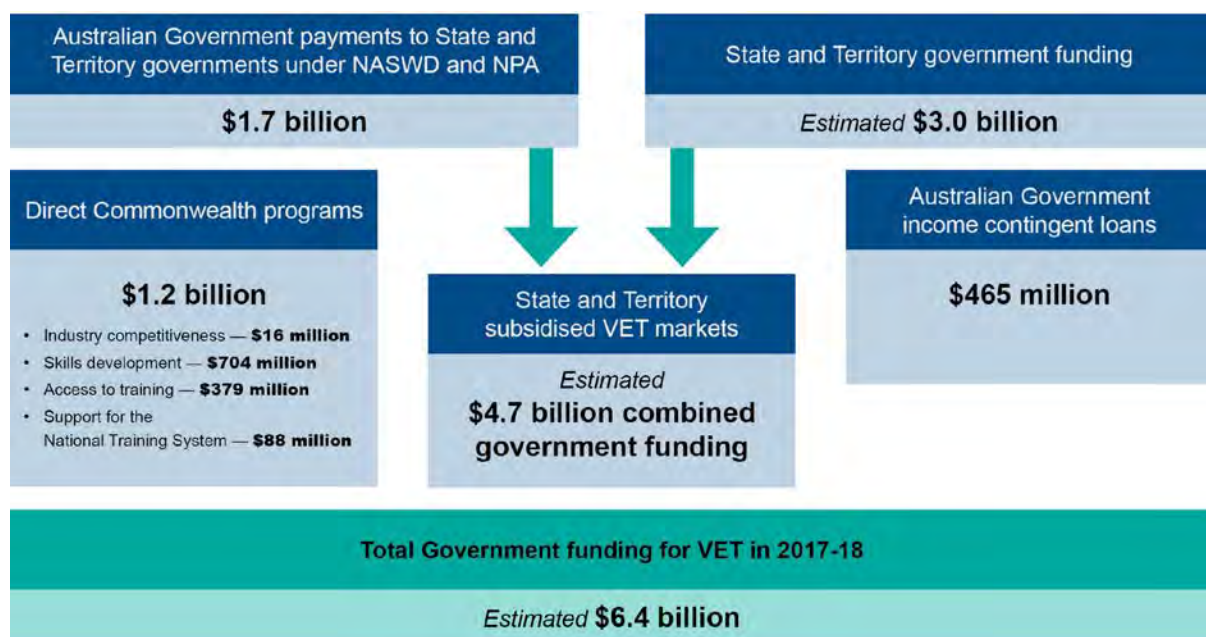
¹⁴⁶ Productivity Commission 2019, *Report on Government Services 2019 - Part B Chapter 4A School Education*, Canberra.



As well as co-funding the States' and Territories' training systems, the Commonwealth funds a number of activities directly, including support services for apprentices and trainees, employer incentives, and some language, literacy and numeracy programs. States and Territories are also active in these areas. Several programs administered by the Commonwealth and States and Territories overlap in their support of the same or similar outcomes – for example, for apprentices and trainees or their employers. This situation creates further confusion for participants in the system.

Total public funding for vocational education in Australia (Figure 5.2) was estimated to be \$6.4 billion in 2017–18, of which \$3 billion was contributed by State and Territory governments, and \$3.4 billion by the Commonwealth.

Figure 5.2: Overview of VET public funding, for 2017–18¹⁴⁷



Notes:

1. Direct Department of Education and Training programs cover a range of support for apprentices and trainees, including employer incentives and support services for apprentices and trainees; support programs for job-seekers and migrant English programs; and support for the national training system, including the AISC, NCVET and the MySkills website.
2. Cash outlays for income-contingent loans that is VET FEE-HELP, VSL and Trade Support Loans.

View the text alternative for [Figure 5.2](#).

¹⁴⁷ Department of Education and Training 2018, *Portfolio Additional Estimates Statements 2017-18*; Australian Government *Final Budget Outlook 2017-18*; NCVET 2018, *Australian vocational education and training statistics: financial information 2017*; Department of Education and Training, unpublished data.



Course fees and student loans

Upfront course fees are generally not regulated in the VET sector, except in a few States and Territories which set the fee amount that can be charged for a student in a subsidised place. For example, New South Wales sets student fees for subsidised courses based on advice from the Independent Pricing and Regulatory Tribunal (IPART) on the efficient cost of qualifications.¹⁴⁸ In contrast, Queensland supports deregulated pricing arrangements, where the Government sets the subsidy level and the approved provider determines the fee level.¹⁴⁹ The Australian Capital Territory is semi-regulated, setting a minimum tuition fee.¹⁵⁰

To assist students with upfront costs, some providers provide scholarships, grants or other forms of private finance payment plans. A number of State and Territory Governments have recently introduced 'fee-free TAFE courses' available only at publicly owned institutions. In Victoria, these arrangements cover priority courses, including both priority non-apprenticeship and apprenticeship pathway courses, delivered at TAFEs. For other jurisdictions, such as New South Wales and the Australian Capital Territory, these are limited to apprenticeship courses.

The Commonwealth Government provides some financial support to VET students through income-contingent loans for students studying at diploma level and above. This was originally through the VET FEE-HELP scheme. When VET FEE-HELP was introduced, some States or Territories redirected fee subsidies away from diploma and above courses to other qualifications.

Due to the emergence of significant issues with the behaviour of some providers and a blow-out in the cost of the scheme, the Commonwealth closed the VET FEE-HELP scheme and replaced it with the VSL program.

VSL is much more targeted than VET FEE-HELP, with caps on the loan amount for a course and a more limited set of courses eligible for loans. Like VET FEE-HELP, VSL is only available through a subset of providers approved by the Commonwealth. These may be different providers from those subsidised by the relevant State or Territory.

The rapid transition from VET FEE-HELP to VSL was one of the reasons for recent declines in VET funding. The reduced scope of loans available to students saw total loans drop dramatically. This resulted in a decline in Commonwealth support for diploma and advanced diploma courses.

¹⁴⁸ IPART website, *Fact Sheet – Training Providers – Prices and fees for Vet under Smart and Skilled – 30 July 2013*, accessed 5 February 2019.

¹⁴⁹ Department of Employment, Small Business and Training, *Pre-qualified Supplier Policy 2018-19 for Queensland VET Investment Programs*, Queensland Government.

¹⁵⁰ Skills Canberra, *Skilled Capital Qualification List – February 2019*, Canberra: Australian Capital Territory Government.



Another example of policy changes affecting funding levels is the withdrawal of Commonwealth employer incentives for existing worker traineeships. In this case there were concerns that some employers were claiming training subsidies for skills their employees already had. In those cases, traineeships effectively became an expensive subsidy for recognition of prior learning. The number of traineeships, which had grown quickly, then declined quickly. Removal of the incentives in 2012 and 2013 led to an 81 per cent decline in existing worker non-trade trainee commencements from 2008 to 2017.¹⁵¹

The Commonwealth also provides support payments, such as Youth Allowance, Austudy, ABSTUDY and the Living Away from Home Allowance, and income-contingent Trade Support Loans to students and apprentices to assist with non-tuition costs during their training.

The VET system has limited reporting requirements and performance indicators to measure the effectiveness and outcomes of government funding. The NASWD between the Commonwealth and the States and Territories sets out agreed goals for VET and includes targets to be met by 2020. The targets are not on track and are unlikely to be met. They are also inadequate for making a proper assessment of the performance of the system because there is no check on how well the system is delivering the specific skills needed by the labour market.¹⁵²

Time for a fresh approach

There is a clear need to implement a new set of consistent funding arrangements to support VET across Australia. The level of stakeholder frustration with the complexity and inconsistency of the current pricing and subsidy models is high. Beyond the specific problems caused by variable and varying funding, the funding system as a whole is contributing to issues with confidence in the overall VET system.

Some stakeholders have suggested that the Commonwealth should take over responsibility for funding the VET sector, as it does for the university sector. They look enviously at a much more straight forward and simple university funding system, which they believe is far easier for students and other stakeholders to understand. This sentiment is hard to argue with.

On the other hand, it is also easy to understand the perspective of the States and Territories. They see their vocational training system as an important lever to help in managing and growing their local economy. They argue, not without merit, that they have a greater understanding of their local economies than the Commonwealth does. One of the strengths of the VET system should be its ability to respond to local needs, and they believe they are best placed to do it.

The Review therefore proposes a new funding policy designed to meet the needs of States, Territories and the Commonwealth and, most importantly, the consumers of vocational education and training.

¹⁵¹ NCVER, *Apprentices and Trainees Collection*.

¹⁵² Productivity Commission 2019, *Performance reporting dashboard – NASWD*, last accessed 22 March 2019, <https://performancedashboard.d61.io/skills>.



The Review proposes that the Commonwealth take the lead in developing nationally consistent course subsidies for the sector, while States and Territories continue to allocate those subsidies on a competitive basis to quality-assured providers. They would do this based on their assessment of industry demand and an agreed approach to skills forecasting between the Commonwealth and the States and Territories.

5.1 The Commonwealth and the States and Territories agree to develop a simpler, nationally consistent funding policy for all government-subsidised qualifications, which provides confidence and certainty to trainees, industry, employers and all funded providers, public or private.

The policy would involve the Commonwealth preparing agreed national average costs and subsidy levels, with the States and Territories continuing to allocate places on a contestable basis to meet skills demand.

This new approach would retain the best features of a responsive local system while ensuring nationally consistent funding that all stakeholders can understand and respond sensibly to.

Continuing to operate a contestable funding system with a fixed subsidy price will ensure that the efficiency and responsiveness of providers will be encouraged and rewarded. The contestable system will be supported by the enhanced quality assurance regime set out in Chapter 3.

A National Skills Commission

At the core of the new system, the Review proposes the Commonwealth set up a new National Skills Commission with responsibility to consult on and agree course subsidy levels with the States and Territories, allocate Commonwealth funding to the States and Territories on agreed parameters, and monitor the performance and effectiveness of system funding on behalf of the Commonwealth.

The NSC would work with the States and Territories to determine and forecast labour market demand for skills across the country and would have the authority to agree with the States and Territories the distribution of Commonwealth subsidies across qualifications to meet labour market demand.

The States and Territories would decide on the distribution of subsidies to different qualifications within agreed parameters, but this would be at the agreed national price.

The NSC would also be responsible for the administration of all Commonwealth funding to VET on behalf of the Minister. It would bring greater co-ordination with the States' and Territories' training systems in the delivery of these programs, so that all stakeholders see a clear straightforward funding system for vocational education.

5.2 The Commonwealth to set up a National Skills Commission to work with the States and Territories on VET funding and administer all Commonwealth funding to the VET sector under strategic policy direction from the Minister.



It is proposed that the NSC would have direct oversight over a number of other bodies in the vocational education system. A proposed National Careers Institute (as discussed in Chapter 6) would be part of the NSC, which would also directly fund the SOs, as set out in Chapter 4.

Identifying workforce skills needs

A key task for the NSC would be to develop and maintain an independent and respected national picture of the Australian labour market and the country's skills needs, now and in the future.

Its role will be to marry together the Commonwealth's current labour market assessment capacity with the assessments undertaken at the State and Territory level and build a methodology that provides a consistent and agreed picture of skills needs at the national, state, territory and regional levels, as proposed by the OECD.¹⁵³

The NSC skills forecasts should provide short-, medium- and long-term projections and be broken down by industry and occupation. As well as bringing together the assessment of States and Territories, it should be informed by industry insights and perspectives. There should be regular consultation with SOs and peak industry bodies to ensure industry-specific skills needs are captured.

The NSC should report skills needs regularly, so there is a continuous cycle of consistently updating skills needed for changing labour market conditions.

The aim of the NSC's skills needs assessment function should be to become a trusted and authoritative source of skills demand information for both the Commonwealth and the States and Territories, with a reputation consistent with that of a body such as the Australian Bureau of Statistics (ABS).

5.3 The National Skills Commission to be made responsible for developing and updating clearly linked national, State and Territory level and regional skills demand forecasts with direct input from States, Territories, local jurisdictions and industries to assist all stakeholders to plan investment in the vocational education sector.

In order to ensure its effectiveness the NSC would need to bring together the full employment and skills forecasting resources currently located at the Department of Jobs and Small Business and the Department of Education and Training.

It would advise on skills and employment demand and forecasting across all related policy areas, including VET, higher education, employment services and skilled migration.

5.4 Skills demand resources currently located in the Department of Education and Training and the Department of Jobs and Small Business to be transferred into the National Skills Commission.

¹⁵³ OECD, *Getting Skills Right: Australia*.



Nationally consistent costings and subsidies

The NSC would have a central role in establishing a nationally consistent set of subsidy rates to use across all States and Territories. Agreed subsidy amounts across jurisdictions updated on a reliable schedule would give certainty to employers, students and RTOs, so that they could make informed decisions about undertaking and offering VET qualifications.

The New South Wales Government has done work that informs its Smart and Skilled program's subsidy rates and which was also part of calculating the VSL loan caps. The NSC could build on this work at the national level to develop a robust evidence base on average cost across all providers to underpin funding.

The NSC would undertake the activity-based costing exercise in partnership with the States, Territories and other stakeholders. These costs would take into account the type and level of course being delivered by an RTO in a fully competitive market. Public and private benefits from the course could also be considered to determine the public and private contributions.

5.5 The National Skills Commission be given responsibility for determining nationally consistent subsidy levels, in partnership with the States and Territories, based on averaged actual costs of delivery for providers nationwide.

From the costing exercise, the NSC would develop a set of subsidy amounts on a grouped qualification basis, similar to that which applies in the university sector. The number of groupings will be dependent on the costings, but it is worth noting that the higher education table has only eight groupings to cover all qualifications.¹⁵⁴

The costings are likely to identify funding differentials that cannot be captured within the national average. For example, the higher cost of delivering VET in rural and remote areas needs to be recognised, so that there continues to be high-quality and diverse training options offered in these markets. There may be other factors, such as training Aboriginal and Torres Strait Islander students that could result in a higher cost of training that should be recognised. In these cases a percentage national loading on top of the national subsidy amount should be paid on a per-student or enrolment basis.

5.6 Subsidy levels would be determined on a grouped qualification basis similar to the Commonwealth Grant Scheme and Student Contributions table used in the university sector. They would reflect the different cost structures that are required for different types of qualifications so that providers are not influenced by the funding system to provide a particular course or qualification beyond the demand for that course.

There should also be a list of nationally consistent percentage loadings to reflect differential costs for rural and remote areas and disadvantaged groups.

¹⁵⁴ Department of Education and Training 2018, *Total resourcing for a Commonwealth support place by discipline – 2019*, Canberra.



Over time, the NSC could also set the loan cap amount for VSL in concert with the States and Territories, to ensure that students are able to access sufficient funds to assist with the upfront costs of training. The experience with VSL is that the use of loan caps has seen a reduction in fees from the high levels under VET FEE-HELP, suggesting the caps could operate as a de-facto price control for the government-funded training system.

VSL should be extended over time to all RTOs approved for funding by a State or Territory. It would then be appropriate for the Commonwealth to delegate VSL auditing requirements to State Training Authorities to reduce the compliance costs for RTOs.

Extension of eligibility for VSL to qualifications at the certificate IV level could also be considered. The NSC would need to undertake further investigation to ensure extension of an income-contingent loan would be consistent with good fiscal strategy and set appropriate incentives for students, including consideration of management of bad debts.

A new national agreement

The Review recommends that the Commonwealth and the States and Territories agree to a new national agreement to serve as the foundation for inter-jurisdictional cooperation in the VET sector.

This would replace current arrangements under the NASWD, including arrangements under the Skilling Australians Fund (SAF), depending on the timing of implementation. All States and Territories would be encouraged to sign up to the scheme in the interests of a coherent and respected national VET sector.

The new agreement would include a set of agreed funding principles that guide the allocation of Commonwealth funding to the States and Territories and the administration of State and Territory training systems.

The funding principles should support the respective roles of the Commonwealth and the States and Territories, as described, for leading at the national and local levels. The principles should focus on delivering better outcomes and ensuring accountability and transparency for the new funding arrangements. The details of the principles would be developed by the Commonwealth and the States and Territories.

The new agreement would involve each of the Commonwealth and the States and Territories paying an agreed percentage tuition subsidy on a per-student, per-qualification basis, with the same subsidy payable to approved public and private providers. The percentage would be determined between the States and Territories and the Commonwealth. Agreeing a percentage contribution would address the concerns frequently raised about cost-shifting between the Commonwealth and the States and Territories.

The level of funding available for the VET sector will continue to be determined by respective governments. The amount governed by the new national agreement would need to be agreed in the negotiations.



Eligibility for the nationally consistent training subsidies under the new agreement would also need to be developed in more detail, and draw on the experience with funding contracts over the past few years. The same level of subsidy would be paid to all eligible providers regardless of their ownership.

States and Territories may prefer to keep paying additional block amounts to the State-owned TAFE system beyond the qualification subsidies, to reflect additional services provided by TAFEs or different cost structures. The Review proposes that this should be able to continue but that they be paid directly by the States and Territories as owners of the TAFEs. The Review understands that this may affect the amount of money States and Territories have available for the training subsidy program.

The Review proposes that the new agreement specify that the Commonwealth, States and Territories expand funding for VET in the longer term, so that student tuition subsidies are at an equivalent level to those applying to higher education. Students would then no longer have their study choices influenced by the higher upfront costs of undertaking VET in comparison with higher education.

5.7 The Commonwealth and the States and Territories would negotiate a new national agreement where the Commonwealth co-funds courses in each State and Territory according to the National Skills Commission's funding model. Courses in eligible public and private providers would be co-funded on the basis of an agreed standard percentage share between the Commonwealth and each State and Territory.

States and Territories could continue to provide additional support to their TAFE systems, over and above the tuition subsidies, in their roles as TAFE owners.

Monitoring and assessing the performance of the VET system

The NSC would draw on its expertise in skills demand data to perform the vital role of assessing how the VET system is meeting skills training needs across the country.

It would collect data on the actual delivery of training to determine if the training is meeting the skills demands identified by the States and Territories and would also examine outcomes on student and employer satisfaction. This would provide clear information to the Commonwealth, State and Territory governments, and hence to taxpayers, about the allocation of funds.

The NSC would also utilise RTO performance data from the Performance Information for VET, which was endorsed by the CISC. The information would be used to measure student outcomes and completions at RTOs. It would be provided to the States and Territories to assist them in their allocation decisions.

The NSC would also agree on a performance measurement framework with the States and Territories which it would use to report on the performance and outcomes of the VET sector. This would have shared objectives that would be regularly reviewed and updated as required.



5.8 The National Skills Commission to develop performance indicators using existing and future data sources to measure the outcomes and effectiveness of government investment in the VET sector, and to report that information to both the Commonwealth and the States and Territories.

Apprenticeships and traineeships

Difficulty in finding qualified candidates for jobs was a common frustration voiced by many employers and industry representatives. Many industries attribute the lack of candidates to the current decline in apprenticeships and traineeships.

In consultations, employers stated that apprenticeships and traineeships could be made more attractive if support services were consolidated and better targeted to the needs of employers and apprentices. The Australian Apprenticeships Incentives Program (AAIP) has been subject to multiple changes to the eligibility criteria and the incentives amounts, particularly for existing workers in 2012 and 2013.

This has resulted in the existing AAIP being complex for employers to navigate and understand. A simpler, more streamlined apprentice incentives program would provide better and more easily understood support to employers and their apprentices and trainees.

5.9 The Commonwealth to revamp and simplify its apprenticeships incentives program to make it more attractive to and more easily understood by apprentices and trainees and their employers.

The Department of Education and Training currently uses the NSNL to target Commonwealth funding for apprentices and trainees and their employers, including the AAIP and Trade Support Loans. The NSNL has not been updated since 2011 and is widely seen as out of date.

To ensure the Commonwealth's funding is clearly aligned with target occupations, a new National Skills Priority List for Apprentices (NSPLA) should be developed by the NSC in consultation with State and Territory Governments, to replace the existing NSNL. The new NSPLA will be underpinned by robust and objective methodology based on the NSC's labour market data. It is important that the new list includes not just occupations that are currently in shortage but also those that are forecast to have high demand in future years. The NSPLA would be updated annually.

A variety of skills needs and priority lists exist across different levels of government for different purposes; these include the skilled migration lists and the VSL Approved Course List. To improve the alignment of these lists, a single consultation process should be undertaken in an annual review led by the NSC.



5.10 The National Skills Commission to develop a new National Skills Priority List for Apprentices that captures occupations, including those in new and emerging industries and occupations supporting Government priorities. An annual consultation process should be undertaken to review the National Skills Priority List for Apprentices and align it with skills needs across the States and Territories.

The Commonwealth currently funds support services for apprentices and their employers through the AASN providers. AASN providers deliver services pre-commencement, including screening, testing and job-matching, and targeted in-training support to help individuals complete their apprenticeship. The Review heard feedback about the AASN providers duplicating services provided by the States and Territories and questions about the effectiveness and patchiness of performance of AASN providers. However, the Review also heard first-hand the passion of many AASN providers for the apprenticeship system.

As with many other parts of the VET system it is industry that is best placed to recruit and support their apprentices and employers. Industry organisations are naturally best placed to market and recruit for their industry. The GTO model has a stronger link to specific industries and appears to operate effectively in supporting employers. However, the introduction of SOs will establish fully industry driven bodies that can and should take on the role of the AASN providers. The SOs will be well placed to find suitable employers for apprentices, develop training plans in consultation with the apprentice and the employer, and provide support and education to both parties.

5.11 Skills Organisations to take on the role of the Australian Apprenticeships Support Network. Field staff for Skills Organisations would be best placed to recruit apprentices, find suitable employers for apprentices, develop training plans in consultation with the apprentice and the employer, and provide support and education to both parties.

It is not proposed that SOs take over funding for the RTOs providing block courses and tuition for apprentices and trainees, despite that occurring in some jurisdictions. This would remain the responsibility of States and Territories. However, SOs would be responsible for creating a positive, non-exclusive list of preferred RTOs that provide competitive options for training across Australia. The Commonwealth, States and Territories would take this advice into account when deciding the RTOs for funding through subsidies or loans.

5.12 Each Skills Organisation to develop a positive non-exclusive list of preferred Registered Training Organisations for their industry across Australia for use by employers to choose where they train their apprentices and trainees. The Commonwealth and States and Territories would take the list into account when determining providers for funding.



A life-long learning account

During the Review, many stakeholders noted the more favourable funding arrangements currently applying to higher education providers. The new funding arrangements, proposed above, and other changes proposed in this Review, will lift the VET sector so it can compete more effectively with higher education.

The Business Council of Australia (BCA) has proposed that the inconsistency between VET and higher education funding arrangements be overcome by setting up a life-long learning account that runs across both the higher education and VET systems. The account would entitle eligible people to a fixed amount of subsidised study that can be redeemed in either sector. To support the account there would be consistent funding arrangements across the two sectors for subsidies and loans. To support the account's introduction, the BCA proposes that a costing exercise and calculation of public and private benefits be undertaken for VET and higher education.

Specific consideration of funding arrangements in the higher education sector is outside the terms of this Review. However, the recommendations of this Review are designed to address many of the issues the BCA has identified. The Review also supports some of the building blocks proposed by the BCA, for example, the costing exercise and work on public and private benefits.

Implementation of the recommendations of this Review would lead to substantial progress in setting in place the conditions for a life-long learning account that governments could consider at a later date.

Additional support for VET in rural and remote Australia

Multiple submissions argued that there is a strong need to adapt or create policies to support rural and remote students engaged in VET. To address this, flexible and innovative delivery models need to be considered for these areas. One potential solution lies in the regional study hub model, which provides infrastructure and academic support for students studying via distance at partner universities.

The Review proposes that consideration be given to expanding or adapting this model for use by the vocational education sector. Institution-wide commitment and collaboration between VET providers, universities, external agencies and community networks have been shown to be crucial strategies for achieving high levels of participation and completion of further education for regional and rural students.¹⁵⁵ To ensure the model's viability, dedicated funding grants could be provided, in addition to the national rural and remote subsidy loading proposed earlier in this chapter. This would encourage RTOs to offer training through the regional study hubs, and would bring closer alignment with the additional funding offered to universities for the same purpose.

¹⁵⁵Lamb, Stephen, Quentin Maire, Anne Walstab, Graeme Newman, Esther Doecke and Merryn Davies 2018, *Improving participation and success in VET for disadvantaged learners*, Adelaide: NCVET.



A Regional Education Expert Advisory Group has been established to advise Government on the ongoing education and training needs of regional, rural and remote communities. One of the Advisory Group's issue papers¹⁵⁶ explores how to improve access, opportunity and choice in tertiary education for regional, rural and remote learners, including exploring the expansion of the regional study hub model.

5.13 The Commonwealth Government to expand the university-based regional study hub model to provide funding to VET providers to participate in regional study hubs.

¹⁵⁶ Department of Education and Training website, *National Regional, Rural and Remote Education Strategy*, last accessed on 26 March 2019, <https://www.education.gov.au/national-regional-rural-and-remote-education-strategy>.



6 Better careers information

Almost all stakeholders the Review spoke to agreed that one of the biggest gaps to be filled in the sector was the provision and marketing of timely, accurate and useful information that would help students and their families choose vocational pathways.

Most felt that the sector was perceived poorly relative to universities which were increasingly dominant in the minds of students and their families. For a number of reasons, they felt university had become the default post-school pathway despite the wide array of sometimes lucrative careers to be had as a result of vocational education.

Many stakeholders blamed what they saw as an inbuilt bias against vocational training in the school sector. Industry groups in particular were concerned that school teachers and career counsellors rarely had personal experience of the VET sector and tended to push all capable students towards higher education. It was suggested that many schools treat VET as a 'second-rate option' for low-performing students, rather than as a viable alternative pathway.¹⁵⁷ The Ai Group argued,

*There is a need to overhaul the provision of career education to students, parents and teachers. A VET pathway continues to be regarded as a second choice option by many.*¹⁵⁸

Stakeholders were concerned that students who would otherwise thrive in VET careers are being directed towards higher education options where they may not succeed.¹⁵⁹ They pointed to the significant drop-out rate of certain cohorts of first-year university students,¹⁶⁰ and felt that some Australians end up taking up a vocational career after completing a possibly unnecessary university degree.

The information available for adults considering formal skills training is also regarded as inadequate and unable to support older workers to overcome the additional barriers they face.¹⁶¹ The Business Council of Australia highlighted the difficulty of finding information that will assist good decision making by prospective students, not only for school students but also for those already in the workforce:

*The first problem is the approach potential learners take to making decisions about their future, and the lack of information available to help them make good decisions. This starts in schools with career counselling and the information we give young people, but is even more prevalent for adults in the labour force or looking for work, who struggle to find relevant and helpful information.*¹⁶²

¹⁵⁷ The Smith Family, Submission to the VET Review, p 11.

¹⁵⁸ Australian Industry Group, Submission to the VET Review, p 23-24.

¹⁵⁹ While university remains a good option for those with higher ATARs, the Grattan Institute's analysis suggests those with low ATARs are less likely complete, particularly if male. (Norton, Andrew and Ittma Cherastidham 2018, *Dropping out: the benefits and costs of trying university*, Grattan Institute, p 37.)

¹⁶⁰ For students who entered university in 2016 with an ATAR of 30-49 there was a 25 per cent attrition rate. For students who entered with an ATAR of 50-59 there was a 19 per cent attrition rate. (Department of Education and Training 2018, *Attrition, Retention and Success rates*, Canberra: Australian Government.)

¹⁶¹ Australian Human Rights Commission 2016, *Willing to Work: National Inquiry into Employment Discrimination Against Older Australians and Australians with Disability*, Sydney: Australian Human Rights Commission.

¹⁶² Business Council of Australia, Submission to the VET Review, p 3.



To help re-position VET as a valued post-school destination, many stakeholders called for a new national campaign to promote VET careers. The Government's recent VET Information Strategy, and its tagline 'Real Skills for Real Careers', was viewed positively, although it was argued that a larger scale marketing campaign was needed to better promote VET careers.¹⁶³

The Australian Chamber of Commerce and Industry said, 'There is a need for a national communications strategy and a coordinated and well-funded campaign to promote apprenticeships and traineeships and the VET sector overall', and recommended 'at least \$10 million should be allocated to the Real Skills for Real Careers marketing strategy.'¹⁶⁴ The Minerals Council of Australia also called for 'a campaign to increase awareness and understanding of the offerings and [to establish] a stronger narrative on the broader post-secondary education eco-system.'¹⁶⁵ Importantly, the Council emphasised the likely success of such a campaign, when coupled with additional reforms addressing weaknesses of the current VET system.

A plethora of websites

In recent years, governments have worked to provide more information to prospective students about jobs and their related education and training pathways.

Australian government agencies, their State and Territory counterparts, and private organisations now publish a large amount of information about the labour market, future job projections, training pathways, and training providers across an assortment of distinct websites. The Productivity Commission has highlighted the 'burgeoning number of websites to assist people....carries with it the risk of a confusing maze of information.'¹⁶⁶

The Commonwealth's DJSB publishes information about career exploration and jobs on the Job Outlook website, providing careers and labour market information in regions across Australia. It also provides the Labour Market Information Portal, linking DJSB's employment projections with online vacancy reports and ABS labour force regions data; and Job Jumpstart, offering a 'single source' of information for young people wanting career and job search information. From July 2019, the Job Outlook website will also feature a new Skills Transferability Tool, which will use a new skills and jobs data engine to provide an interactive tool to help source job opportunities specifically tailored to the skills of the individual. The Commonwealth's and States' and Territories' My Future website also offers career exploration and information for school students.

¹⁶³ Australian Chamber of Commerce and Industry, Submission to the VET Review; Mineral Council of Australia, Submission to the VET Review; Naval Shipbuilding, Submission to the VET Review; Restaurant and Catering, Submission to the VET Review; National Apprentice Employment Network, Submission to the VET Review; Australasian Railway Association, Submission to the VET Review; Year 13, Submission to the VET Review.

¹⁶⁴ Australian Chamber of Commerce and Industry, Submission to the VET Review, p 26.

¹⁶⁵ Mineral Council of Australia, Submission to the VET Review, p 11.

¹⁶⁶ Productivity Commission, Shifting the Dial: 5 Year Productivity Review, Report No. 84, p 116.



The Department of Education and Training supports a separate set of dedicated websites for information about VET and higher education, including My Skills, which provides a national directory of VET providers and courses; the Australian Apprenticeships Pathways website, offering an information hub about apprenticeships and traineeships for students and employers; Quality Indicators for Learning and Teaching, providing graduate outcomes of higher education institutions; and Course Seeker, providing information about higher education entry requirements and admissions processes (maintained by the Tertiary Admissions Centres).

Many States and Territories also have their own websites with careers guidance, labour market information and education and training options. For example, the New South Wales Skills Portal website provides information about labour market trends across a range of occupations, by regional areas, and links to job advertisements; and Victoria's Skills Gateway allows students to search and compare occupations, courses and providers, and its 'Career Switch' tool allows users to identify a new career or role that builds on the skills they already have.

A number of private organisations publish skills and careers advice. Skills Road is an initiative of the New South Wales Business Chamber that aims to provide a 'one-stop-shop' for young Australians to navigate the career planning process and transition from school to further study or work. The site offers personal quizzes and job information to school students and 'mutually beneficial recruitment products and services' for its business members. SEEK has also expanded its job search website to include dedicated websites with careers information and selective training options.

Students and employers still struggle for information

Although a great deal of information is published, it is fragmented across different websites, is not always complete and is difficult to navigate.¹⁶⁷ Stakeholders continue to report that it is difficult to find reliable information. Information about occupations and the local labour market is separated from information on VET courses and providers, which is separated again from higher education options.

There is also poor interaction between related websites, with the Commonwealth's employment and career advice websites linking students through to the private Good Universities Guide for information about VET courses, rather than the Government's My Skills website. This creates additional complexity for users and limits consumers' ability to make well-informed choices.¹⁶⁸

It is unsurprising that school students struggle to find clear and accurate information about the VET sector.¹⁶⁹ When prospective students are unable to find the information they need, they are less likely to make good choices about post-secondary study options, including which course and which provider.

¹⁶⁷ Ai Group, Submission to the VET Review; Business Council of Australia, Submission to the VET Review; Tasmania Government, Submission to the VET Review p 3.

¹⁶⁸ Productivity Commission, *Shifting the Dial: 5 Year Productivity Review*, Report No. 84, p 81–119.

¹⁶⁹ Gore, Ellis, Fray, Smith, Lloyd, Berrigan, Lyell, Weaver and Holmes, *Choosing VET: investigating the VET aspirations of school students* p 4; Hargreaves, Jo and Kristen Osborne 2017, *Choosing VET: aspirations, intentions and choice*, Adelaide: NCVET, p 8.



Research has consistently found that teachers and families have a significant influence over students’ career aspirations and study plans.¹⁷⁰ In the student survey conducted by the Review, students reported they rely heavily on their school teachers, peers and parents for guidance. Of the young people surveyed, 47 per cent relied on careers expos for VET information and 40 per cent on their teachers.¹⁷¹ Mission Australia’s 2016 Youth Survey found 52 per cent cited a teacher as influencing their post-school plans, while 83 per cent cited parents as influencing their post-school plans.¹⁷²

If the advice schools provide to their students is indeed weighted towards universities, this may be heightening distortions caused by funding incentives towards university and the influence of large university marketing budgets. The Grattan Institute has observed that ‘university is now the default post-school activity for many young people’,¹⁷³ with 67 per cent of young people planning to go to university, compared with 14 per cent intending to go to TAFE or another RTO, and 9 per cent intending to pursue an apprenticeship.¹⁷⁴

It also appears that even when students do aspire to a VET career, large numbers of them intend to pursue (or are pursuing) the wrong type of qualification.¹⁷⁵ The Review’s survey results suggested many students’ career aspirations were not aligned with their educational plan, which could leave them overqualified (for example, the 45 per cent intending to complete a bachelor level degree, when they actually need a certificate) or underqualified (for example, the 33 per cent intending to pursue a VET pathway when they need a bachelor degree).¹⁷⁶

Figure 6.1: Misalignment between job aspiration and educational intention¹⁷⁷

Maximum level of education completed, doing, or planned for the next 3 years.

	High School	Certificate/ Apprenticeship/ Diploma	Bachelors+	Sample size
Bachelors+	8%	33%	59%	1,350 (100%)
Certificates+	11%	44%	45%	571 (100%)
No specific education	26%	49%	26%	239 (100%)

underqualified
overqualified

View the text alternative for [Figure 6.1](#).

¹⁷⁰ Hargreaves and Osborne, *Choosing VET: aspirations, intentions and choice*; Bailey V., Baker, A-M., Cave, L., Fildes, J., Perrens, B., Plummer, J. and Wearing, A. 2016, *Mission Australia’s 2016 Youth Survey Report*, Mission Australia.

¹⁷¹ Qualtrics, *Vocational Education & Training Research Report February 2019*, unpublished.

¹⁷² Bailey, Baker, Cave, Fildes, Perrens, Plummer and Wearing, *Mission Australia’s 2016 Youth Survey Report*, p 18.

¹⁷³ Norton and Cherastidham, *Dropping out: the benefits and costs of trying university*, p 37.

¹⁷⁴ Carlisle, E., Fildes, J., Hall, S., Hicking, V., Perrens, B. and Plummer, J. 2018, *Youth Survey Report 2018*, Mission Australia, p 18.

¹⁷⁵ Hargreaves and Osborne, *Choosing VET: aspirations, intentions and choice*.

¹⁷⁶ Qualtrics, *Vocational Education & Training Research Report February 2019*, unpublished, p 13.

¹⁷⁷ Qualtrics, *Vocational Education & Training Research Report February 2019*, unpublished, p 13.



Previous research identified a poor alignment between occupational aspiration and intended educational pathway, with only approximately two-thirds of Year 12 students who aspire to a VET career intending to pursue a VET pathway.¹⁷⁸ This misalignment is more pronounced for those interested in VET careers as opposed to higher education,¹⁷⁹ and suggests that students are not, in practice, able to access the information they need to make good decisions. The impact of this can be considerable, resulting in unnecessary investment in education by individuals, a poor use of taxpayer dollars in course subsidies, and weaker matching of skills with labour market demand.

Creating a National Careers Institute

After considering all the submissions, the results of its consultations and the currently available resources, the Review has concluded that Australia would benefit from a major simplification and strengthening of careers information, particularly in relation to vocational education. The Review therefore recommends that the Commonwealth create a body to be the single, authoritative source of information spanning careers education on post-school pathways through VET, higher education and other training, labour market data, and training pathways and their employment outcomes.

6.1 The Commonwealth to set up and fund a National Careers Institute to provide a single, authoritative government source of careers information, with a particular focus on marketing and promoting vocational careers.

The new National Careers Institute (NCI) would initially draw together existing Commonwealth resources and information platforms from across Commonwealth departments. It would have a particular mandate to market and promote vocational careers in order to acknowledge the information deficit that currently exists in the vocational education sector.

The Institute would be tasked to provide prospective learners with four key pieces of information to assist their career and education choices: the likely demand for a particular career, the qualification(s) required to enter that career, the average cost and length of different training options to achieve that qualification, and the likely income to be earned both immediately and in subsequent years once the qualification is achieved.

A key performance objective for the NCI would be to reduce the mismatch between students' study choices and their desired career choice and increase the use of direct pathways into their desired occupation.

6.2 The National Careers Institute to be charged with collating and publishing accurate and reliable information on careers and qualification pathways, including demand forecasts for individual occupations, training information and likely income levels.

¹⁷⁸ Gore, Ellis, Fray, Smith, Lloyd, Berrigan, Lyell, Weaver and Holmes, *Choosing VET: investigating the VET aspirations of school students*, p 4.

¹⁷⁹ Gore, Ellis, Fray, Smith, Lloyd, Berrigan, Lyell, Weaver and Holmes, *Choosing VET: investigating the VET aspirations of school students*; Hargreaves and Osborne, *Choosing VET: aspirations, intentions and choice*.



To avoid duplication of resources, the NCI should be set up as a separate independent office within the NSC and utilise the national, state and territory, and local skill demand information collected by the NSC as one of the key information sources for its work.

The Institute's independence is important to ensure it is completely stakeholder focused and consumer oriented to the exclusion of other considerations. Its independence will enhance its status as an authoritative source of careers information.

6.3 The National Careers Institute to be established as an independent office within the National Skills Commission and utilise the skills demand information collected and analysed by the National Skills Commission.

For the NCI to be successful, it must take over responsibility for all of the Commonwealth's current websites and resources designed to assist with career choices, including in particular those operated by DET and DJSB. If not, the Institute will be just another voice to add to the noise that currently exists.

It is critical that prospective students and apprentices have a single source of truth for data on skills needs, training options and employment outcomes. By consolidating existing Commonwealth data, and improving linkages between administrative data sets, the Government can build a leading and comprehensive source of information that all stakeholders can rely upon for information about careers.

6.4 All current information services dealing with career choices and related matters provided by the Commonwealth to be included in the National Careers Institute and resources to be transferred accordingly.

An important part of the Institute's responsibilities would be to provide unimpeachable, accurate information on incomes flowing from different qualifications, using actual income data. A linked dataset between Australian Taxation Office data, Department of Human Services income support data and student data would allow this information to be collated and published for different qualifications and careers. This would considerably improve the accuracy of information available to people about the likely financial rewards of their career decisions. While expected income is not the sole determinant of career choices, providing accurate, lived data will help properly inform the decisions students, apprentices and their families make.

6.5 The National Careers Institute to use a linked data set incorporating Australian Taxation Office and Department of Human Services data on outcomes flowing from different qualifications and publish that information annually.

The NCI's powerful data set should underpin an improved suite of communication products about careers, the labour market, and education and training in Australia. To further improve accessibility, a user-friendly mobile app should be created that allows young people to easily scroll through industries, career pathways and training options that interest them.



6.6 A single Commonwealth website, an app service, and other communication tools providing information on the main careers in Australia to be provided by the Commonwealth through the National Careers Institute.

The Government should allow third parties to access this central data under licensing arrangements, with clear acknowledgement of the data source, to ensure information published about VET in Australia is built on consistent data.

6.7 The information provided by the National Careers Institute on its website and app be made available for licensing to other public and private operators on a consistent use basis and full acknowledgement of the data source (using a 'powered by' acknowledgement or similar).

To ensure a richer data set and complete end-to-end information, consideration should also be given to requiring RTOs to provide their mandated public course information, as proposed by the Braithwaite review of the *National Vocational Education and Training Regulator Act 2011* (recommendation 16),¹⁸⁰ to the NCI via an application programming interface so it can be published alongside the aggregate information. While it is not intended that the primary role of the Institute be to promote individual courses at individual RTOs, it would be useful for students to have directly comparable end-to-end information. It would also help to ensure averaged course cost information for courses and qualifications would be up-to-date at all times.

6.8 Consideration be given to mandating that course information, as recommended by the review of the *National Vocational Education and Training Regulator Act 2011*, be available for publication by the National Careers Institute to assist with providing end-to-end careers information to prospective students and trainees.

A national campaign to promote VET careers

As discussed, the status of vocational education needs a major upgrade if it is to play its part in effectively meeting the skills needs of Australia. A range of issues have seen it falling behind the more expensive university sector. At the same time, the demand for faster work-based training options is increasing.

Therefore, as well as the Institute's other functions, the Review recommends that the Commonwealth Government instruct and fund the NCI to undertake a multi-year national marketing campaign to promote vocational education and lift the reputation of VET careers across Australia.

¹⁸⁰ Braithwaite, *All eyes on quality: Review of the National Vocational Education and Training Regulator Act 2011*, p 83.



Significant investment in a national marketing campaign would complement the role of the new NCI, and support the VET sector in competing against the marketing power of better resourced universities.¹⁸¹ It would also provide an opportunity to highlight the suite of other reforms that will improve the quality of the sector.

The Review recommends that the NCI also take over responsibility for the VET Information Strategy as part of this marketing program.

6.9 The National Careers Institute to be funded to undertake a major multi-year public marketing campaign to lift the reputation and attractiveness of VET careers across Australia.

A marketing and recruitment role for Skills Organisations

While promotion of skills education as a modern, work-based alternative to university is necessary, it will not be sufficient on its own to market the range of careers available via a vocational education pathway, nor will it solve all the skills shortages.

It is hugely important to promote individual industries and careers since that is ultimately what prospective students or apprentices sign up for.

With marketing pitches like 'come to X university' or 'get an apprenticeship', the post-school education sector is often guilty of selling the seats on the plane rather than the destination. And yet the VET sector in particular is well set up for destination marketing, given that its qualifications lead to identified jobs and careers.

It is also important that the voice of each industry is heard in the marketing to students. It is the participants in each industry – the companies, the workers and the peak bodies – who are most passionate and authentic about that industry. They are best placed to persuade new people to come into the industry.

Industries are also at the sharp end of skills shortages. The Review heard from industries as diverse as railway, defence, construction, cyber security and the disability sector that have large and immediate needs for more workers.

It is hard for businesses from each industry to organise to perform that marketing role at a national or State and Territory level. Industries are normally a collection of large and small companies. Those that are large enough perform their own recruitment marketing to the extent that they immediately require it, while the smaller ones lack the resources and time. No individual company has the time to co-ordinate and market consistently to prospective entrants to an industry right across Australia.

¹⁸¹ In 2017, Australian universities spent a combined total of approx. \$325 million on advertising, marketing and promotional expenses. Department of Education and Training 2018, *Finance 2017: Financial Reports of Higher Education Providers*, Canberra: Australian Government, p 23.



Skills Organisations are the logical entities to take up this responsibility. Structured as recommended by the Review, they will have the training responsibility and reach to provide an end-to-end marketing campaign for their particular industry. They will design the product (qualifications), arrange the training (endorse RTOs), and sign up and manage apprentices and trainees. By being funded on an activity basis, they will be incentivised to grow their apprentice cohorts. And, because they exist only as a result of industry endorsement, they will be responsive to industry needs.

In New Zealand, industry training bodies take responsibility for developing advertising material to promote their occupations and marketing to students. For example, the Building and Construction Industry Training Organisation's functions include both managing apprenticeships in building and construction, and promoting this career pathway to prospective students. Representatives attend careers expos and visit schools, and the organisation's [recent 'trade up' advertisement](#) demonstrates how effective industry-led marketing campaigns can be.

The Review therefore recommends that the responsibilities of SOs include developing publicity material for their occupations, and promoting and marketing these pathways to prospective students and trainees. This should include engaging with schools to provide educational opportunities about these vocations.

6.10 Skills Organisations to be mandated to market their industry and its qualification pathways to prospective apprentices and students in order to meet workforce needs.

The costs of marketing would be partially funded by the Commonwealth Government through its per-trainee funding of SOs, while businesses would contribute through their training fees. It is appropriate that SOs receive a bundled income stream since they will be in the best position to, for example, prioritise qualification development or marketing according to their industry's priorities.



7 Clearer secondary school pathways

Secondary schools across Australia have been offering VET to students for decades, providing a pathway into the VET sector and improving students' engagement with school.

The Review was told about (and saw) some great examples of schools developing opportunities for their students to complete VET certificates with high quality trainers and facilities, delivered in close collaboration with local industry. For example, the Southern Cross Catholic Vocational College in Burwood, Sydney; the Australian Industry Trade College in South East Queensland; and the Edward John Eyre High School in Whyalla were all highlighted as providing high-quality VET pathways to their students.

However, alongside examples of success, the Review frequently heard concerns about the quality and outcomes of VET delivered to secondary students. In particular, many stakeholders argued that many school students' VET certificates are not valued by industry and therefore do not provide a pathway to a job.

Approaches vary in different States and Territories

Over the last decade, States and Territories have lifted the school leaving age to try to increase the number of students completing Year 12 and/or successfully transitioning to further education, training and work.¹⁸²

While the school-leaving age varies between 15 and 17 across Australia, all States and Territories require young people to participate in schooling (or an approved equivalent) to Year 10, and then participate in full-time education, training or employment until age 17.¹⁸³ This has resulted in a more diverse senior student cohort in schools with a range of post-secondary plans. In response, secondary schools have increased their VET offerings, with approximately 82 per cent of secondary schools now offering VET courses in Years 11 and 12.¹⁸⁴

Secondary student enrolments in VET increased significantly from 2006 to 2012 and have since fallen back slightly.

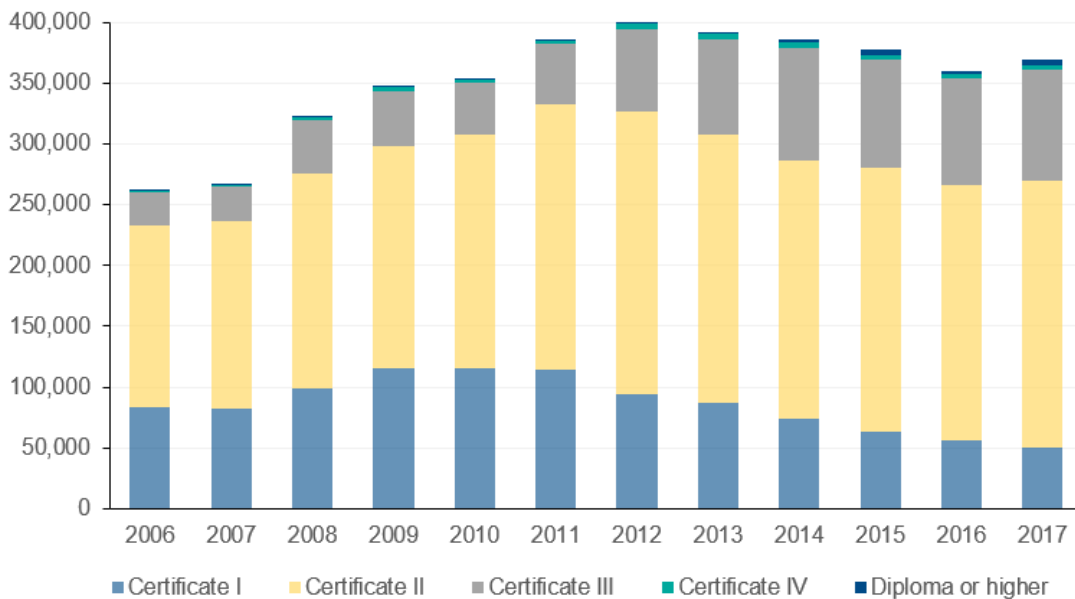
¹⁸² COAG Education Council 2014, *Preparing Secondary Students for Work: A framework for vocational learning and VET delivered to secondary students*, Canberra: Australian Government, p 14.

¹⁸³ COAG Education Council, (2009) *Communique – 30 April 2009*.

¹⁸⁴ Australian Curriculum, Assessment and Reporting Authority, *My School 2016 data collection*.



Figure 7.1: Secondary student enrolments in VET, by AQF level, 2006–2017¹⁸⁵



View the text alternative for [Figure 7.1](#).

In 2017, 370,776 school students or 28 per cent of all secondary school students aged 15 to 19, enrolled in a VET unit.¹⁸⁶ Of those, 242,144 students were undertaking VET study as part of their senior secondary certificate of education, including 19,960 who participated in an Australian School-based Apprenticeship (ASbA).¹⁸⁷

An ASbA involves a student commencing an Australian Apprenticeship part-time while at school, combining paid employment, vocational training (through an employer-chosen RTO), and senior secondary school studies. State legislation sets out the number of hours a school-based apprentice needs to be employed per week, with the requirements differing between States and Territories.

Other enrolments may include middle-years students studying foundational VET (that is, at certificate I level) to learn more about an industry and to prepare them for higher VET qualifications in senior secondary levels,¹⁸⁸ or senior students completing higher level qualifications (for example, certificate II or III) as a course counting towards their senior secondary school certificate.

Some students complete just a few units of a VET qualification, offering them a taste of whether that industry or style of training suits them, or providing particular skills to prepare them for a part-time job (for example, a short barista course).

¹⁸⁵ NCVER 2017, *National VET in Schools Collection* (accessed via VOCSTATS).

¹⁸⁶ NCVER, *National VET in Schools Collection*, (accessed via VOCSTATS). Figures are based on program enrolments.

¹⁸⁷ NCVER, *National VET in Schools Collection*, (accessed via VOCSTATS). Figures are based on total student counts.

¹⁸⁸ Clarke, Kira 2014, *Entry to vocations: building the foundations for successful transitions*, Adelaide: NCVER.



However, during consultations the Review was told some students may be graduating from school with as many as ten VET qualifications, suggesting a lack of rigour in those cases, or in the hours of training being provided.

To improve consistency, States and Territories have agreed to some common elements for VET delivered to secondary students. All VET that provides credit towards a senior certificate must be drawn from nationally recognised training packages or accredited courses, be delivered and/or assessed by RTOs that are compliant with the VET Quality Framework, and be assessed within a competency-based assessment framework by assessors who comply with VET standards.¹⁸⁹

While the same national VET Quality Framework applies to all VET, the approach towards quality assurance varies in practice between States and Territories, and different approaches are taken towards overseeing regulation. Of the 340 active school RTOs that ASQA is aware of, 297 are currently regulated by the Queensland Curriculum and Assessment Authority (QCAA) as a delegate for ASQA in Queensland schools. ASQA had undertaken audit activities in relation to 23 school RTOs in Australia since 2011, including two that are QCAA delegates.

Other non-RTO schools may directly deliver VET to their students under auspicing contracts with external RTOs. The degree of regulatory oversight of these arrangements is unclear. While this Review was being conducted, ASQA made the decision to cancel the registration of (or refused to re-register) two RTOs in Western Australia that deliver significant volumes of training to secondary school students in the state. It is apparent to the Review that inconsistent approaches towards quality assurance may have the potential to damage public confidence in VET delivered to secondary students at some point.

Funding arrangements and delivery requirements vary in different States and Territories. Some states prefer external RTOs to deliver VET to school students, while others have supported their schools to become registered training providers themselves. Some States' curriculum authorities have developed specialised VET courses for inclusion in secondary school certificates and had them accredited by the state regulator, while others rely more heavily on nationally recognised VET qualifications. Some States provide dedicated funding to support schools to deliver VET programs to their students, while other schools may have access to State Training Authorities' funding subsidies and/or charge additional fees to students.

Unsurprisingly, participation rates and the type of VET students are accessing vary in different States and Territories. For example, in Queensland 31 per cent of students enrolled in VET, with 6 per cent attaining a full VET certificate; in New South Wales 27 per cent enrolled in VET with 21 per cent attaining a certificate; and in Victoria 16 per cent enrolled in VET with 8 per cent attaining a certificate.¹⁹⁰

¹⁸⁹ Australasian Curriculum, Assessment and Certification Authorities 2017, *Vocational Education and Training in Senior Secondary Certificates of Education*, Sydney: NSW Education Standards Authority.

¹⁹⁰ Lamb, Stephen, Jen Jackson, Anne Walstab and Shuyan Huo 2015, *Educational opportunity in Australia 2015: Who succeeds and who misses out*, Centre for International Research on Education Systems, Vitoria University for the Mitchell Institute, Melbourne: Mitchell Institute p 44.

Note: the definition of VET delivered to secondary students may vary between different jurisdictions.



Lack of data on the effectiveness of VET delivered to secondary students

Unfortunately, the Review had only a limited opportunity to assess the outcomes of different VET approaches in schools or to track the post-secondary outcomes of participants. This makes it difficult to determine whether VET in schools is achieving its objectives, and whether the different approaches taken are more or less effective. The USI has only recently been introduced for school students enrolled in VET and this will, over time, provide a more accurate picture of the type of VET being accessed, including qualification completions (rather than just enrolments).

Currently, the NCVER's Graduate Outcomes Survey is not extended to secondary students enrolled in VET. As such, information is not nationally collected about VET students' motivations for enrolling, their satisfaction with the course or their outcomes.

More broadly, there is no nationwide student identifier mechanism for tracking the subsequent pathways and outcomes for all secondary students. This prevents governments from comparing the post-school outcomes for those who participate in VET as part of their secondary schooling and those who do not.

The Longitudinal Surveys of Australian Youth project tracks the pathways for a group of students, but the sample size becomes too small to draw robust conclusions when broken down by students' backgrounds, achievement levels, and experiences with VET and other tertiary pathways. Some States and Territories also track students' post-school destinations, but this is not occurring in all jurisdictions.

To allow governments to successfully evaluate the effectiveness of different senior secondary pathways, the Commonwealth, in partnership with the States and Territories, should accelerate the introduction of a student identifier for all school students, or another mechanism for better tracking student destinations. This analysis would also benefit from the improvements to linkages between education and Australian Taxation Office (ATO) datasets, as outlined in Chapter 6.

- | | |
|-----|---|
| 7.1 | A student identifier (or similar mechanism) to be introduced for all secondary school students to allow governments to research students' subsequent education/training and employment pathways and outcomes. |
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Some school VET certificates not valued by employers

The Review was informed by many stakeholders that some of the certificates school students are completing are not meeting industry's needs and do not provide a pathway to a job. In particular, employers are not confident that graduates of certificate IIIs and some certificate IIs delivered in schools have the skills and competencies the qualifications denote and are therefore not ready for the workplace.

*Students are often leaving school with qualifications but lacking in understanding and comprehension of the application of these skills.*¹⁹¹

*The VET in Schools model is high risk in some cases as the school environment cannot provide the workplace context required to meet industry training package requirements.*¹⁹²

This could translate into poor outcomes for students, particularly those aiming to transition directly into employment. The Smith Family commented:

*Currently, [VET in schools] does not offer adequate pathways into secure, quality, sustainable employment once students finish their courses and leave secondary school. This is because the qualifications typically undertaken by school students do not provide sufficient training or skills to meet the needs and expectations of industry and employers.*¹⁹³

Some employers told the Review they will not employ any school-leavers with a level III certificate because they don't believe the students will have the skills and competencies at the level of the certificate. In other situations, employers are reluctant to take on an apprentice who already has a low-level VET certificate (such as a certificate II obtained through a pre-apprenticeship program) as industrial relations arrangements may require them to pay the prospective apprentice more than a school leaver without the lower qualifications, and yet they don't have the skills or work experience to enter at that level.

Employers and industry representatives told the Review there are some circumstances in which school-leavers find themselves *less* employable as a result of obtaining their school-level VET certificate. Clearly, there needs to be closer scrutiny of the type of VET that is being delivered to secondary students to ensure it is providing the reliable pathway into jobs that any reasonable observer would expect.

A clear purpose for VET in schools

There is considerable debate about the objectives of VET for secondary students. Industry groups emphasised the importance of secondary school VET pathways in attracting people towards VET careers and encouraging them to pursue further training after school. They see VET in schools as an opportunity for young people to take the first step towards a vocationally based career.

¹⁹¹ Queensland Tourism Industry Council, Submission to the VET Review, p 3.

¹⁹² Future Now, Submission to the VET Review, p 1.

¹⁹³ The Smith Family, Submission to the VET Review, p 7.



On the other hand, schools and educationalists highlight the role VET can play more generally in encouraging more students to stay in school and complete Year 12, possibly building their academic and technical capabilities at the same time. With the focus on lifting Year 12 retention rates in the past decade, it seems VET has been particularly used to better engage some students who are less academically inclined, with less regard for their future career.

However, with a focus on 'student engagement' comes the risk that some schools treat VET programs as a 'dumping ground' for less capable students. Treating VET as a 'second-rate' option can signal to students that these careers are 'low-skilled' and less prestigious. This runs counter to any push to ensure a skills education pathway is an alternative but equally valid pathway as a university pathway. It also runs counter to the view of industry groups, which focus on the need for highly capable and motivated school-leavers, with strong applied mathematics and technology skills for VET-related careers in trades, cyber security, advanced manufacturing and the mining industry.¹⁹⁴

Linked to this, VET pathways frequently seem to struggle to hold their place alongside the academic pathways to universities. Specifically, the pursuit of high Australian Tertiary Admission Ranks (ATARs) appears to dominate most schools' efforts, particularly in the eastern states. This overt university focus does a disservice to many students by not helping them seek pathways to vocationally-based careers.

Improving VET pathways in school

Creating pathways through the traditional curriculum

An important way to improve vocational pathways in schools is to use straightforward tools to help contextualise the traditional school curriculum and make it more relevant to students interested in a vocational career. This needs to start in the early secondary school years to reduce the likelihood of disengagement for students who aren't enthusiastic about a university pathway.

In particular, work can be done to help students understand how traditional secondary school subjects can form a pathway into different broad vocational fields. Clusters of subjects can be identified that can support students to build a coherent study-plan that prepares them for a range of related careers in a field.

For example, for a student interested in construction or engineering fields, the relevant pathway would guide them to selecting a range of mathematics subjects along with some vocational technology subjects. This vocational pathway would support them to build knowledge and skills that would be relevant to them, regardless of whether they choose to go on to enrol in a university engineering degree or take up an apprenticeship in carpentry.

In New Zealand, senior year students are supported in navigating their options of further study, training and employment through six 'Vocational Pathways': construction and infrastructure; manufacturing and technology; primary industries; service industries; social and community; and creative technologies.

¹⁹⁴ Minerals Council of Australia, Submission to the VET Review; Apprenticeships Employment Network Tasmania, Submission to the VET Review.



Students interested in a career in trades, technology or industry can use the clear, colour-coded Vocational Pathways to identify and plan study options, and develop a path to workplace-relevant vocational qualifications. Careers advice material for students is built around these six pathways, helping students navigate their education and career options. Industry involvement in the process ensures that the Vocational Pathways focus on the types of skills and experiences that workplaces care about.

In Australia, the career 'Bullseye' posters have long been a feature on the walls of many secondary schools, linking students' interests in particular school subjects (there are 32 distinct charts) to a range of related occupations, sorted by different skill levels.¹⁹⁵ These posters can be a useful first step for helping students identify jobs that may interest them. However, a simpler pathway approach is needed to help students to connect together a series of different traditional school subjects to their preferred broad field of interest.

Introduction of a vocational pathway approach in Australia, similar to that of New Zealand, would help school students understand how each State and Territory's senior secondary curriculum can be used to prepare for future career interests. This approach would benefit all students, but would fill a particular information gap for students interested in VET careers.

- 7.2 The National Careers Institute to work with the States and Territories to develop a series of simple vocational pathways linking secondary school subjects in the national curriculum, and the senior secondary curriculum in each State or Territory, to encourage young people to study school subjects in pathways that interest them in Years 9 to 12.

Improving VET delivery in schools

The Review is strongly of the opinion that the most important purpose of delivering VET qualifications in secondary school must be to offer students clear pathways towards VET careers. Keeping students engaged is also important, but students stay engaged only if there is a clear purpose to their learning. Students are entitled to believe that VET qualifications lead to VET careers.

Without locking students into a particular occupation too early, VET courses should clearly help progress them towards careers related to the field in which they are interested. If they don't, the school system is placing itself at risk of disappointing students and families of students who quite reasonably believe that to be the case.

- 7.3 The Commonwealth and the States and Territories to agree that all programs of VET delivered to secondary school students be designed to offer students clear pathways to actual vocational careers.

¹⁹⁵ For examples, see Australian Government 2013, *Bullseye career information: School subjects you like & the jobs they can lead to* at https://docs.education.gov.au/system/files/doc/other/2013_-_bullseye_booklet_update.pdf.



Secondly, it is important that schools are incentivised to consider vocational pathways to be of equal value to a university pathway in terms of student outcomes, and the chosen pathway should depend on the vocational aspirations of each student.

On one level this should be obvious, but in some settings it will represent a big cultural change. It is, however, at least as successful for a school to transition a student into a trade apprenticeship as it is to direct them towards a general undergraduate degree at university, and measurements of school performance need to reflect that. Successful European VET systems clearly value VET pathways for secondary students as much as university pathways. To ensure a strong work-based vocational education system, Australia needs to do the same.

Ensuring high quality VET in schools

There are some excellent examples of VET delivered in schools to a very high standard. The Review also heard of examples where delivery has been to a questionable standard. The Review heard calls for greater restrictions on schools from registering as training providers and/or delivering training to students themselves.

It is important that all courses held out as VET qualifications in school settings actually are national courses with qualifications registered to the AQF, so that students receive truly portable nationally-recognised qualifications.

7.4 VET in schools programs to only deliver qualifications registered to the Australian Qualifications Framework that will be recognised as valid and robust by industry once the student graduates.

Rather than suggesting that all school-based RTOs should be prohibited in favour of quality-assured industry RTOs, the Review considers there needs to be closer oversight of how some school-based RTOs are complying with the quality framework and regulation.

Currently different jurisdictions take different approaches towards assuring the quality of VET delivered by school-based RTOs. This makes it difficult to defend schools from criticisms of low-quality training, beyond the regulator's scrutiny.

To ensure that VET in schools is regulated to a standard equivalent to all other VET, it is important that ASQA and the two state regulators are active in regulating all RTOs, including school-based RTOs, against the VET Quality Framework. This is an important step towards building employer confidence in the value of VET certificates achieved by school students and maintaining student confidence in the validity of their school-based VET pathways.

7.5 The Australian Skills Quality Authority and the two state regulators ensure their regulatory activity equally applies to all Registered Training Organisations delivering VET to secondary students.



While there is likely to remain a role for high-quality school-based RTOs, particularly those that provide a hub model for a number of contributing schools, more schools should engage with external RTOs for the delivery of training to secondary students. This would be particularly suitable for schools that aren't able to provide the necessary training facilities and industry-experienced trainers. It also relieves such schools from the additional regulatory burden of being a RTO and subject to ASQA auditing requirements.

Clear and consistent funding arrangements

Current funding arrangements for VET delivered to secondary students are opaque and differ in each State and Territory. The Review heard that the different approaches to delivering VET to school students are often driven by the availability or non-availability of additional operational funding to provide VET in schools programs.

The Review heard that most mainstream school funding was used to deliver the core school curriculum and that VET activity was an extra. We were advised, for example, that some schools delivered VET in schools themselves because they couldn't afford to purchase enrolments with outside RTOs.

As part of the effort to lift the standard of VET delivered to secondary students, greater analysis and transparency about the funding arrangements currently in place are needed. There should be a clearer picture about the level of investment being made in different jurisdictions and an understanding of how this translates into quality outcomes.

The NSC should work with the States and Territories to compare VET in schools funding models and should consider the costs and appropriate funding levels for VET delivered to secondary students, across both school-based and external RTOs.

7.6 The National Skills Commission to compare VET in schools funding models and recommend national cost and funding models for delivering VET to secondary students.

Once that work has been completed, the CISC should consider setting up an activity-based co-funding model for VET in schools to ensure equivalent access to VET in schools nationwide, with the NSC performing a role similar to that envisaged for the VET sector more generally.

7.7 The Commonwealth and States and Territories consider setting up a new national funding agreement for co-funding VET in schools provision over time, with pricing to be determined by the National Skills Commission and the fund to be administered by State and Territory Training Authorities in partnership with the Commonwealth.



Strengthening industry linkages to VET in schools

Employer groups told the Review that they doubted whether school students were engaging in enough training in some qualifications to truly develop the competencies they required. It was suggested that clearer requirements – such as about the length or setting of the training – were needed to improve confidence in the system.

The creation of SOs provides businesses with a vehicle to set out clearly their expectations of training, through the qualification development process. This can include SOs identifying a benchmark number of hours of training and/or work placement hours for entry-level workers (or 'new entrants' into the industry), as outlined in Chapter 4.

Benchmark hours would provide strong guidance to schools and RTOs about the expectations for training for secondary students, this cohort of students being probably the most typical group of 'new entrants'. Since they will rarely have previous training or work experience in the field, any arguments for more flexible or shorter delivery options are not compelling in a school setting.

Clear guidance from SOs about the requirements for delivery to students will help ensure employers' trust in school-based VET qualifications. It will also help ensure that the courses of vocational education delivered to secondary students are meaningful programs of study.

The Review heard some debate about whether certificate III level courses (and above), in particular, were suitable for delivery to school students. This should be a consideration for SOs in their development of qualifications. SOs might want to identify certain qualifications as not being suitable for delivery to secondary students, for example if there are significant concerns about whether school students are realistically able to achieve the necessary level of employability skills that is required.

Some jurisdictions are considering allowing their senior school certificate to be completed over a longer period to ensure students have sufficient time to complete all the requirements of VET qualifications. These changes might help support students to engage in all the necessary technical and work-based training.

Alternatively, such students may be better served if they enrol in a suitable TAFE or private provider to complete their senior certificate alongside a VET qualification, rather than remain in school. It may be that few schools are genuinely able to offer both strong academic programs and high-quality vocational pathways. States and Territories should further explore whether there are barriers that prevent more students from enrolling in dedicated VET institutions during their senior schooling years.



Skills Organisations to assist schools

The quality and relevance of VET delivered to secondary students can be further improved by strengthening the role of industry in advising and endorsing the work of schools. Strong relationships need to be developed and maintained between schools, business partners, community groups and training providers to ensure VET programs are suitable and preparing students for jobs.¹⁹⁶

In dual systems such as Denmark and Germany, there are enduring links between schools and local businesses, formally constituted as social partners in legislation.¹⁹⁷ The Swiss too have a successful model for pathways connecting schools and workplaces.

In Australia, trying to manage these complex relationships with local employers places considerable strain on schools. At the same time, peak industry bodies have voiced concerns about the shortage of young people entering their fields.¹⁹⁸ Clearly, both school leadership and industry would benefit from improving how schools and industry can engage with each other.

The new SOs would be well placed to be a focal point for industry engagement with schools. They should be empowered to take on a range of support functions, including advising about suitable qualifications, endorsing high-quality RTOs for delivery of VET and providing wider vocational careers advice to students.

7.8 Skills Organisations to take on responsibility for strengthening the links between schools and industry, including:

- specifying benchmark training hours and any required work placement hours in entry-level qualifications to ensure all provision, including to secondary students, clearly meets the needs of employers for entry-level workers,
- endorsing Registered Training Organisations for use by schools for Australian School-based Apprenticeships and other VET qualifications,
- brokering relationships with employers to secure work placements and Australian School-based Apprenticeship opportunities for students,
- engaging with schools to improve the quality of careers advice and VET information offered to students, and
- marketing their industry to school students at schools and careers expos.

¹⁹⁶ Polesel, John, Mary Leahy, Suzanne Rice, Shelley Gillis and Kira Clarke 2017, "What if you're not going to university? Improving senior secondary education for young Australians" in *Educating Australia: Challenges for the decade ahead*, edited by Tom Bentley and Glenn Savage, p 177-190, Melbourne: Melbourne University Publishing; Clarke, *Entry to vocations: building the foundations for successful transitions*.

¹⁹⁷ Polesel, Leahy, Rice, Gillis and Clarke, "What if you're not going to university? Improving senior secondary education for young Australians".

¹⁹⁸ For example, Australasian Railway Association, Submission to the VET Review.



8 Greater access for disadvantaged Australians

Much has been written about changes to the nature of work as digital technologies and automation replace or alter many jobs. The exact degree of potential disruption will continue to be debated, but there is little doubt that the rate of change in work roles that we have seen in the last several decades will accelerate.

There is likely to be growth for example in roles that require interactions with technology, and relatively less need for those based on physical labour. This risks a skills mismatch of a significant scale. Successful participation in society more generally also requires a reasonably well developed level of language, literacy, numeracy and digital (LLND) skills.

It is critically important that every Australian has the basic LLND skills that will allow them to participate fully in modern life. The vocational education sector has a huge role to play in ensuring that all Australians have at least those minimum skills.

Participants in the Review spoke positively about the role VET plays in providing a second chance for those that have low levels of educational achievement. Many people noted that the VET sector offers a broad range of courses and delivery modes to meet the needs of very diverse types of users.

This is important because at times such as this when there is close to full employment in some states, most people with the requisite skills to enter into certificate III or above courses are already in employment.

In Tasmania, Queensland and the Northern Territory, the Review was informed that many adults' low LLND skills constituted a barrier, preventing them from engaging with either work or further education.

There are also many adults currently in work around Australia whose low levels of literacy and numeracy will leave them vulnerable if the nature of their job changes.

The size of the challenge

The OECD's 2012 Program for the International Assessment of Adult Competencies (PIAAC) Survey of Adult Skills found adults in Australia show above-average proficiency in literacy compared with other participating countries and around average proficiency in numeracy.¹⁹⁹

¹⁹⁹ In literacy proficiency among adults, Australia ranked fifth, behind only Japan, Finland, Netherlands and Sweden. For numeracy proficiency, Australia was ranked 13 (out of 22). (OECD 2012, *Country Note Australia, Survey of Adult Skills First Results*).



While these results are encouraging, they mean that 13 per cent of Australia's working-age population (about two million people) have literacy levels below Level 2, that is, below the level required to meet basic demands of modern work and life.²⁰⁰ Further, 20 per cent have numeracy levels below Level 2. These levels map across to Level 2 in the Australian Core Skills Framework (ACSF), which is Australia's tool for describing individuals' performance in the five core skills of learning, reading, writing, oral communication and numeracy.²⁰¹

People with low levels of literacy and numeracy are less likely to be employed²⁰² or more likely to be employed in low-skilled insecure work and at greater risk of redundancy. Australia's Reading Writing Hotline received calls from over 3,800 people seeking support in 2016.²⁰³ Of callers between 2012 and 2016, 56 per cent were employed at the time.²⁰⁴

Like literacy and numeracy, a lack of basic digital skills also poses a significant barrier to a growing number of jobs. The Committee for Economic Development of Australia has argued that digital skills are becoming 'a new basic skillset in the way reading and writing are today, and should be a core component of ongoing workplace skills development.'²⁰⁵

Low levels of basic literacy and numeracy skills among existing employees also affect businesses' productivity. In the Australian Industry Group's (Ai Group) 2018 Workforce Development Needs Survey, 99 per cent of employers reported that low levels of literacy and numeracy had an impact on their business (with 39 per cent reporting their business was 'highly affected').²⁰⁶ In its submission to the Review, Ai Group explained:

*Poor literacy and numeracy have a negative impact on productivity, labour mobility and the capacity of the economy to achieve the higher levels of skills needed for the increasingly knowledge-based economy. There remains an urgent need to address the language, literacy and numeracy needs of the Australian workforce.*²⁰⁷

²⁰⁰ Tasks at Level 2 Literacy require respondents to make matches between the text and information, and may require paraphrasing or low-level inferences. Tasks at Level 2 Numeracy require the application of two or more steps or processes involving calculation with whole numbers and common decimals, percentages and fractions; simple measurement and spatial representation; estimation; and interpretation of relatively simple data and statistics in texts, tables and graphs.

²⁰¹ Department of Education and Training 2012, *Australian Core Skills Framework*, at https://docs.education.gov.au/system/files/doc/other/acsf_document.pdf.

²⁰² OECD, *Survey of Adults Skills, First Results*.

Note: The Survey of Adult Skills was conducted in Australia from October 2011 to March 2012, and surveyed a total of 7430 adults aged 16–65.

²⁰³ Reading Writing Hotline website, *Evaluation Findings – Reading Writing Hotline*, accessed 28 February 2019. <https://www.readingwritinghotline.edu.au/2016/11/27/evaluation-findings/>.

²⁰⁴ Reading Writing Hotline, "National snap shows more Australian men are seeking literacy," 8 September 2016. <https://www.readingwritinghotline.edu.au/wp-content/uploads/2017/11/RWH-Oct-16-MR-National-snapshot-pdf>.

²⁰⁵ Committee for Economic Development of Australia, *Australia's Future Workforce*, p 162.

²⁰⁶ The Australian Industry Group 2018, *Workforce Development Needs: Survey Report 2018*, p 4.

²⁰⁷ Australian Industry Group, Submission to the VET Review, p 29.



Support currently available for LLND skills

The States and Territories all provide some level of support for foundational skills development, but program design, subsidy level, eligibility criteria and the applicability of student fees varies widely across jurisdictions, as it does in other areas of vocational education. This creates problems similar to those in other parts of the VET sector, leaving learners and employers confused about where to go to access assistance.

New South Wales, for example, provides relatively highly-subsidised training for language, literacy and numeracy (LLN) and foundational skills up to certificate III for Australian citizens living or working in New South Wales who are aged over 15 and no longer in school.²⁰⁸ Fee-free scholarships are also provided to some individuals.

Tasmania's 26TEN program is a ten year strategy involving business, community groups, government, education and training providers, and individuals to build LLN skills; it is implemented through small grants to businesses and community groups to build skills in literacy, numeracy and communication.

The Commonwealth offers dedicated programs to provide foundation skills training to certain cohorts. The Adult Migrant English Program (AMEP) provides up to 510 hours of English language tuition to eligible migrants and humanitarian entrants to help them learn foundation English language and skills to support their social and economic participation in Australian society.

Similarly, the Skills for Education and Employment Program provides language, literacy and numeracy training to eligible job seekers to support them in participating in training or employment. Both of these programs are delivered in metropolitan, regional and remote areas across Australia.

The Commonwealth does not, however, generally offer this level of targeted support for employed Australians or those currently out of the workforce and not registered with Job Active providers for income support. Some support is offered to 45 to 70 year olds who are at risk of losing their job through the Commonwealth's Skills Checkpoint Program, which provides up to \$2,200 to eligible participants to fund suitable training.

During consultations, stakeholders pointed out the inefficiency of waiting until vulnerable groups became unemployed before intervening to provide access to LLND training. Clearly, interventions that build people's employability and productivity *before* they become redundant are in the best interests of government, employers and the affected individuals alike.

Evidence also suggests that the most effective way to build foundational skills in adults is in the workplace, where people can readily see how the skills improve their work performance. This mode of delivery reduces the stigma adults may perceive to be associated with low literacy skills and does not create additional demands on people's time outside of work.

²⁰⁸ Eligibility for these subsidised places is also extended to permanent residents, humanitarian visa holders and New Zealand citizens.



Widening the gateway to work

Given the importance of foundation skills for both employment and social engagement, the Government should prioritise additional funding to improve access to LLND training.

A lack of foundation skills clearly limits the quality of life and employment opportunities for a significant group of Australians, and it is likely to leave them particularly vulnerable to future changes to work.

It makes sense that one of the key ways to share the benefits of a strong and growing 21st century economy is to ensure every adult Australian is given the opportunity to participate fully in that economy. Making such a commitment will improve social cohesion and ensure every Australian gets an opportunity to succeed.

This Review therefore proposes that all adult Australians who have not achieved Level 2 on the ACSF should be given with access to fee-free training in LLND skills.

8.1 The Commonwealth and the States and Territories to commit, over time, to supporting fee-free foundation-level education for all Australians who need training to bring their language, literacy, numeracy and digital literacy levels up to Level 2 in the Australian Core Skills Framework.

The Commonwealth should work with the States and Territories to develop a new national agreement for foundational LLND skills. The agreement should set out a shared 50/50 commitment to fully subsidise foundational skills for all Australian adults without basic skills, over time, regardless of their employment status. The governments would agree to a volume of provision, and that the program be demand-driven, based on students' needs.

A funding guarantee for LLND would signal the Government's commitment to supporting all Australians to build the skills they need for work and life.

8.2 The Commonwealth to work with the States and Territories to develop a new national agreement for foundation skills to deliver consistent levels of access across Australia to language, literacy, numeracy and digital literacy courses for adult Australians who do not have language, literacy, numeracy and digital literacy levels up to Level 2 in the Australian Core Skills Framework.

The new national agreement should support existing foundation skills provision by current RTOs plus new specialised LLND training that is tailored to meet the needs of adults, drawing on relevant units from the Foundation Skills Training Package. The new program should have two streams, one delivering training in the workplace and the other a more intensive, provider-based delivery model for people with particularly low skill levels.



The work-based LLND stream would involve training providers delivering LLND training at work-sites. Employers could be involved in the design of the training activities and materials so they can be customised to meet their particular industry and workplace needs. Given the benefits that also flow to employers through improved productivity, the program should include co-investment from the participating business. Training should be flexibly integrated into the normal work day to reduce the barriers employed adults face in finding additional time and to reduce any associated stigma.

The provider-based (classroom) stream would provide an alternative for those able to participate in more intensive program of training. This would be modelled on the successful AMEP program for new migrants and be directed to cohorts that are currently out of the workforce.

RTOs could be contracted to offer fully subsidised places for face-to-face training in foundational LLND skills, with the curriculum designed to meet the needs of adult learners. The Government may wish to consider whether additional wrap-around services should be funded to help disadvantaged cohorts engage with LLND training outside a work environment. This might include integrating the training delivery with additional health or childcare services.

- 8.3 The new national agreement for foundation skills to expressly provide for the three main delivery models for language, literacy, numeracy and digital literacy training across Australia:
- standard Registered Training Organisation delivery of foundation-level VET courses,
 - intensive literacy and numeracy short courses (like the Adult Migrant English Program), and
 - dedicated workplace-delivered language, literacy, numeracy and digital skills programs in partnership between employers and Registered Training Organisations.

To support the roll-out of the training, the Commonwealth should develop a new online adaptive foundation skills assessment tool (FSAT) that would be used to assess participants' skill levels (including below Level 1) before and after training, to support ongoing evaluation of Australia's LLND capability.

- 8.4 The Commonwealth to fund the development of an online language, literacy, numeracy and digital literacy assessment tool for use by educators across Australia to assess language, literacy, numeracy and digital literacy standards for individual learners and independently assess improvements as a result of funded language, literacy, numeracy and digital literacy courses.

In both streams, participants would need to complete the FSAT tool at the beginning and end of the program, or at regular intervals for participants engaging in training over a longer period, and the employer or RTO would be required to share data on the training provided and the outcomes to the Commonwealth.



Improving outcomes for Aboriginal and Torres Strait Islander Peoples and disadvantaged Australians

The Review heard about additional challenges Aboriginal and Torres Strait Islander Peoples face when engaging with vocational education, particularly in rural and remote areas. While access may not be a significant problem for all Indigenous Australians, many do not complete their qualification or are not able to convert their training into strong employment outcomes.

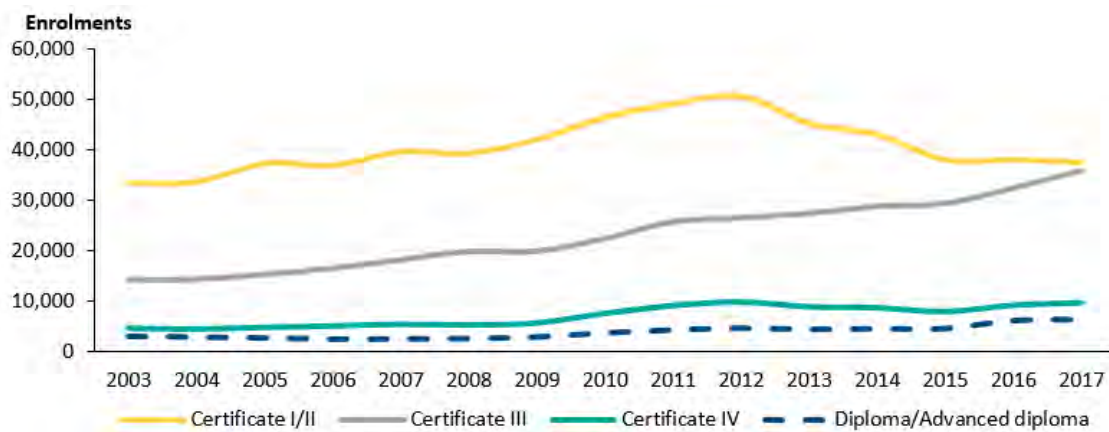
A range of factors were raised as explanations for these poorer outcomes, among them low levels of basic literacy and numeracy, which can present a barrier to engaging with higher level VET, and training methods that are not tailored to meet the needs of some Indigenous Australian learners, particularly in remote areas.

High levels of access to VET but poorer outcomes

Indigenous Australians are more likely than non-Indigenous Australians to participate in VET. This includes starting with higher levels of engagement with VET as part of their secondary school studies.²⁰⁹ However, as Figure 8.1 shows, Indigenous people are more likely to be enrolled in lower level courses.

Figure 8.1: Indigenous and non-Indigenous government-funded enrolments by AQF, 2003–17²¹⁰

Indigenous



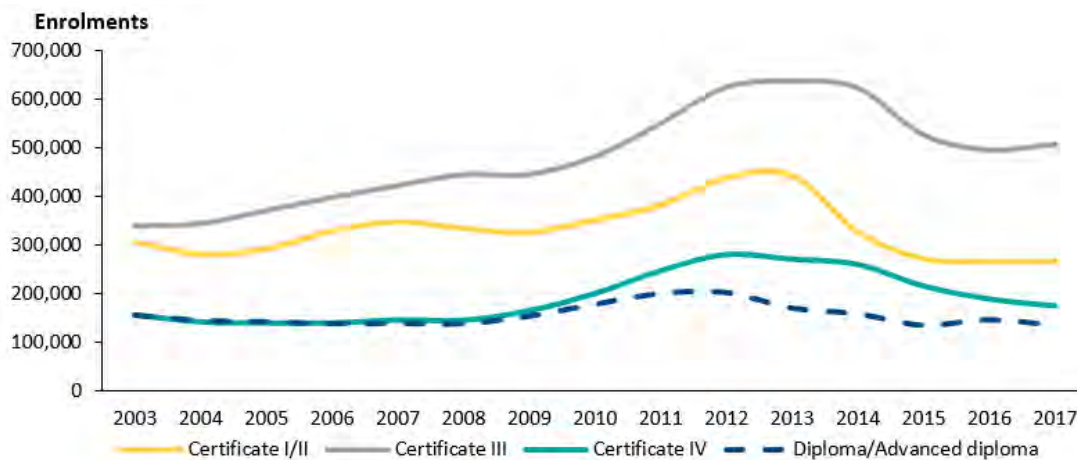
View the text alternative for [Figure 8.1 Indigenous](#).

²⁰⁹ In 2015, 18.8 per cent of 15 to 19 year old Indigenous students participated in VET in Schools, compared with 15.9 per cent for non-Indigenous students (NCVER 2017, *Indigenous VET participation, completion and employment outcomes: infographic*).

²¹⁰ NCVER 2018, National VET Provider Collection (accessed via VOCSTATS).



Non-Indigenous



View the text alternative for [Figure 8.1 Non-Indigenous](#).

The higher rates of enrolment in lower level qualifications suggest Indigenous Australians are pursuing training that provides support for basic LLND skills. Unfortunately, however, Australia does not assess the literacy and numeracy skills of its adult population at a national level beyond the OECD PIAAC survey, which is conducted at ten-year intervals and does not provide information about Indigenous Australians. These lower level qualifications are often a necessary passport to more employment-enhancing qualifications but do not provide a strong pathway into jobs on their own.

It is important that supports are in place to support Indigenous Australians (and other disadvantaged cohorts) to successfully progress from foundation-level to higher level VET qualifications. As well as providing better access to jobs, higher level VET qualifications provide an important pathway that can support disadvantaged Australians in transitioning to higher education.²¹¹

NCVER data also show that, despite stronger participation, qualification completion rates and employment outcomes for Indigenous learners remain below those of non-Indigenous students.²¹² While estimated VET completion rates for Indigenous Australians have been improving in recent years, there remains a significant gap between Indigenous and non-Indigenous Australians (25 per cent compared with 39 per cent, for actual completions in 2014).²¹³

²¹¹ Tabatha Griffin 2014, *Disadvantaged learners and VET to higher education transitions*, Adelaide: NCVER.

²¹² 73.2 per cent of Indigenous graduates were employed after training in 2018, below the 77.4 per cent recorded for non-Indigenous students. In part, this figure relates to students' employment status prior to commencing training (NCVER, *VET Student outcomes 2018*).

²¹³ NCVER 2018, *Australian vocational education and training statistics: VET program completion rates 2016*, Adelaide: NCVER. Note, the *projected* program completion rate for government-funded Indigenous students is projected to lift to 35.7 per cent for students commencing in 2016, compared to 50.6 per cent for government-funded non-Indigenous students.



Indigenous VET graduates are also less likely to be employed than non-Indigenous graduates, with the difference particularly marked in rural, remote and very remote regions.²¹⁴

More culturally relevant learning opportunities

Improving completion rates for courses and qualifications requires learners to be fully engaged in their learning. The Review heard concerns from Indigenous Australian stakeholders about the suitability and effectiveness of some of the training being provided to Indigenous learners. Some noted that the style of teaching and learning often did not align with students' interests, upbringing or experiences.

Research by NCVET suggests that Indigenous students are more successful when they are taught by local trainers and are able to engage in their learning on country and in their own language.²¹⁵ This was supported by views heard during consultations and by experience in other countries with significant indigenous populations, including New Zealand.

Accordingly, to improve outcomes, there needs to be a program that expands the pool of Indigenous-owned-and-led training organisations that can more easily provide the cultural setting and learning style that helps Indigenous learners succeed.

8.5 The Commonwealth to support the development of more quality Indigenous-owned-and-led Registered Training Organisations to provide more Indigenous learners with the option of foundation and vocational training in an Indigenous cultural setting.

There is also a need to improve the outcomes for Indigenous Australian learners at other training organisations, including TAFEs and universities. The proposed new funding agreement between the Commonwealth and the States and Territories provides an opportunity to measure provider performance as part of the activity-based funding model. To encourage non-Indigenous providers to provide culturally relevant learning experiences for Indigenous learners within their wider institutions, governments should measure the outcomes for Indigenous students at each funded provider and, over time, move to a requirement for achieving equivalent outcomes for Indigenous and non-Indigenous Australians.

8.6 The Commonwealth and the States and Territories to specifically measure levels of enrolment, progress and outcomes for Indigenous learners at relevant funded Registered Training Organisations as part of a new Commonwealth-State vocational education funding agreement.

²¹⁴ NCVET, *VET Student Outcomes 2018*.

Note: Proportion of graduates in employment six months after completing their studies. As noted above, this data is affected by the employment status of students prior to commencing training.

²¹⁵ Guenther, John, Melodie Bat, Anne Stephens, Janet Skewes, Bob Boughton, Frances Williamson, Sandra Wooltorton, Melissa Marshall and Anna Dwyer 2017, *Enhancing training advantage for remote Aboriginal and Torres Strait Islander learners*, Adelaide: NCVET.



Better coordination of social support services is needed

One of the biggest challenges to achieving successful outcomes with disadvantaged groups is the high rate of attrition in attendance as a result of other factors such as health, housing, transport and family issues.

The Review heard that successful VET delivery and outcomes for disadvantaged groups often rely on providing intensive, wrap-around social support services alongside the training to support continued attendance in enrolled courses.

Funding for social services beyond vocational education falls outside the direct scope of this Review. However, a clear message from providers who deliver training in Indigenous communities and communities with high levels of disadvantage was their frustration with the sheer number (upwards of 100) of well-intended but different Commonwealth and State and Territory funding programs they had to comb through in order to provide help to a particular person with a particular issue that was affecting their participation in training. The time taken to find, access and administer such programs contributed significantly to making the provision of vocational training to such groups almost completely uneconomic.

Consideration should be given to combining different State and Territory and Commonwealth funding and services to improve both the efficiency and the effectiveness of service delivery.

There are a number of new funding models that delegate social support funding amounts in bulk to community-based non-government organisations so that they can structure bespoke support to individuals and families based on their particular needs. Vocational providers we spoke to felt that those models would be very beneficial in assisting them in their work.

- | |
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| <p>8.7 New funding models to be developed to provide flexible wrap-around social support services in communities where there is high disadvantage so that vocational educators do not have to search through myriad targeted funding programs to find additional support to keep their learners engaged.</p> |
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9 A roadmap to stronger skills education

The recommendations of this Review provide a strategic direction and a six point plan to build a stronger skills education sector in Australia. In making the recommendations contained in this report, the Review aims to address the systemic issues that are holding the sector back, give the system architecture a significant upgrade, and allow industries and RTOs to get on with training their students and trainees well.

These reforms would create a skilled education sector that adapts more rapidly to the changing needs of Australian industry and provides better employment outcomes for many more Australians.

This chapter provides a roadmap for implementing the plan, and for building a trusted, dynamic, and adaptive VET sector in Australia.

By 2025, the VET sector should be a highly regarded pathway for students seeking applied training for a range of careers, and for employees seeking to upskill or transition to new occupations. Industry will have a central role in the sector, which will ensure students gain relevant skills and a direct pathway to employment.

The success of these reforms will be dependent on the Commonwealth, State and Territory governments, employer groups, training and other service providers working closely together to achieve the new plan for skills education. It requires strong and effective regulation, data-sharing, new agreed national standards and performance monitoring, industry leadership and buy-in, and a new relationship between the Commonwealth and the States and Territories.

Figure 9.1 provides a roadmap which outlines the main steps to a future VET system.

Early actions for the Commonwealth

There are several first actions that can be taken quickly by the Australian Government and which will have an immediate positive impact on those participating in the VET sector.

These include implementing reforms to strengthen ASQA and quality assurance in the sector and piloting a new business-led model of Skills Organisations for qualification development in areas like digital technologies, where there is significant work to be done.

The Commonwealth should establish a new National Skills Commission to start work with the States and Territories on developing a new nationally consistent funding model based on a shared understanding of skills needs. It should also revamp and simplify apprenticeship incentives to increase their attractiveness to employers and trainees.

A new National Careers Institute can be created to provide a single source of careers information, and a marketing campaign for VET careers. The Institute could also start working with the States and Territories to create new vocational pathways for use in secondary schools.

Finally, the Government can provide new support for second chance learners needing foundation language, literacy, numeracy and digital skills.



Working together to strengthen VET

The Review is very conscious that the vocational education system in Australia is shared between the Commonwealth and the States and Territories. Many of the 71 recommendations would require the agreement of the two levels of government. The Review recommends the Commonwealth, States and Territories meet early to develop an agreed vision and a strategic plan which addresses all the recommendations over the next five to six years.

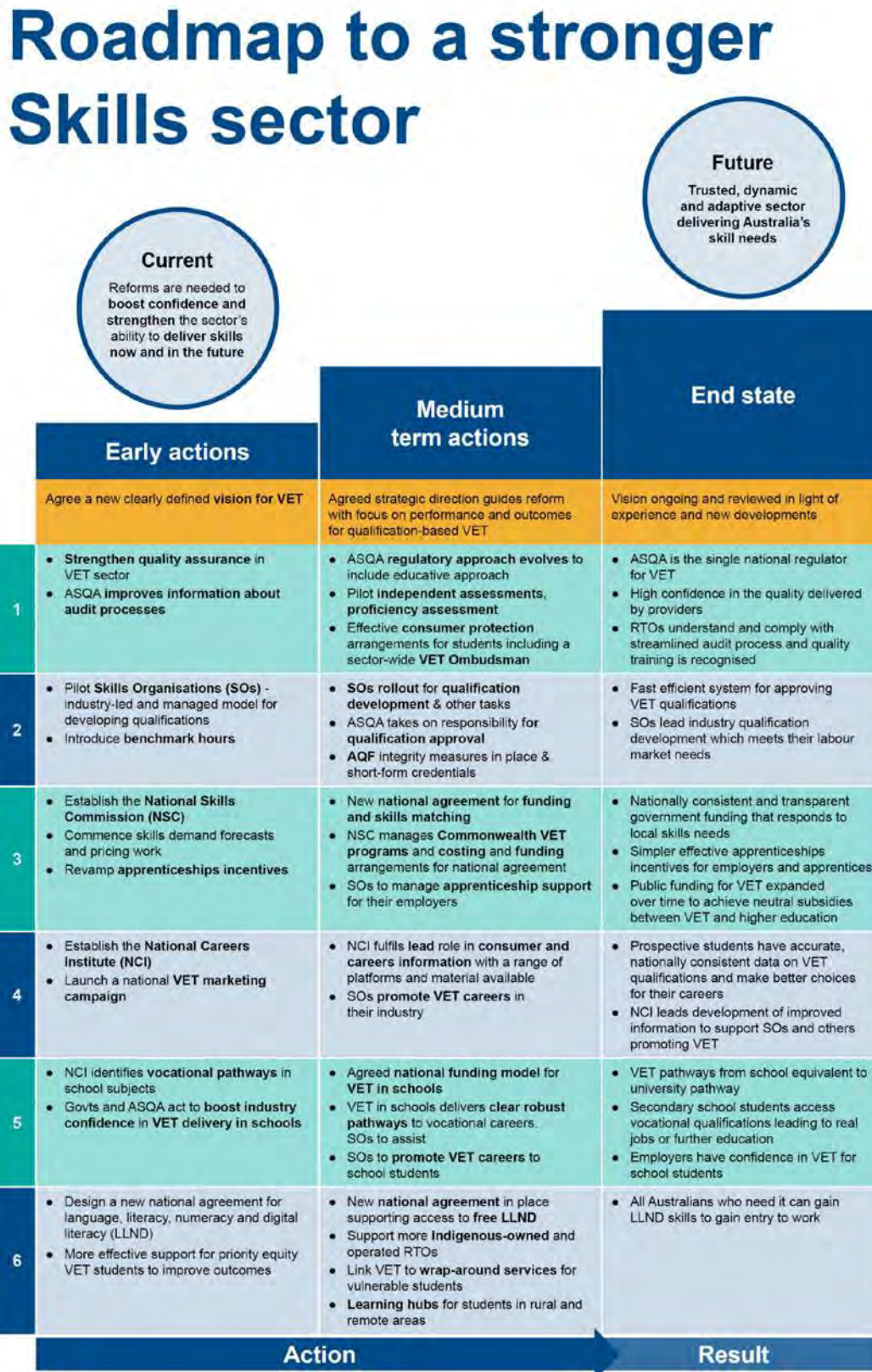
The reforms would be underpinned by a new national agreement to reset the relationship between the Commonwealth and States and Territories. It would promote high levels of partnership and collaboration while ensuring public funding delivers effective skills education in a simpler, accountable and transparent way across jurisdictions.

Establishing a new national agreement would result in a shared vision about the value of the VET sector and an increased joint investment in VET over time to ensure the sector responds to priority skills needs.

Consistent with clearer roles and responsibilities, the new agreement would have a clearly defined framework for joint funding and reporting. It would require negotiations with all jurisdictions to agree a framework for implementing the reform program. The Commonwealth and States and Territories should begin discussions as soon as possible.



Figure 9.1



View the text alternative for [Figure 9.1](#).



The new architecture

Australian Skills Quality Authority

ASQA would be the single national regulator of the VET sector, working to ensure quality across the sector. It would have a strong relationship with other regulators and Commonwealth, State and Territory funding bodies with streamlined reporting and auditing processes. ASQA's role would include:

- Regulation of training providers and courses, including VET delivered in schools, to ensure nationally approved quality standards are met. This may include assessing against benchmark hours and using independent re-assessments as part of determining the quality of training provision.
- Providing guidance and education to the VET sector about its regulatory activities, including making audit reports public.
- Approving accredited courses and qualifications for listing on training.gov.au.
- Leading the development of qualifications for industries where there is no responsible SO.
- Auditing providers to assess compliance with the new tuition protection arrangements.
- Ranking providers on the quality of their educational offering and management.

National Skills Commission

Under the direction of the Commonwealth Skills Minister, the NSC would be a trusted and respected voice on the operation of the Australian VET system through its national leadership in assessing labour market demand, costs of training delivery and outcomes of VET qualifications.

The key functions of the NSC would be to:

- Administer all Commonwealth funding to the skills education sector under strategic policy direction from the Minister.
- Develop and update national, state-level and regional skills demand forecasts in partnership with State, Territory and local governments.
- Determine nationally consistent subsidy levels for qualifications based on average actual costs of delivery across providers nationwide.
- Determine nationally consistent subsidy loadings for rural and remote learners, Indigenous Australians and disadvantaged groups.
- Co-fund tuition subsidies across Australia on behalf of the Commonwealth, in partnership with the States and Territories.
- Develop and monitor performance indicators using existing and future data sources to measure the outcomes and effectiveness of public investment in the sector.



- Develop a new National Skills Priority List for Apprentices that captures new and emerging industries supporting Government priorities. This would involve an annual consultation process with industry and the States and Territories to review the list.
- Compare VET in schools funding models and recommend national cost and funding models for delivering VET to secondary students. Over time, the NSC would oversee a new agreement for co-funding VET in schools and determine the pricing model and amounts.
- Manage a new national agreement and funding for foundation skills to ensure consistent levels of access to language, literacy, numeracy and digital literacy courses for all eligible adult Australians.

National Careers Institute

The NCI would be established as an independent office within the NSC. Utilising data collated and analysed by the NSC, its key role would be to provide an authoritative single government source of careers information, with a focus on marketing and promoting vocational careers. The key functions of the NCI would include to:

- Collate and publish accurate and reliable information on careers and qualification pathways, including demand forecasts for individual occupations, training information and likely income levels.
- Use a linked dataset incorporating ATO and Department of Human Services data to provide actual average incomes flowing from different qualifications and publish that information annually.
- Develop a single Commonwealth website and app (as well as other targeted communication tools) providing information on careers in Australia to guide and inform student choice.
- Drive the use of quality and evidence-based information in all public promotion of careers by licensing its data and information to other public and private operators on a consistent use basis.
- Draw on the mandated course information provided by RTOs to develop end-to-end careers information to prospective students and trainees.
- Undertake a multi-year marketing campaign to help lift the reputation and attractiveness of VET courses across Australia.
- Develop a set of Vocational Pathways, in partnership with States and Territories, linking secondary school subjects in the national curriculum and the senior secondary curriculum in each State and Territory to encourage young people to study in pathways to careers that interest them.



Skills Organisations

Skills Organisations would be established to ensure employers and other industry stakeholders (such as unions and licencing bodies) lead the development of qualifications and the training of a skilled workforce for that industry. SOs would:

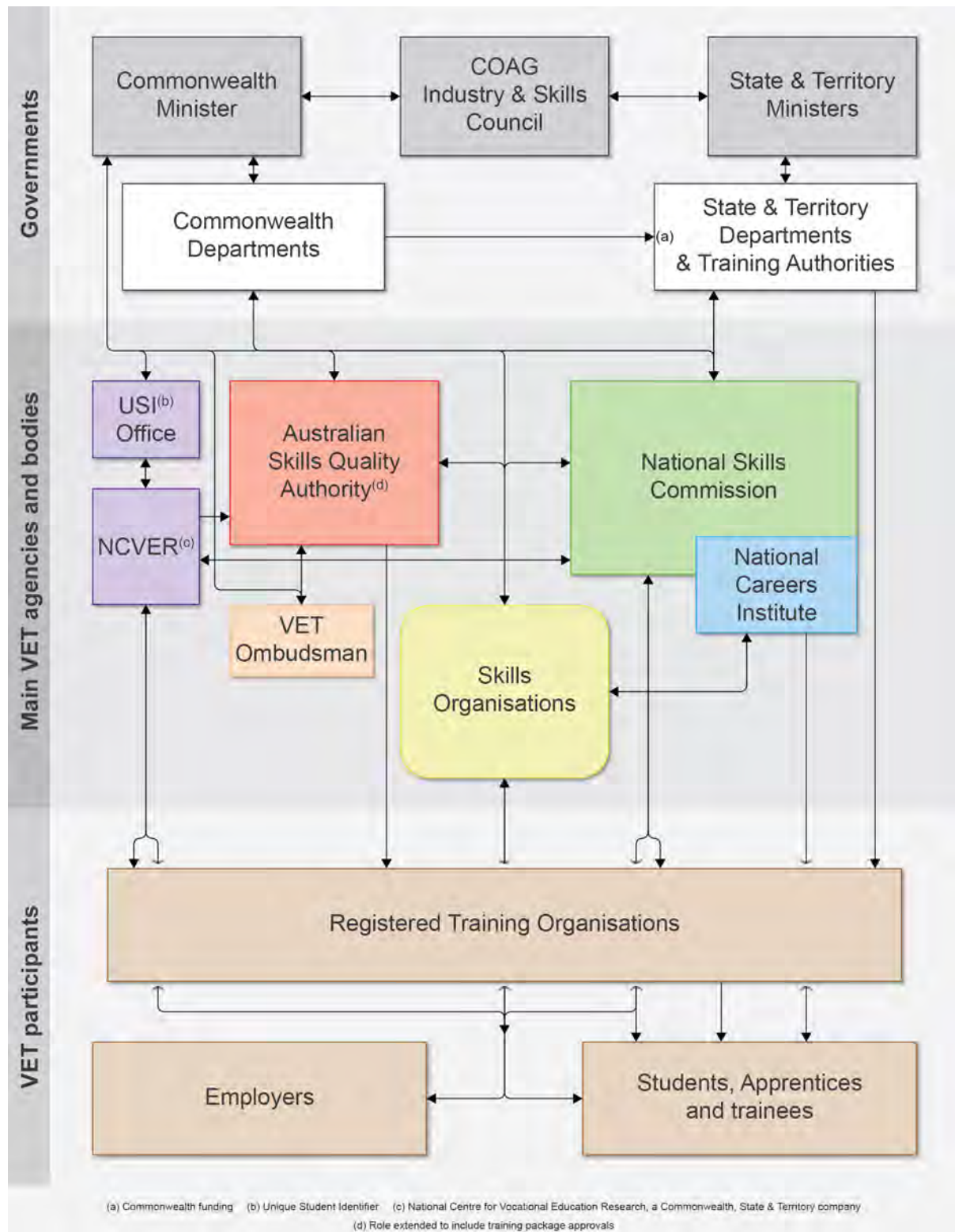
- Register themselves and their industry coverage with the Commonwealth and regularly demonstrate the support of their industry for their performance.
- Take responsibility for the qualification development process for their industries and their training packages.
- Assess skills needs in their industries and provide that information to the NSC and States and Territories.
- Record benchmark hours and any required work placement hours in qualifications to ensure all provision, including to secondary students, clearly meets the needs of employers.
- Promote the use of skillsets within training packages.
- Manage apprenticeship and traineeship support.
- Endorse preferred training providers and support assessment as appropriate.
- Market their industry and its qualification pathways to prospective apprentices and students in order to meet workforce needs.
- Take on a range of responsibilities for strengthening the links between schools and industry including advising of suitable VET qualifications, endorsing RTOs for use by schools, brokering relationships with employers to secure work placements and ASbA opportunities, engaging with schools to improve the quality of careers advice and marketing their industry to students at schools and careers expos.

A coherent national system which responds to local needs

The new architecture for the skills education system would place industry at the centre of the skills system while promoting close co-operation on funding and quality assurance between the Commonwealth, States and Territories.



Figure 9.2: Schematic of long run future VET system



View the text alternative for [Figure 9.2](#).



Delivering for all participants in skills education

The reforms set out in this report seek to improve the sector for all stakeholders, including governments, employers, training providers, industry, current and potential students, Indigenous Australians, disadvantaged Australians, and Australians living in rural and remote areas.

For **governments**, the reforms would provide clear roles and responsibilities as well as increased opportunities to collaborate on the direction of the sector and funding priorities. The Commonwealth would gain greater oversight of how Commonwealth funding for VET is directed and its outcomes. States and Territories would retain responsibility for allocating funding to providers to meet local industry demand. The move to a shared subsidy model and agreed methodology for determining subsidy rates and VET in schools funding would provide the Commonwealth, States and Territories with unprecedented transparency and consistency.

There would be a number of benefits for **industry and employers**. These reforms place industries at the heart of the sector and give them leadership and ownership of the qualification development process and apprenticeships to better match skills development to their specific workforce needs. This includes earlier engagement with secondary school students who will have greater exposure to industry employment opportunities and access to relevant and useful work placements.

Employers benefit through greater confidence that VET graduates have the skills they need for specific jobs, including relevant work experience. They can have greater control over qualification changes through their industry bodies. They gain clarity about the Government programs and support available for apprentices and would receive straightforward incentives for taking them on.

Employers would have more opportunities to engage with VET in schools through partnering with SOs and local RTOs to provide more meaningful VET experiences for students. In turn, this would encourage a pathway into employment with their business. Employers should see an increase in job applicants (and existing workers) with the necessary foundation skills needed to work effectively across a range of roles.

RTOs are set to benefit from a streamlined auditing regime that would decrease their regulatory burden. The reforms would create greater certainty about subsidy levels and expected qualifications demand allowing them to better plan their course offerings and offer courses across jurisdictions. The reforms would enable RTOs and industry to build stronger relationships through increased engagement and industry endorsement of RTO course content. Industry, through SOs, would identify high performing RTOs and be able to select preferred providers.

Qualifications that better meet industry needs would support RTOs in delivering relevant courses to their students and give the benefit of greater collaboration with industry and employers.

These reforms are designed to deliver a range of benefits for different **groups of students, apprentices and trainees**, including school leavers, job seekers, Indigenous Australians, disadvantaged Australians, and Australians living in rural and remote areas.



All Australians would have the opportunity to meaningfully engage in industry-trusted skills education that leads to employment or higher level qualifications. Students would have access to accurate, easily accessible information about vocational careers, including their likely employment prospects.

Students would benefit from having clearer information about funding support for different courses, including access to financial support (student loans and subsidies).

Australians with low language, literacy, numeracy and digital literacy skills would have free access to appropriate foundation skills training to develop their skills and have a greater range of employment opportunities.

Indigenous Australians would have greater access to more culturally relevant training options, delivered by preferred providers in their community. Disadvantaged Australians would be better supported to complete their qualifications and transition to employment or further study through improved co-ordination of wrap-around services and access to quality skills and career information. RTO delivery in rural and remote Australia would receive additional support, and the use of learning hubs to help them train locally.



10 Recommendations

Chapter 2 Leadership of the VET system

- 2.1 The Commonwealth and the States and Territories to agree a new vision for the VET sector that places work-based learning at the forefront of Australian skills development.
- 2.2 The Commonwealth and the States and Territories adopt a six point plan to improve the architecture of the vocational education system and grow its contribution to training Australians, including:
 - strengthening quality assurance,
 - speeding up qualifications development,
 - simpler funding and skills matching,
 - better careers information,
 - clearer secondary school pathways, and
 - greater access for disadvantaged Australians.
- 2.3 The Commonwealth and the States and Territories agree new names and descriptions for each part of the vocational education sector, to be used to measure the performance of each distinct stream of provision:
 - qualification-based training that leads to vocational careers (including courses and skillsets),
 - short courses,
 - foundation education (lower level courses for language, literacy, numeracy and digital literacy), and
 - VET in schools.
- 2.4 The Commonwealth and the States and Territories commit over time to reducing the differential in the level of student funding support at a particular Australian Qualification Framework level between qualification-based vocational education and university education.
- 2.5 To ensure the strength and uniqueness of the vocational education system, the Commonwealth and the States and Territories should set a long-term goal that all funded qualification-based vocational education should include formal work-based elements.
- 2.6 The Commonwealth and the States and Territories re-brand the overall VET sector to an alternative such as 'Skills Education' in conjunction with the system changes proposed in this Review, and market the sector as a modern, fast-paced skills acquisition alternative to institution-based learning in a university environment.
- 2.7 The VET sector be funded by the Commonwealth to develop strong and successful qualification pathways in growing employment areas such as digital technologies and human services, including higher-level diplomas and apprenticeships at levels 5 and 6 on the Australian Qualifications Framework.



Chapter 3 Strengthening quality assurance

- 3.1 The Commonwealth and the States and Territories to confirm their support for the Australian Skills Quality Authority as the single national regulator to provide consistent quality assurance to the vocational education sector. Once the further recommendations about quality assurance and qualifications made in this report are implemented, non-referring States should again consider referring their powers to the Australian Skills Quality Authority.
- 3.2 The Australian Skills Quality Authority to provide more information and guidance to Registered Training Organisations as to how it conducts its regulatory activities in order to improve ongoing understanding of and compliance with the Australian Skills Quality Authority requirements, and to reduce the cost and compliance burden to Registered Training Organisations.
- 3.3 The Australian Skills Quality Authority be required to publicly release all concluded audit reports to ensure all Registered Training Organisations can be fully informed about the regulator's activities (as per recommendation 15 of the review of the *National Vocational Education and Training Regulator Act 2011*). This recommendation should be implemented immediately.
- 3.4 The Commonwealth to consider whether the Australian Skills Quality Authority should be specifically resourced to provide broad education and guidance to the VET sector, and to engage more proactively and positively with providers to build trust and understanding between the regulator and the regulated.
- 3.5 In the longer term, the Australian Skills Quality Authority to expand its auditing role to ranking providers on the quality of their educational offering and their management, in a similar vein to the New Zealand system, and work with Commonwealth and State and Territory funders to encourage high quality providers.
- 3.6 That the Australian Skills Quality Authority urgently be given the new powers recommended by the review of the *National Vocational Education and Training Regulator Act 2011* to better control the registration of Registered Training Organisations specifically:
 - knowledge of and commitment to education (recommendation 4),
 - the fit and proper person test (recommendation 5), and
 - the requirement to provide training (recommendation 6).
- 3.7 The Department of Education and Training to manage annual independent surveys of the Registered Training Organisation community in order to assess the Australian Skills Quality Authority's performance and the performance of its auditors in the eyes of those it regulates.
- 3.8 The COAG Industry and Skills Council mandate an immediate and ongoing agenda to reduce any duplication and minimise reporting burdens for all Registered Training Organisations by negotiating common audit standards and information sharing between the quality assurance regulators and Commonwealth and State and Territory funders.



- 3.9 Benchmark hours should be specified in qualifications by qualification developers as a guide to the average amount of training required for a new learner with no experience in the industry to develop the required competencies in the qualification.

Benchmark hours should be developed for Australian Skills Quality Authority designated 'high-risk' qualifications first and then progressively introduced. They can be used by the Australian Skills Quality Authority and other quality assurance regulators as a guide to assist in determining whether delivery times in courses and qualifications are of a reasonable length.

- 3.10 The Commonwealth should work with the States and Territories to pilot independent assessment validation schemes. The National Skills Commission should investigate how funding should be split between providers and independent assessors if these functions were separated into different entities.
- 3.11 The Government should enable the Australian Skills Quality Authority to use independent re-assessment of students as a regular audit and enforcement tool once sufficient concerns have been raised about a particular provider's training and assessment activities. The independent assessment results should be used as evidence in appropriately sanctioning a poor quality provider.
- 3.12 Proficiency-based assessment should be piloted with certain qualifications and willing industries, with a view to extending to all relevant industries. The COAG Industry and Skills Council to work with the Australian Skills Quality Authority and Skills Organisations to develop guidance for Registered Training Organisations on the use of proficiency assessment in addition to current assessment descriptions in training packages.
- 3.13 The Government look to implement one standard tuition protection model required of Registered Training Organisations to adequately support all students and which is broadly consistent across all student cohorts. The Australian Skills Quality Authority to audit providers to ensure compliance in tuition protection arrangements.
- 3.14 All providers be required to maintain accurate student records and reporting on a quarterly basis to the National Centre for Vocational Education Research.
- 3.15 The VET Student Loans Ombudsman be expanded to become a VET Ombudsman with the appropriate powers to resolve consumer complaints against Registered Training Organisations and that the new VET Ombudsman be co-located with the Australian Skills Quality Authority.



Chapter 4 Speeding up qualifications development

- 4.1 Industry-owned and government-registered Skills Organisations to be set up to take responsibility for the qualification development process for their industries and to control their training packages.
- 4.2 Skills Organisations would be required to register themselves and their industry coverage with the Commonwealth and renew their mandate regularly (every three to five years). At the time of registration and each renewal they would need to demonstrate the support of their employers and other stakeholders for the performance of their responsibilities.
- 4.3 Skills Organisations to be responsible for the development of new or amended training products and the consultation process with industry. Final products (qualifications, competencies, or skillsets) would be approved by the Australian Skills Quality Authority for listing on training.gov.au. The Australian Skills Quality Authority would be required to be assured the new product meets the definition of a national qualification and is supported by businesses in the relevant industry.
- 4.4 Skills Organisations should be allocated a number of other responsibilities beyond their training package development role, to ensure they take ownership of, and have responsibility for, meeting the skills needs of their industry(s), including:
 - assessing skills needs in their industry(s),
 - marketing to prospective trainees and school students,
 - managing apprenticeship and traineeship support, and
 - endorsing preferred training providers and supporting assessment as appropriate.
- 4.5 The legislative design of Skills Organisations should include checks and balances that incentivise them to deliver effectively and efficiently for industry, including:
 - fixed terms of accreditation with a full application process for renewal,
 - a method to extend or reduce industry scope during the term of accreditation,
 - funding based on actual training activity,
 - co-funding from the Commonwealth and employers,
 - being unable to own Registered Training Organisations in their own right,
 - effective management of conflicts of interest, and
 - a governance structure supported by employers and other stakeholders.
- 4.6 The Commonwealth should pilot Skills Organisations nationally for one or two industries, including digital technologies, in order to develop and refine the Skills Organisation model.
- 4.7 The Australian Skills Quality Authority should be permitted to approve accredited courses and qualifications for listing on training.gov.au when they are sufficiently unique, there is a demonstrated need for them, and there is no Skills Organisation able or willing to sponsor them as part of a training package. The



Australian Skills Quality Authority should also lead the development of qualifications with industries where there is no responsible Skills Organisation.

- 4.8 Skills Organisations should use the ability to specify benchmark hours and work placement hours to reduce the level of prescriptive detail contained within individual competencies, so they can more easily remain current when technology and standards change.
- 4.9 Skills Organisations should include articulation pathways between VET and higher education in training packages where agreed with higher education providers.
- 4.10 An independent panel supported by the Australian Skills Quality Authority should be responsible for determining the appropriate Australian Qualifications Framework levels for qualifications to ensure the broader integrity of the Australian Qualifications Framework.
- 4.11 Consideration be given to further encouraging the use of short-form credentials such as skillsets or micro-credentials to provide more flexible training options to industry, following the report of the Australian Qualifications Framework review.

Chapter 5 Simpler funding and skills matching

- 5.1 The Commonwealth and the States and Territories agree to develop a simpler, nationally consistent funding policy for all government-subsidised qualifications, which provides confidence and certainty to trainees, industry, employers and all funded providers, public or private.

The policy would involve the Commonwealth preparing agreed national average costs and subsidy levels, with the States and Territories continuing to allocate places on a contestable basis to meet skills demand.

- 5.2 The Commonwealth to set up a National Skills Commission to work with the States and Territories on VET funding and administer all Commonwealth funding to the VET sector under strategic policy direction from the Minister.
- 5.3 The National Skills Commission to be made responsible for developing and updating clearly linked national, State and Territory level and regional skills demand forecasts with direct input from States, Territories, local jurisdictions and industries to assist all stakeholders to plan investment in the vocational education sector.
- 5.4 Skills demand resources currently located in the Department of Education and Training and the Department of Jobs and Small Business to be transferred into the National Skills Commission.
- 5.5 The National Skills Commission be given responsibility for determining nationally consistent subsidy levels, in partnership with the States and Territories, based on averaged actual costs of delivery for providers nationwide.



- 5.6 Subsidy levels would be determined on a grouped qualification basis similar to the Commonwealth Grant Scheme and Student Contributions table used in the university sector. They would reflect the different cost structures that are required for different types of qualifications so that providers are not influenced by the funding system to provide a particular course or qualification beyond the demand for that course.

There should also be a list of nationally consistent percentage loadings to reflect differential costs for rural and remote areas and disadvantaged groups.

- 5.7 The Commonwealth and the States and Territories would negotiate a new national agreement where the Commonwealth co-funds courses in each State and Territory according to the National Skills Commission's funding model. Courses in eligible public and private providers would be co-funded on the basis of an agreed standard percentage share between the Commonwealth and each State and Territory.

States and Territories could continue to provide additional support to their TAFE systems, over and above the tuition subsidies, in their roles as TAFE owners.

- 5.8 The National Skills Commission to develop performance indicators using existing and future data sources to measure the outcomes and effectiveness of government investment in the VET sector, and to report that information to both the Commonwealth and the States and Territories.

- 5.9 The Commonwealth to revamp and simplify its apprenticeships incentives program to make it more attractive to and more easily understood by apprentices and trainees and their employers.

- 5.10 The National Skills Commission to develop a new National Skills Priority List for Apprentices that captures occupations, including those in new and emerging industries and occupations supporting Government priorities. An annual consultation process should be undertaken to review the National Skills Priority List for Apprentices and align it with skills needs across the States and Territories.

- 5.11 Skills Organisations to take on the role of the Australian Apprenticeships Support Network. Field staff for Skills Organisations would be best placed to recruit apprentices, find suitable employers for apprentices, develop training plans in consultation with the apprentice and the employer, and provide support and education to both parties.

- 5.12 Each Skills Organisation to develop a positive non-exclusive list of preferred Registered Training Organisations for their industry across Australia for use by employers to choose where they train their apprentices and trainees. The Commonwealth and States and Territories would take the list into account when determining providers for funding.

- 5.13 The Commonwealth Government to expand the university-based regional study hub model to provide funding to VET providers to participate in regional study hubs.



Chapter 6 Better careers information

- 6.1 The Commonwealth to set up and fund a National Careers Institute to provide a single, authoritative government source of careers information, with a particular focus on marketing and promoting vocational careers.
- 6.2 The National Careers Institute to be charged with collating and publishing accurate and reliable information on careers and qualification pathways, including demand forecasts for individual occupations, training information and likely income levels.
- 6.3 The National Careers Institute to be established as an independent office within the National Skills Commission and utilise the skills demand information collected and analysed by the National Skills Commission.
- 6.4 All current information services dealing with career choices and related matters provided by the Commonwealth to be included in the National Careers Institute and resources to be transferred accordingly.
- 6.5 The National Careers Institute to use a linked data set incorporating Australian Taxation Office and Department of Human Services data on outcomes flowing from different qualifications and publish that information annually.
- 6.6 A single Commonwealth website, an app service, and other communication tools providing information on the main careers in Australia to be provided by the Commonwealth through the National Careers Institute.
- 6.7 The information provided by the National Careers Institute on its website and app be made available for licensing to other public and private operators on a consistent use basis and full acknowledgement of the data source (using a 'powered by' acknowledgement or similar).
- 6.8 Consideration be given to mandating that course information, as recommended by the review of the *National Vocational Education and Training Regulator Act 2011*, be available for publication by the National Careers Institute to assist with providing end-to-end careers information to prospective students and trainees.
- 6.9 The National Careers Institute to be funded to undertake a major multi-year public marketing campaign to lift the reputation and attractiveness of VET careers across Australia.
- 6.10 Skills Organisations to be mandated to market their industry and its qualification pathways to prospective apprentices and students in order to meet workforce needs.



Chapter 7 Clearer secondary school pathways

- 7.1 A student identifier (or similar mechanism) to be introduced for all secondary school students to allow governments to research students' subsequent education/training and employment pathways and outcomes.
- 7.2 The National Careers Institute to work with the States and Territories to develop a series of simple vocational pathways linking secondary school subjects in the national curriculum, and the senior secondary curriculum in each State or Territory, to encourage young people to study school subjects in pathways that interest them in Years 9 to 12.
- 7.3 The Commonwealth and the States and Territories to agree that all programs of VET delivered to secondary school students be designed to offer students clear pathways to actual vocational careers.
- 7.4 VET in schools programs to only deliver qualifications registered to the Australian Qualifications Framework that will be recognised as valid and robust by industry once the student graduates.
- 7.5 The Australian Skills Quality Authority and the two state regulators ensure their regulatory activity equally applies to all Registered Training Organisations delivering VET to secondary students.
- 7.6 The National Skills Commission to compare VET in schools funding models and recommend national cost and funding models for delivering VET to secondary students.
- 7.7 The Commonwealth and States and Territories consider setting up a new national funding agreement for co-funding VET in schools provision over time, with pricing to be determined by the National Skills Commission and the fund to be administered by State and Territory Training Authorities in partnership with the Commonwealth.
- 7.8 Skills Organisations to take on responsibility for strengthening the links between schools and industry, including:
 - specifying benchmark training hours and any required work placement hours in entry-level qualifications to ensure all provision, including to secondary students, clearly meets the needs of employers for entry-level workers,
 - endorsing Registered Training Organisations for use by schools for Australian School-based Apprenticeships and other VET qualifications,
 - brokering relationships with employers to secure work placements and Australian School-based Apprenticeship opportunities for students,
 - engaging with schools to improve the quality of careers advice and VET information offered to students, and
 - marketing their industry to school students at schools and careers expos.



Chapter 8 Greater access for disadvantaged Australians

- 8.1 The Commonwealth and the States and Territories to commit, over time, to supporting fee-free foundation-level education for all Australians who need training to bring their language, literacy, numeracy and digital literacy levels up to Level 2 in the Australian Core Skills Framework.
- 8.2 The Commonwealth to work with the States and Territories to develop a new national agreement for foundation skills to deliver consistent levels of access across Australia to language, literacy, numeracy and digital literacy courses for adult Australians who do not have language, literacy, numeracy and digital literacy levels up to Level 2 in the Australian Core Skills Framework.
- 8.3 The new national agreement for foundation skills to expressly provide for the three main delivery models for language, literacy, numeracy and digital literacy training across Australia:
 - standard Registered Training Organisation delivery of foundation-level VET courses,
 - intensive literacy and numeracy short courses (like the Adult Migrant English Program), and
 - dedicated workplace-delivered language, literacy, numeracy and digital skills programs in partnership between employers and Registered Training Organisations.
- 8.4 The Commonwealth to fund the development of an online language, literacy, numeracy and digital literacy assessment tool for use by educators across Australia to assess language, literacy, numeracy and digital literacy standards for individual learners and independently assess improvements as a result of funded language, literacy, numeracy and digital literacy courses.
- 8.5 The Commonwealth to support the development of more quality Indigenous-owned-and-led Registered Training Organisations to provide more Indigenous learners with the option of foundation and vocational training in an Indigenous cultural setting.
- 8.6 The Commonwealth and the States and Territories to specifically measure levels of enrolment, progress and outcomes for Indigenous learners at relevant funded Registered Training Organisations as part of a new Commonwealth-State vocational education funding agreement.
- 8.7 New funding models to be developed to provide flexible wrap-around social support services in communities where there is high disadvantage so that vocational educators do not have to search through myriad targeted funding programs to find additional support to keep their learners engaged.



11 Appendices

Appendix A Submissions received

The Review received 192 valid submissions.

The following 103 organisations and 39 individuals provided submissions and consented to their submissions and names being published. An additional two submissions consented to publication without attribution.

A further 48 submissions were received but the respondents did not consent to publication.

Organisations

- Academy of Interactive Entertainment
- Australian Children's Education and Care Quality Authority
- ACT Board of Senior Secondary Studies
- Adept Training
- Adult Learning Australia
- AMES Australia
- Apprenticeships Employment Network Tasmania
- ARCS Australia
- Association of Heads of Independent Schools Australia
- Australasian Railway Association
- Australasian VET Research Association
- Australian Association of Convenience Stores
- Australian Catholic University
- Australian Chamber of Commerce and Industry
- Australian Council for Adult Literacy
- Australian Council for Private Education and Training
- Australian Council of Deans of Education Vocational Education Group
- Australian Council of Social Service
- Australian Council of Trade Unions
- Australian Education Union
- Australian Human Rights Commission
- Australian Industry Group
- Australian Institute of Training and Development
- Australian Publishers Association
- Australian Small Business and Family Enterprise Ombudsman
- Australian Retailers Association
- Automotive Training Board NSW
- Business Council of Australia
- Chamber of Commerce and Industry WA
- Charles Darwin University
- Claire Field & Associates
- Coalition of Celebrants Associations
- Commonwealth Ombudsman
- Community Colleges Australia
- Construction Material Processors Association CMPA
- Consulting Surveyors National
- Dietitians Association of Australia
- Electrical Trades Union of Australia
- Engineering Institute of Technology
- Equality Rights Alliance
- Family Day Care
- Evolve College
- Foundation for Young Australians
- Future Now
- Fyusion Asia Pacific



- Goodstart Early Learning
- Growth Centres Advisory Committee
- Hospitality NT
- Housing Industry Association
- Industry Skills Advisory Council NT
- Innovation and Science Australia
- Isolated Children's Parents' Association
- Job Ready
- Lighthouse Learning International
- Literacy For Life
- Local Government Association of Queensland
- Master Plumbers Australia
- Medicines Australia
- Minerals Council of Australia
- Mission Australia
- Motor Trades Association-SA
- National Apprentice Employment Network
- National Australian Apprenticeship Association
- National Council of Women Australia
- National Farmers Federation
- National Tertiary Education Union
- National Union of Students
- Naval Shipbuilding Institute
- Navitas
- NCVET
- NSW Adult Literacy & Numeracy Council
- NSW Government
- Phoenix Compliance Management
- Queensland Catholic Education Commission
- Queensland Council for Adult Literacy
- Queensland Tourism Industry Council
- Queensland Water Directorate
- Restaurant and Catering Australia
- Resources Industry Training Council
- Rio Tinto Australia
- Safe Work Australia
- Skills Impact
- SkillsIQ
- Swinburne University of Technology
- TAFE Community Alliance
- Tasmanian Government
- Tasmanian Small Business Council
- Technical Training Australia
- The Chamber of Minerals and Energy of Western Australia
- The Smith Family
- Tourism Accommodation Australia
- Tourism Training Australia
- Universities Australia
- University of New England
- VETASSESS
- Victoria University
- Victorian Automobile Chamber of Commerce
- Victorian Government
- Victorian TAFE Association
- VicWater
- WA Council of State School Organisations
- Whitton Consulting
- Year 13



Individuals

- Harry Barry
- Janet Bastyan
- Heather Bitter
- Robert Black
- Sara Carmona
- Sam Chun
- Matthew Conway
- Paul Conway
- Thierry Demathieu
- Paul Frisina
- Katrina Hansen
- Marilyn Harvey
- Kevin Heys
- Kevin Hummel
- John Hutchinson
- Darcey Kelleher
- Korina
- Arvind Kumar
- Jane Kung
- Peter Lausberg
- Chris Lehmann
- Robert McGrath
- Stuart McIntyre
- Joanne Medlin
- Robyn Nolan
- Therese Nolan
- Anthony Punch
- Kevin M Redfern
- Paul Saunders
- Don Shaw
- Rory Smeaton
- Joshua Smith
- Alan Sparks
- Sally Tansley
- Suzie Walden
- Bruce D Watson
- Roslyn Williams
- Tony Vizza
- Joint Submission: Dr Sharon Ross, Dr Teresa O'Brien, James Paxman, Kathy Adams, Peter McGlew, Richard Ludemann, Janet Munday



Appendix B Stakeholder consultations

- Accor Hotels
- Aged and Community Services Australia (ACSA)
- All Trades Queensland
- Alstom Group
- Apprentice Employment Network Western Australia
- Apprenticeships Matter
- Apprenticeship Support Australia
- Aurora Training Institute
- Australian Chamber of Commerce & Industry
- Australian Council for Educational Research
- Australian Council for Private Education and Training (ACPET)
- Australian Council for Private Education (ACPET) – Northern Territory Branch
- Australian Council of Social Service (ACOSS)
- Australian Education Union (AEU)
- Australian Hairdressing Council (AHC)
- Australian Industry and Defence Network Incorporated (AIDN)
- Australian Industry Group (Ai Group)
- Australian Institute of Project Management (AIPM)
- Australian Mines and Metals Association (AMMA)
- Australian Publishers Association
- Australian Rail Track Corporation (ARTC)
- Australian Retailers Association
- Australian Submarine Corporation (ASC)
- Australian Trade Training College (ATTC)
- Australian Training Works Ltd
- Australasian Railway Association (ARA)
- Avidity Training and Development
- BAE Systems Australia
- BCA National Training Group
- BGT
- Blue Dog Training
- Box Hill Institute
- Brotherhood of St Laurence
- Business Council of Australia
- Cairns Chamber of Commerce
- Cairns Regional Council
- Cairns State High School
- Canberra Institute of Technology (CIT)
- Cape York Employment
- Cape York Girl Academy
- Central Queensland (CQ) University



- Central Regional TAFE Western Australia
- Chamber of Commerce Northern Territory
- Charles Darwin University (CDU)
- CitySmart
- College of Electrical Training (CET)
- Community Colleges Australia (CCA)
- Community Living Australia
- Comstar Systems
- Construction Skills Queensland
- Council of Small Business Organisations Australia (COSBOA)
- Crew Pacific Super Yacht Training and Recruitment
- Crown Resorts
- Curtin University
- Data61
- Defence SA
- Defence Teaming Centre (DTC)
- Designer Life
- Djarragun College
- Djerriwarrh Community and Education Services
- Downer Group
- DXC Technology
- Edith Cowan University (ECU)
- Electrical and Communications Association Western Australia (ECA WA)
- Energy Skills Queensland
- Engineering Institute of Technology
- Enterprise Registered Training Organisation Association (ERTOA)
- Expert Regional Education Advisory Group
- Federation University Australia
- Fyusion Asia Pacific
- Genesee and Wyoming Australia
- Geraldton Universities Centre
- GlobalNet Academy
- Gowrie Training Centre
- Grant Thornton Consulting
- Grattan Institute
- Hospitality Group Training (HGT)
- Hospitality NT
- Housing Industry Association (HIA) – National Office
- Housing Industry Association (HIA) – Northern Territory Branch
- Huon Aquaculture Group Limited
- Industry Skills Advisory Council NT (ISACNT)
- John Holland Group
- Kirana Education



- Learning Partners
- LH Martin Institute, University of Melbourne
- Liberas Consultancy Services Limited
- MAS National
- Major Training Group
- Master Plumbers
- Maxima Group
- MaxiTRANS
- MEGT
- Microsoft Australia
- MIGAS Apprentices and Trainees
- Minda Inc
- Minerals Council of Australia (MCA)
- Motor Trade Association of South Australia
- Motor Trade Association of Western Australia (MTA WA)
- National Apprentice Employment Network (NAEN)
- National Australia Bank (NAB)
- National Disability Services
- National Electrical and Communications Association (NECA)
- National Employment Services Association (NESA)
- National Energy Resources Australia (NERA)
- National Farmers Federation
- Naval Group Australia
- Naval Shipbuilding College
- North Metropolitan TAFE Western Australia
- Novaskill
- Pacific National
- PEER
- Pharmacy Guild of Australia
- Prestige Service Training
- Pullman Cairns International
- Queensland Community Alliance
- Queensland Farmers Federation
- Queensland Fitness, Sport & Recreation Skills Alliance
- Queensland Tourism Industry Council
- Queensland Training Ombudsman
- Queensland Trucking Association
- Queensland Water Directorate
- QMI Solutions
- Rail Industry Safety and Standards Board (RISSB)
- Regional Skills Training
- Rio Tinto
- Sarina Russo Group



- Seafood and Maritime Training Tasmania
- Siemens Limited
- Skill360 Australia
- South Metropolitan TAFE Western Australia
- Southern Cross Catholic Vocational College (SCCVC)
- Sydney Catholic Schools
- TAFE Directors Australia (TDA)
- TAFE NSW
- TAFE Queensland
- TAFE South Australia
- Tasmanian Building Group Apprenticeship Scheme
- Tasmanian Hospitality Association
- Tasmanian Small Business Council (TSBC)
- TasTAFE
- The Learning Collaborative
- Toyota Australia
- Training Connections Australia
- Transport for NSW
- Unions WA
- University of South Australia
- Victorian Automobile Chamber of Commerce (VACC)
- Victorian Chamber of Commerce and Industry
- VicWater
- Vocational Training Services (VTS)
- Western Australian Small Business Commission
- Wesfarmers
- Wontulp-Bi-Buya College
- Work and Training Ltd
- Yarrabah Aboriginal Shire Council

Australian Government

- The Honourable Josh Frydenberg MP, Treasurer
- The Honourable Kelly O'Dwyer MP, Minister for Women; and Minister for Jobs and Industrial Relations
- The Honourable Dan Tehan MP, Minister for Education
- Senator the Honourable Matthew Canavan, Minister for Resources and Northern Australia
- Senator the Honourable Michaelia Cash, Minister for Small and Family Business, Skills and Vocational Education
- The Honourable Karen Andrews MP, Minister for Industry, Science and Technology



In addition, the Review met with representatives of the following Australian Government agencies, bodies, position holders and reviewers:

- Ms Kate Carnell AO, Australian Small Business and Family Enterprise Ombudsman
- Professor John Pollaers OAM, Chair, Australian Industry and Skills Committee
- Professor Peter Noonan, currently Chair of the Expert Panel for the review of the Australian Qualifications Framework
- Australian Industry Skills Committee (AISC)
- Australian Skills Quality Authority (ASQA)
- Department of Defence
- Department of Education and Training
- Department of Infrastructure Regional Development and Cities
- Productivity Commission

State and Territory Governments

- The Honourable Shannon Fentiman MP, Queensland Minister for Employment and Small Business; and Minister for Training and Skills Development
- The Honourable Sue Ellery MLC, Western Australian Minister for Education and Training
- The Honourable David Pisoni MP, South Australian Minister for Industry and Skills
- The Honourable Jeremy Rockliff MP, Tasmanian Minister for Education and Training
- The Honourable Meegan Fitzharris MLA, Australian Capital Territory Minister for Higher Education, Training and Research
- The Honourable Selena Uiibo MLA, Northern Territory Minister for Education and Workforce Training

In addition, the Review also met Commonwealth and State and Territory Senior Officials, the National Centre for Vocational Education Research and the following State and Territory Government agencies, bodies, position holders and reviewers:

- Mr Neil Coulson, Victorian Skills Commissioner
- Mr Martin Watson, Executive Director, Australian Capital Territory Board of Senior Secondary Studies
- Australian Capital Territory Education Directorate
- Australian Capital Territory Economic Development Directorate
- Jobs QLD
- New South Wales Department of Education and Training
- New South Wales Department of Industry
- Northern Territory Department of Education
- Northern Territory Department of Trade Business and Innovation Queensland Department of Employment, Small Business & Training
- Queensland Department of Employment, Small Business & Training
- South Australian Department for Education
- South Australian Department for Industry and Skills
- South Australian Department of Planning, Transport and Infrastructure



- South Australian Training and Skills Commission
- Tasmanian Department of Education
- Tasmanian Department of State Growth
- Tasmanian Department of Premier and Cabinet
- Victorian Department of Education
- Western Australian Department of Education
- Western Australian Department of Training and Workforce Development

Individuals with experience in VET policy

- Professor Valerie Braithwaite, Professor, Regulatory Institutions Network, the Australian National University who conducted the Review of the *National Vocational Education and Training Regulator Act 2011* in 2017–18
- Senator the Honourable Doug Cameron, Shadow Minister for Skills, TAFE and Apprenticeships
- Mr Terry Moran AC, currently Chair, Centre for Policy Development and Chancellor Federation University. Mr Moran formerly held a number of roles in the VET sector and Commonwealth and State Governments
- Professor Peter Shergold AC, currently Chancellor, Western Sydney University and formerly Chair, NCVET. Professor Shergold formerly held a number of roles in the education sector



Appendix C Demographic characteristics of VET students, 2017

	Number	Percentage
Age group		
14 years and under	19,435	0.5%
15 to 19 years	705,095	16.6%
20 to 24 years	643,335	15.2%
25 to 29 years	568,125	13.4%
30 to 34 years	474,080	11.2%
35 to 39 years	386,255	9.1%
40 to 44 years	348,385	8.2%
45 to 49 years	332,395	7.8%
50 to 54 years	272,665	6.4%
55 to 59 years	218,635	5.2%
60 to 64 years	126,460	3.0%
65 years and over	69,460	1.6%
Indigenous status		
Indigenous	142,825	3.4%
Non-Indigenous	3,597,835	84.9%
Remoteness		
Major cities	2,509,555	59.2%
Inner regional	806,700	19.0%
Outer regional	395,320	9.3%
Remote	69,055	1.6%
Very remote	40,525	1.0%
Overseas	180,560	4.3%
Sex		
Males	2,144,730	50.6%
Females	1,978,225	46.7%
State or Territory		
NSW	1,330,165	31.4%
Vic	1,022,760	24.1%
Qld	904,585	21.4%
SA	230,805	5.4%
WA	373,365	8.8%
Tas	54,120	1.3%
NT	45,490	1.1%
ACT	76,370	1.8%
Overseas	34,275	0.8%
Other	163,615	3.9%
Disability status		
With disability	179,975	4.2%
Without disability	3,428,660	80.9%
Total	4,235,555	100.0%

Source: NCVET 2018, *Total VET Students and Courses, 2017*. NCVET, Adelaide. Categories may not add to 100 per cent due to unknown characteristics.



Appendix D Training packages and qualifications

Top 20 qualifications based on 2017 NCVET enrolment data	Enrolments (2017)
Diploma of Early Childhood Education and Care	67,532
Certificate III in Individual Support	61,935
Certificate III in Early Childhood Education and Care	54,226
Certificate III in Business	45,712
Certificate II in Business	44,293
Certificate I in Construction	42,600
Diploma of Leadership and Management	41,205
Certificate II in Skills for Work and Vocational Pathways	35,240
Certificate II in Hospitality	34,922
Certificate III in Electrotechnology Electrician	33,617
Certificate IV in Training and Assessment	33,450
Certificate III in Carpentry	30,257
Diploma of Business	27,428
Certificate II in Kitchen Operations	26,145
Certificate III in Fitness	25,494
Certificate III in Hospitality	24,524
Certificate I in Spoken and Written English*	24,200
Certificate II in Construction Pathways	23,689
Certificate II in Spoken and Written English*	23,237
Certificate IV in Building and Construction (Building)	22,319
Certificate IV in Property Services (Real Estate)	22,225
Certificate III in Spoken and Written English*	22,066
Certificate III in Retail	22,012

Note: *Qualification is no longer current (effective September 2018).

Source: NCVET 2018, *Total VET Students and Courses 2017*. NCVET, Adelaide.



Training packages and qualifications (February 2019)

Animal Care and Management

Certificate I in Animal Studies
 Certificate II in Animal Studies
 Certificate II in Horse Care
 Certificate III in Animal Studies
 Certificate III in Animal Technology
 Certificate III in Captive Animals
 Certificate III in Companion Animal Services
 Certificate III in Pet Grooming
 Certificate III in Horse Breeding
 Certificate III in Performance Horse
 Certificate III in Equine Hoof Care
 Certificate IV in Animal Control and Regulation
 Certificate IV in Captive Animals
 Certificate IV in Companion Animal Services
 Certificate IV in Veterinary Nursing
 Certificate IV in Equine Dentistry
 Certificate IV in Pet Styling
 Certificate IV in Horse Breeding
 Certificate IV in Farriery
 Diploma of Animal Technology
 Diploma of Horse Stud Management
 Diploma of Performance Horse Management
 Diploma of Veterinary Nursing (Surgical)
 Diploma of Veterinary Nursing (Dental)
 Diploma of Veterinary Nursing (Emergency and Critical Care)
 Diploma of Veterinary Nursing (General Practice)

Agriculture, Horticulture and Conservation and Land Management

Certificate I in Conservation and Land Management
 Certificate I in AgriFood Operations
 Certificate I in Horticulture
 Certificate I in Permaculture
 Certificate II in Agriculture
 Certificate II in Production Horticulture
 Certificate II in Horticulture
 Certificate II in Arboriculture
 Certificate II in Parks and Gardens
 Certificate II in Production Nursery
 Certificate II in Retail Nursery

Certificate II in Sports Turf Management
 Certificate II in Conservation and Land Management
 Certificate II in Irrigation
 Certificate II in Rural Operations
 Certificate II in Shearing
 Certificate II in Wool Handling
 Certificate II in Floriculture
 Certificate II in Landscaping
 Certificate II in Permaculture
 Certificate III in Agriculture
 Certificate III in Agriculture (Dairy Production)
 Certificate III in Rural and Environmental Pest Management
 Certificate III in Pork Production
 Certificate III in Poultry Production
 Certificate III in Production Horticulture
 Certificate III in Horticulture
 Certificate III in Arboriculture
 Certificate III in Landscape Construction
 Certificate III in Parks and Gardens
 Certificate III in Production Nursery
 Certificate III in Retail Nursery
 Certificate III in Sports Turf Management
 Certificate III in Conservation and Land Management
 Certificate III in Indigenous Land Management
 Certificate III in Lands, Parks and Wildlife
 Certificate III in Natural Area Restoration
 Certificate III in Beekeeping
 Certificate III in Rural Machinery Operations
 Certificate III in Commercial Seed Processing
 Certificate III in Commercial Composting
 Certificate III in Conservation Earthworks
 Certificate III in Irrigation
 Certificate III in Aboriginal Sites Work
 Certificate III in Rural Merchandising
 Certificate III in Rural Operations
 Certificate III in Shearing
 Certificate III in Wool Clip Preparation
 Certificate III in Advanced Wool Handling
 Certificate III in Floriculture
 Certificate III in Feedlot Operations
 Certificate III in Seed Production



Certificate III in Seed Testing
 Certificate III in Permaculture
 Certificate IV in Agriculture
 Certificate IV in Production Horticulture
 Certificate IV in Horticulture
 Certificate IV in Parks and Gardens
 Certificate IV in Production Nursery
 Certificate IV in Retail Nursery
 Certificate IV in Sports Turf Management
 Certificate IV in Conservation and Land Management
 Certificate IV in Agribusiness
 Certificate IV in Irrigation
 Certificate IV in Wool Classing
 Certificate IV in Seed Production
 Certificate IV in Seed Testing
 Certificate IV in Organic Farming
 Certificate IV in Pest Management
 Certificate IV in Arboriculture
 Certificate IV in Landscape
 Certificate IV in Permaculture
 Certificate IV in Shearing Contracting
 Diploma of Agriculture
 Diploma of Pork Production
 Diploma of Production Horticulture
 Diploma of Horticulture
 Diploma of Arboriculture
 Diploma of Landscape Design
 Diploma of Parks and Gardens Management
 Diploma of Production Nursery Management
 Diploma of Retail Nursery Management
 Diploma of Sports Turf Management
 Diploma of Conservation and Land Management
 Diploma of Community Coordination and Facilitation
 Diploma of Pest Management
 Diploma of Agribusiness Management
 Diploma of Viticulture
 Diploma of Irrigation Management
 Diploma of Organic Farming
 Diploma of Landscape Project Management
 Diploma of Permaculture
 Advanced Diploma of Horticulture
 Advanced Diploma of Agribusiness Management
 Advanced Diploma of Conservation and Land Management
 Advanced Diploma of Arboriculture

Graduate Diploma of Arboriculture

Australian Meat Processing

Certificate II in Meat Processing (Food Services)
 Certificate II in Meat Processing (Smallgoods)
 Certificate II in Meat Processing (Abattoirs)
 Certificate II in Meat Processing (Meat Retailing)
 Certificate III in Meat Processing (Boning Room)
 Certificate III in Meat Processing (Food Services)
 Certificate III in Meat Processing (Meat Safety)
 Certificate III in Meat Processing (Rendering)
 Certificate III in Meat Processing (Slaughtering)
 Certificate III in Meat Processing (General)
 Certificate III in Meat Processing (Quality Assurance)
 Certificate III in Meat Processing (Retail Butcher)
 Certificate III in Meat Processing (Smallgoods - General)
 Certificate III in Meat Processing (Smallgoods - Manufacture)
 Certificate III in Meat Processing (Livestock Handling)
 Certificate III in Meat Processing (Packing Operations)
 Certificate IV in Meat Processing (General)
 Certificate IV in Meat Processing (Leadership)
 Certificate IV in Meat Processing (Quality Assurance)
 Certificate IV in Meat Processing (Meat Safety)
 Diploma of Meat Processing (Meat Retailing)
 Diploma of Meat Processing
 Advanced Diploma of Meat Processing
 Graduate Certificate in Agribusiness
 Graduate Diploma of Agribusiness

Automotive Manufacturing

Certificate I in Automotive Manufacturing



Certificate II in Automotive Manufacturing Production - Passenger Motor Vehicle
 Certificate II in Automotive Manufacturing Production – Bus, Truck and Trailer
 Certificate III in Automotive Manufacturing Technical Operations - Passenger Motor Vehicle
 Certificate III in Automotive Manufacturing Technical Operations - Bus, Truck and Trailer
 Certificate IV in Automotive Manufacturing
 Diploma of Automotive Manufacturing

Automotive Retail, Service and Repair

Certificate I in Automotive Vocational Preparation
 Certificate II in Automotive Administration
 Certificate II in Automotive Air Conditioning Technology
 Certificate II in Bicycle Mechanical Technology
 Certificate II in Automotive Electrical Technology
 Certificate II in Automotive Servicing Technology
 Certificate II in Marine Mechanical Technology
 Certificate II in Automotive Vocational Preparation
 Certificate II in Outdoor Power Equipment Technology
 Certificate II in Automotive Body Repair Technology
 Certificate II in Motor Sport Technology
 Certificate II in Automotive Sales
 Certificate II in Automotive Underbody Technology
 Certificate II in Automotive Braking System Technology
 Certificate II in Automotive Cooling System Technology
 Certificate II in Automotive Cylinder Head Reconditioning
 Certificate II in Automotive Driveline System Technology
 Certificate II in Automotive Exhaust System Technology
 Certificate II in Automotive Steering and Suspension System Technology
 Certificate II in Automotive Tyre Servicing Technology
 Certificate III in Automotive Administration

Certificate III in Bicycle Workshop Operations
 Certificate III in Automotive Electrical Technology
 Certificate III in Agricultural Mechanical Technology
 Certificate III in Marine Mechanical Technology
 Certificate III in Light Vehicle Mechanical Technology
 Certificate III in Outdoor Power Equipment Technology
 Certificate III in Motorcycle Mechanical Technology
 Certificate III in Motor Sport Technology
 Certificate III in Automotive Sales
 Certificate III in Heavy Commercial Vehicle Mechanical Technology
 Certificate III in Mobile Plant Technology
 Certificate III in Automotive Engine Reconditioning
 Certificate III in Automotive Diesel Fuel Technology
 Certificate III in Automotive Diesel Engine Technology
 Certificate III in Automotive Drivetrain Technology
 Certificate III in Forklift Technology
 Certificate III in Heavy Commercial Trailer Technology
 Certificate III in Elevating Work Platform Technology
 Certificate III in Automotive Alternative Fuel Technology
 Certificate III in Automotive Body Repair Technology
 Certificate III in Automotive Glazing Technology
 Certificate III in Automotive and Marine Trimming Technology
 Certificate III in Automotive Refinishing Technology
 Certificate III in Automotive Underbody Technology
 Certificate III in Automotive Tyre Management
 Certificate IV in Automotive Management
 Certificate IV in Automotive Mechanical Diagnosis
 Certificate IV in Motor Sport Technology
 Certificate IV in Automotive Performance Enhancement



Certificate IV in Vehicle Loss Assessing
 Certificate IV in Automotive Electrical
 Technology
 Certificate IV in Automotive Body Repair
 Technology
 Certificate IV in Automotive Mechanical
 Overhauling
 Diploma of Automotive Management
 Diploma of Automotive Technology
 Diploma of Motor Sport Technology

Aviation

Certificate I in Aviation (Foundation Skills)
 Certificate II in Aviation (Flight Operations-
 Cargo Services)
 Certificate II in Transport Security
 Protection
 Certificate II in Aviation (Ground
 Operations and Service)
 Certificate III in Aviation (Cabin Crew)
 Certificate III in Aviation (Rescue
 Crewman)
 Certificate III in Aviation (Remote Pilot -
 Visual Line of Sight)
 Certificate III in Aviation (Ground
 Operations and Service)
 Certificate III in Aviation (Aerodrome
 Operations)
 Certificate IV in Aviation (Aircrewman)
 Certificate IV in Aviation (Aviation
 Supervision)
 Certificate IV in Aviation (Flight Operations
 Supervision)
 Diploma of Aviation (Air Traffic Control)
 Diploma of Aviation (Commercial Pilot
 Licence - Aeroplane)
 Diploma of Aviation (Commercial Pilot
 Licence - Helicopter)
 Diploma of Aviation (Instrument Rating)
 Diploma of Aviation (Flight Instructor)
 Diploma of Aviation (Aviation
 Management)
 Advanced Diploma of Aviation (Chief
 Flight Instructor)
 Advanced Diploma of Aviation (Pilot in
 Command)

Business Services

Certificate I in Business
 Certificate II in Business
 Certificate II in Customer Engagement
 Certificate III in Business
 Certificate III in Customer Engagement

Certificate III in Micro Business
 Operations
 Certificate III in Business Administration
 Certificate III in Business Administration
 (International Education)
 Certificate III in International Trade
 Certificate III in Work Health and Safety
 Certificate III in Recordkeeping
 Certificate III in Business Administration
 (Education)
 Certificate III in Business Administration
 (Legal)
 Certificate III in Business Administration
 (Medical)
 Certificate III in Library and Information
 Services
 Certificate IV in Business
 Certificate IV in Customer Engagement
 Certificate IV in Business Administration
 Certificate IV in Business Sales
 Certificate IV in Franchising
 Certificate IV in Governance
 Certificate IV in Human Resources
 Certificate IV in International Trade
 Certificate IV in Work Health and Safety
 Certificate IV in Project Management
 Practice
 Certificate IV in Business (Procurement)
 Certificate IV in Recordkeeping
 Certificate IV in Business (Governance)
 Certificate IV in Leadership and
 Management
 Certificate IV in Library and Information
 Services
 Certificate IV in Legal Services
 Certificate IV in Environmental
 Management and Sustainability
 Certificate IV in Marketing and
 Communication
 Certificate IV in Small Business
 Management
 Certificate IV in New Small Business
 Diploma of Business
 Diploma of Customer Engagement
 Diploma of Business Administration
 Diploma of Franchising
 Diploma of Human Resources
 Management
 Diploma of Business (Governance)
 Diploma of International Business
 Diploma of Work Health and Safety
 Diploma of Project Management



Diploma of Business (Procurement)
 Diploma of Quality Auditing
 Diploma of Recordkeeping
 Diploma of Leadership and Management
 Diploma of Conveyancing
 Diploma of Library and Information Services
 Diploma of Legal Services
 Diploma of Governance
 Diploma of Marketing and Communication
 Advanced Diploma of Business
 Advanced Diploma of Work Health and Safety
 Advanced Diploma of Recordkeeping
 Advanced Diploma of Management (Human Resources)
 Advanced Diploma of Leadership and Management
 Advanced Diploma of Conveyancing
 Advanced Diploma of Program Management
 Advanced Diploma of Marketing and Communication
 Graduate Diploma of Strategic Leadership
 Graduate Certificate in Leadership Diversity
 Graduate Diploma of Portfolio Management
 Graduate Certificate in Management (Learning)
 Graduate Diploma of Management (Learning)

Community Services

Certificate I in Active Volunteering
 Certificate II in Community Services
 Certificate II in Active Volunteering
 Certificate III in Early Childhood Education and Care
 Certificate III in Education Support
 Certificate III in Community Services
 Certificate III in Individual Support
 Certificate III in Active Volunteering
 Certificate IV in School Age Education and Care
 Certificate IV in Education Support
 Certificate IV in Child, Youth and Family Intervention
 Certificate IV in Youth Work
 Certificate IV in Youth Justice
 Certificate IV in Celebrancy
 Certificate IV in Employment Services

Certificate IV in Career Development
 Certificate IV in Community Services
 Certificate IV in Community Development
 Certificate IV in Social Housing
 Certificate IV in Chaplaincy and Pastoral Care
 Certificate IV in Ageing Support
 Certificate IV in Disability
 Certificate IV in Alcohol and Other Drugs
 Certificate IV in Mental Health
 Certificate IV in Leisure and Health
 Certificate IV in Mental Health Peer Work
 Certificate IV in Coordination of volunteer programs
 Diploma of Early Childhood Education and Care
 Diploma of School Age Education and Care
 Diploma of Child, Youth and Family Intervention
 Diploma of Youth Work
 Diploma of Youth Justice
 Diploma of Counselling
 Diploma of Financial Counselling
 Diploma of Community Services
 Diploma of Community Development
 Diploma of Alcohol and Other Drugs
 Diploma of Mental Health
 Diploma of Leisure and Health
 Advanced Diploma of Community Sector Management
 Graduate Diploma of Relationship Counselling
 Graduate Diploma of Family Dispute Resolution
 Graduate Certificate in Statutory Child Protection
 Graduate Certificate in Career Development Practice
 Graduate Certificate in Client Assessment and Case Management

Construction, Plumbing and Services

Certificate I in Construction
 Certificate II in Construction
 Certificate II in Construction Pathways
 Certificate II in Drainage
 Certificate II in Metal Roofing and Cladding
 Certificate II in Urban Irrigation
 Certificate III in Bricklaying/Blocklaying
 Certificate III in Carpentry



Certificate III in Demolition
 Certificate III in Dogging
 Certificate III in Painting and Decorating
 Certificate III in Rigging
 Certificate III in Roof Tiling
 Certificate III in Scaffolding
 Certificate III in Solid Plastering
 Certificate III in Steelfixing
 Certificate III in Wall and Ceiling Lining
 Certificate III in Wall and Floor Tiling
 Certificate III in Construction Waterproofing
 Certificate III in Formwork/Falsework
 Certificate III in Paving
 Certificate III in Post-Tensioning
 Certificate III in Joinery
 Certificate III in Carpentry and Joinery
 Certificate III in Joinery (Stairs)
 Certificate III in Stonemasonry (Monumental/Installation)
 Certificate III in Plumbing
 Certificate III in Plumbing (Mechanical Services)
 Certificate III in Roof Plumbing
 Certificate III in Gas Fitting
 Certificate III in Fire Protection
 Certificate III in Construction Crane Operations
 Certificate IV in Building and Construction (Building)
 Certificate IV in Building and Construction (Contract Administration)
 Certificate IV in Building and Construction (Estimating)
 Certificate IV in Building and Construction (Sales)
 Certificate IV in Building and Construction (Site Management)
 Certificate IV in Building and Construction (Specialist Trades)
 Certificate IV in Building and Construction (Trade Contracting)
 Certificate IV in Swimming Pool and Spa Building
 Certificate IV in Plumbing and Services
 Certificate IV in Demolition
 Diploma of Building and Construction (Building)
 Diploma of Building and Construction (Management)
 Diploma of Plumbing and Services
 Diploma of Fire Systems Design

Diploma of Hydraulic Services Design
 Advanced Diploma of Building and Construction (Management)
 Certificate III in Shopfitting
 Certificate III in Signs and Graphics
 Certificate III in Concreting
 Advanced Diploma of Building Surveying
 Graduate Certificate in Fire Systems Design Management
 Graduate Diploma of Building Surveying

Property Services

Certificate II in Surveying and Spatial Information Services
 Certificate II in Security Operations
 Certificate II in Cleaning
 Certificate III in Urban Pest Management
 Certificate III in Surveying and Spatial Information Services
 Certificate III in Cleaning Operations
 Certificate III in Strata Community Management
 Certificate III in Swimming Pool and Spa Service
 Certificate III in Security Operations
 Certificate III in Close Protection Operations
 Certificate IV in Building Design Drafting
 Certificate IV in Surveying
 Certificate IV in Spatial Information Services
 Certificate IV in Cleaning Management
 Certificate IV in Strata Community Management
 Diploma of Surveying
 Diploma of Spatial Information Services
 Diploma of Strata Community Management
 Advanced Diploma of Surveying
 Certificate II in Technical Security
 Certificate II in Waste Management
 Certificate II in Fire Protection Inspection and Testing
 Certificate III in Property Services (Agency)
 Certificate III in Property Services (Operations)
 Certificate III in Technical Security
 Certificate III in Investigative Services
 Certificate III in Waste Management
 Certificate III in Fire Protection Inspection and Testing



Certificate IV in Property Services (Real Estate)

Certificate IV in Property Services (Stock and Station Agency)

Certificate IV in Property Services (Business Broking)

Certificate IV in Property Services (Operations)

Certificate IV in Security and Risk Management

Certificate IV in Access Consulting

Certificate IV in Waste Management

Certificate IV in Home Sustainability Assessment

Certificate IV in NatHERS Assessment

Certificate IV in Swimming Pool and Spa Service

Diploma of Property Services (Agency Management)

Diploma of Property Services (Business Broking)

Diploma of Property Services (Asset and Facility Management)

Diploma of Security and Risk Management

Diploma of Access Consulting

Diploma of Waste Management

Diploma of Building Design

Diploma of Residential Building Energy Assessment

Advanced Diploma of Property Services (Asset and Facility Management)

Graduate Certificate in Building Design

Graduate Diploma of Building Design

Graduate Diploma of Access Consulting

Correctional Services

Certificate II in Justice Services

Certificate III in Correctional Practice

Certificate IV in Correctional Practice

Diploma of Correctional Administration

Advanced Diploma of Correctional Management

Creative Arts and Culture

Certificate I in Dance

Certificate I in Aboriginal and Torres Strait Islander Cultural Arts

Certificate I in Visual Arts

Certificate II in Dance

Certificate II in Creative Industries

Certificate II in Aboriginal and Torres Strait Islander Visual Arts Industry Work

Certificate II in Aboriginal and Torres Strait Islander Cultural Arts

Certificate II in Information and Cultural Services

Certificate II in Music Industry

Certificate II in Visual Arts

Certificate III in Dance

Certificate III in Community Dance, Theatre and Events

Certificate III in Assistant Dance Teaching

Certificate III in Live Production and Services

Certificate III in Aboriginal and Torres Strait Islander Cultural Arts

Certificate III in Arts Administration

Certificate III in Design Fundamentals

Certificate III in Broadcast Technology

Certificate III in Music Industry

Certificate III in Screen and Media

Certificate III in Visual Arts

Certificate IV in Dance

Certificate IV in Professional Writing and Editing

Certificate IV in Community Culture

Certificate IV in Dance Teaching and Management

Certificate IV in Live Production and Technical Services

Certificate IV in Musical Theatre

Certificate IV in Aboriginal and Torres Strait Islander Cultural Arts

Certificate IV in Design

Certificate IV in Arts Administration

Certificate IV in Music Industry

Certificate IV in Broadcast Technology

Certificate IV in Photography and Photo Imaging

Certificate IV in Screen and Media

Certificate IV in Visual Arts

Diploma of Dance (Elite Performance)

Diploma of Professional Writing and Editing

Diploma of Musical Theatre

Diploma of Dance Teaching and Management

Diploma of Live Production and Technical Services

Diploma of Live Production Design

Diploma of Aboriginal and Torres Strait Islander Visual Arts Industry Work

Diploma of Graphic Design

Diploma of Music Industry



Diploma of Photography and Photo Imaging
 Diploma of Screen and Media
 Diploma of Visual Arts
 Diploma of Ceramics
 Advanced Diploma of Dance (Elite Performance)
 Advanced Diploma of Live Production and Management Services
 Advanced Diploma of Graphic Design
 Advanced Diploma of Creative Product Development
 Advanced Diploma of Music Industry
 Advanced Diploma of Screen and Media
 Advanced Diploma of Visual Arts

Defence

Certificate I in Defence Force Cadets
 Certificate II in Military Skills
 Certificate II in Explosive Ordnance
 Certificate II in Explosive Ordnance Manufacture
 Certificate III in Field Petroleum Operations
 Certificate III in Preventive Health
 Certificate III in Air Dispatch
 Certificate III in Defence Public Affairs
 Certificate III in Explosive Ordnance Manufacture
 Certificate III in Explosive Ordnance Proof and Experimental
 Certificate III in Explosive Ordnance Maintenance
 Certificate III in Explosive Ordnance Operations
 Certificate III in Sensor Operations
 Certificate IV in Defence Public Affairs
 Certificate IV in Intelligence Operations
 Certificate IV in Psychological Support
 Certificate IV in Defence Reporting
 Certificate IV in Test and Evaluation
 Certificate IV in Preventive Health
 Certificate IV in Defence Paralegal Services
 Certificate IV in Defence Financial Administration
 Certificate IV in Performance Based Contracting
 Certificate IV in Explosive Ordnance Maintenance
 Certificate IV in Explosive Ordnance Proof and Experimental

Certificate IV in Explosive Ordnance Manufacture
 Certificate IV in Explosive Ordnance Operations
 Certificate IV in Electronic Forensics
 Certificate IV in Simulator Maintenance
 Certificate IV in Work Health Safety
 Certificate IV in Range Control
 Diploma of Test and Evaluation
 Diploma of Enterprise Architecture Practice
 Diploma of Compliance
 Diploma of Defence Paralegal Services
 Diploma of Defence Public Affairs
 Diploma of Preventive Health
 Diploma of Range Control and Management
 Diploma of Defence Financial Management
 Diploma of Leadership
 Diploma of Explosive Ordnance
 Diploma of Explosive Ordnance Manufacture
 Diploma of Explosive Ordnance Proof and Experimental
 Diploma of Electronic Forensics
 Diploma of Simulator Maintenance
 Diploma of Institutional and Operational Chaplaincy
 Diploma of Evaluations
 Graduate Certificate in Explosive Ordnance
 Graduate Diploma of Explosive Ordnance

Food, Beverage and Pharmaceutical

Certificate I in Food Processing
 Certificate I in Baking
 Certificate II in Food Processing
 Certificate II in Baking
 Certificate II in Food Processing (Sales)
 Certificate II in Pharmaceutical Manufacturing
 Certificate II in Wine Industry Operations
 Certificate II in Sugar Milling Support
 Certificate III in Food Processing
 Certificate III in Plant Baking
 Certificate III in Cake and Pastry
 Certificate III in Bread Baking
 Certificate III in Baking
 Certificate III in Food Processing (Sales)
 Certificate III in Rice Processing



Certificate III in Pharmaceutical Manufacturing
 Certificate III in Wine Industry Operations
 Certificate III in Sugar Milling Industry Operations
 Certificate IV in Flour Milling
 Certificate IV in Baking
 Certificate IV in Food Processing
 Certificate IV in Food Science and Technology
 Certificate IV in Pharmaceutical Manufacturing
 Diploma of Food Science and Technology
 Diploma of Food Safety Auditing

Financial Services

Certificate I in Financial Services
 Certificate II in Financial Services
 Certificate III in Financial Services
 Certificate III in Personal Injury Management
 Certificate III in Accounts Administration
 Certificate III in Mercantile Agents
 Certificate III in General Insurance
 Certificate III in Insurance Broking
 Certificate IV in Credit Management
 Certificate IV in Accounting and Bookkeeping
 Certificate IV in Financial Practice Support
 Certificate IV in Finance and Mortgage Broking
 Certificate IV in Superannuation
 Certificate IV in Financial Markets Operations
 Certificate IV in General Insurance
 Certificate IV in Life Insurance
 Certificate IV in Insurance Broking
 Certificate IV in Financial Services
 Certificate IV in Banking Services
 Certificate IV in Personal Injury Management
 Certificate IV in Personal Trust Administration
 Diploma of Accounting
 Diploma of Finance and Mortgage Broking Management
 Diploma of Payroll Services
 Diploma of Financial Planning
 Diploma of Superannuation
 Diploma of Integrated Risk Management
 Diploma of Banking Services Management

Diploma of Financial Markets
 Diploma of General Insurance
 Diploma of Insurance Broking
 Diploma of Life Insurance
 Diploma of Loss Adjusting
 Diploma of Credit Management
 Diploma of Securitisation
 Diploma of Financial Services
 Diploma of Personal Injury and Disability Insurance Management
 Diploma of Personal Trusts
 Advanced Diploma of Insurance Broking
 Advanced Diploma of Accounting
 Advanced Diploma of Financial Planning
 Advanced Diploma of Superannuation
 Advanced Diploma of Banking Services Management
 Advanced Diploma of Financial Licensing Management
 Advanced Diploma of Integrated Risk Management
 Graduate Diploma of Anti-Money Laundering and Counter Terrorism Financing

Foundational Skills

Certificate I in Access to Vocational Pathways
 Certificate I in Skills for Vocational Pathways
 Certificate II in Skills for Work and Vocational Pathways

Forest and Wood Products

Certificate I in Forest and Forest Products
 Certificate II in Forest Growing and Management
 Certificate II in Harvesting and Haulage
 Certificate II in Sawmilling and Processing
 Certificate II in Wood Panel Products
 Certificate II in Timber Manufactured Products
 Certificate II in Timber Merchandising
 Certificate II in Timber Truss and Frame Design and Manufacture
 Certificate III in Forest Growing and Management
 Certificate III in Harvesting and Haulage
 Certificate III in Sawmilling and Processing
 Certificate III in Wood Panel Products
 Certificate III in Timber Manufactured Products



Certificate III in Timber Merchandising
 Certificate III in Sawdoctoring
 Certificate III in Woodmachining
 Certificate III in Timber Truss and Frame Design and Manufacture
 Certificate IV in Forest Operations
 Certificate IV in Timber Processing
 Certificate IV in Timber Truss and Frame Manufacture
 Certificate IV in Timber Truss and Frame Design
 Diploma of Forest and Forest Products
 Diploma of Timber Truss and Frame Manufacture
 Diploma of Timber Truss and Frame Design
 Advanced Diploma of Forest Industry Sustainability

Health

Certificate II in Aboriginal and/or Torres Strait Islander Primary Health Care
 Certificate II in Medical Service First Response
 Certificate II in Health Support Services
 Certificate II in Population Health
 Certificate II in Indigenous Environmental Health
 Certificate III in Aboriginal and/or Torres Strait Islander Primary Health Care
 Certificate III in Ambulance Communications (Call-taking)
 Certificate III in Non-Emergency Patient Transport
 Certificate III in Basic Health Care
 Certificate III in Allied Health Assistance
 Certificate III in Health Services Assistance
 Certificate III in Health Support Services
 Certificate III in Dental Assisting
 Certificate III in Dental Laboratory Assisting
 Certificate III in Population Health
 Certificate III in Indigenous Environmental Health
 Certificate III in Sterilisation Services
 Certificate III in Hospital/Health Services Pharmacy Support
 Certificate III in Pathology Collection
 Certificate III in Health Administration
 Certificate III in Pathology Assistance

Certificate IV in Aboriginal and/or Torres Strait Islander Primary Health Care
 Certificate IV in Aboriginal and/or Torres Strait Islander Primary Health Care Practice
 Certificate IV in Ambulance Communications (Dispatch)
 Certificate IV in Health Care
 Certificate IV in Massage Therapy
 Certificate IV in Allied Health Assistance
 Certificate IV in Dental Assisting
 Certificate IV in Population Health
 Certificate IV in Indigenous Environmental Health
 Certificate IV in Sterilisation Services
 Certificate IV in Hospital/Health Services Pharmacy Support
 Certificate IV in Health Administration
 Certificate IV in Audiometry
 Certificate IV in Operating Theatre Technical Support
 Certificate IV in Cardiac Technology
 Certificate IV in Medical Practice Assisting
 Certificate IV in Optical Dispensing
 Diploma of Aboriginal and/or Torres Strait Islander Primary Health Care
 Diploma of Aboriginal and/or Torres Strait Islander Primary Health Care Practice
 Diploma of Paramedical Science
 Diploma of Remedial Massage
 Diploma of Traditional Chinese Medicine (TCM) Remedial Massage
 Diploma of Shiatsu and Oriental Therapies
 Diploma of Clinical Aromatherapy
 Diploma of Kinesiology
 Diploma of Reflexology
 Diploma of Ayurvedic Lifestyle Consultation
 Diploma of Nursing
 Diploma of Dental Technology
 Diploma of Audiometry
 Diploma of Practice Management
 Diploma of Anaesthetic Technology
 Advanced Diploma of Aboriginal and/or Torres Strait Islander Health Care
 Advanced Diploma of Ayurveda
 Advanced Diploma of Nursing
 Advanced Diploma of Dental Prosthetics



Printing and Graphic Arts

Certificate II in Printing and Graphic Arts (General)
 Certificate III in Printing
 Certificate III in Print Manufacturing
 Certificate III in Print Communications
 Certificate IV in Printing and Graphic Arts
 Certificate IV in Printing and Graphic Arts (Mail House)
 Certificate IV in ePublishing
 Diploma of Printing and Graphic Arts

Information and Communications Technology

Certificate I in Information, Digital Media and Technology
 Certificate II in Information, Digital Media and Technology
 Certificate II in Telecommunications Network Build and Operate
 Certificate II in Telecommunications Technology
 Certificate III in Information, Digital Media and Technology
 Certificate III in Telecommunications Digital Reception Technology
 Certificate III in Telecommunications Rigging Installation
 Certificate III in Telecommunications Network Build and Operate
 Certificate III in Telecommunications Technology
 Certificate IV in Information Technology
 Certificate IV in Information Technology Support
 Certificate IV in Web-Based Technologies
 Certificate IV in Information Technology Networking
 Certificate IV in Programming
 Certificate IV in Digital Media Technologies
 Certificate IV in Digital and Interactive Games
 Certificate IV in Computer Systems Technology
 Certificate IV in Telecommunications Network Design
 Certificate IV in Telecommunications Engineering Technology
 Diploma of Information Technology
 Diploma of Digital and Interactive Games

Diploma of Information Technology Systems Administration
 Diploma of Information Technology Networking
 Diploma of Database Design and Development
 Diploma of Website Development
 Diploma of Software Development
 Diploma of Systems Analysis and Design
 Diploma of Digital Media Technologies
 Diploma of Telecommunications Engineering
 Diploma of Telecommunications Planning and Design
 Advanced Diploma of Information Technology
 Advanced Diploma of Network Security
 Advanced Diploma of Information Technology Business Analysis
 Advanced Diploma of Information Technology Project Management
 Advanced Diploma of Computer Systems Technology
 Advanced Diploma of Telecommunications Network Engineering
 Graduate Certificate in Information Technology and Strategic Management
 Graduate Certificate in Telecommunications
 Graduate Diploma of Telecommunications Network Engineering
 Graduate Diploma of Telecommunications and Strategic Management
 Graduate Certificate in Telecommunications Network Engineering

Local Government

Certificate I in Local Government
 Certificate I in Local Government (Operational Works)
 Certificate II in Local Government
 Certificate II in Local Government (Operational Works)
 Certificate III in Local Government
 Certificate III in Local Government (Health and Environment)
 Certificate III in Local Government (Operational Works)
 Certificate III in Local Government (Regulatory Services)
 Certificate IV in Local Government



Certificate IV in Local Government Administration
 Certificate IV in Local Government (Health and Environment)
 Certificate IV in Local Government (Operational Works)
 Certificate IV in Local Government (Regulatory Services)
 Certificate IV in Local Government (Land Management)
 Certificate IV in Local Government (Planning)
 Diploma of Local Government Administration
 Diploma of Local Government (Health and Environment)
 Diploma of Local Government (Operational Works)
 Diploma of Local Government (Planning)
 Diploma of Local Government (Regulatory Services)
 Diploma of Local Government Advanced Diploma of Local Government (Operational Works)
 Graduate Certificate in Local Government Management

Textiles, Clothing and Footwear

Certificate I in Textiles Clothing and Footwear
 Certificate II in Cotton Ginning
 Certificate III in Cotton Ginning
 Certificate III in Engineering - TCF Mechanic
 Certificate III in Digitising and Computerised Embroidery
 Certificate IV in Cotton Ginning
 Certificate IV in Laundry Operations and Supervision
 Certificate IV in Supply and Fitting of Pre-manufactured Medical Grade Footwear
 Diploma of Medical Grade Footwear
 Diploma of Textile Technology and Production Management
 Advanced Diploma of Medical Grade Footwear

Maritime

Certificate I in Maritime Operations (General Purpose Hand Near Coastal)
 Certificate I in Maritime Operations (Coxswain Grade 2 Near Coastal)

Certificate II in Maritime Operations (Linesperson)
 Certificate II in Maritime Operations (Coxswain Grade 1 Near Coastal)
 Certificate II in Maritime Operations (Marine Engine Driver Grade 3 Near Coastal)
 Certificate III in Maritime Operations (Marine Engine Driver Steam)
 Certificate III in Maritime Operations (Marine Surveying)
 Certificate III in Maritime Operations (Integrated Rating)
 Certificate III in Marina Operations
 Certificate III in Maritime Operations (Marine Cookery)
 Certificate III in Maritime Operations (Marine Engine Driver Grade 2 Near Coastal)
 Certificate III in Maritime Operations (Master up to 24 metres Near Coastal)
 Certificate III in Maritime Operations (Master Inland Waters)
 Certificate IV in Maritime Operations (Marine Surveying)
 Certificate IV in Maritime Operations (Chief Integrated Rating)
 Certificate IV in Maritime Operations (Marine Engine Driver Grade 1 Near Coastal)
 Certificate IV in Maritime Operations (Master up to 35 metres Near Coastal)
 Diploma of Maritime Operations (Engineer Watchkeeper)
 Diploma of Maritime Operations (Marine Surveying)
 Diploma of Maritime Operations (Watchkeeper Deck)
 Diploma of Maritime Operations (Master up to 500 GT)
 Diploma of Maritime Operations (Marine Engineering Class 3 Near Coastal)
 Diploma of Maritime Operations (Master up to 80 metres Near Coastal)
 Advanced Diploma of Maritime Operations (Marine Engineering Class 2)
 Advanced Diploma of Maritime Operations (Marine Engineering Class 1)
 Advanced Diploma of Maritime Operations (Master Unlimited)



Aeroskills

Certificate II in Aeroskills
 Certificate II in Aircraft Line Maintenance
 Certificate II in Aircraft Surface Finishing
 Certificate III in Aircraft Surface Finishing
 Certificate III in Aeroskills (Mechatronics)
 Certificate III in Aircraft Life Support and Furnishing
 Certificate IV in Aeroskills (Avionics)
 Certificate IV in Aeroskills (Mechanical)
 Certificate IV in Aircraft Surface Finishing
 Certificate IV in Aeroskills (Mechatronics)
 Certificate IV in Aeronautical Life Support Equipment
 Certificate IV in Aeroskills (Armament)
 Certificate IV in Aeroskills (Structures)
 Diploma of Aeroskills (Avionics)
 Diploma of Aeroskills (Mechanical)
 Diploma of Aviation Maintenance Management (Avionics)
 Diploma of Aviation Maintenance Management (Mechanical)
 Diploma of Aeroskills (Non-Destructive Testing)
 Diploma of Aeronautical Engineering
 Diploma of Avionic Engineering
 Advanced Diploma of Aviation Maintenance Management (Avionics)
 Advanced Diploma of Aviation Maintenance Management (Mechanical)
 Advanced Diploma of Aviation Non-Destructive Testing
 Advanced Diploma of Aeronautical Engineering
 Advanced Diploma of Avionic Engineering

Manufacturing and Engineering

Certificate III in Engineering - Industrial Electrician

Metal and Engineering

Certificate I in Engineering
 Certificate I in Boating Services
 Certificate II in Engineering
 Certificate II in Engineering - Production Technology
 Certificate II in Boating Services
 Certificate II in Engineering Pathways
 Certificate III in Engineering - Production Systems
 Certificate III in Engineering - Mechanical Trade

Certificate III in Engineering - Fabrication Trade
 Certificate III in Engineering - Electrical/Electronic Trade
 Certificate III in Engineering - Technical
 Certificate III in Jewellery Manufacture
 Certificate III in Marine Craft Construction
 Certificate III in Locksmithing
 Certificate III in Boating Services
 Certificate III in Watch and Clock Service and Repair
 Certificate III in Engineering - Composites Trade
 Certificate IV in Engineering
 Certificate IV in Boating Services
 Certificate IV in Advanced Jewellery Manufacture
 Certificate IV in Engineering Drafting
 Diploma of Engineering - Advanced Trade
 Diploma of Engineering - Technical
 Diploma of Jewellery and Object Design
 Advanced Diploma of Engineering
 Advanced Diploma of Jewellery and Object Design
 Graduate Diploma of Engineering

Manufacturing

Certificate III in Manufacturing Technology
 Certificate IV in Manufacturing Technology
 Diploma of Manufacturing Technology
 Advanced Diploma of Manufacturing Technology

Furnishing

Certificate I in Furnishing
 Certificate II in Furnishing
 Certificate II in Furniture Finishing
 Certificate II in Furniture Making
 Certificate II in Glass and Glazing
 Certificate II in Furniture Making Pathways
 Certificate III in Furniture Finishing
 Certificate III in Furniture Making
 Certificate III in Timber and Composites Machining
 Certificate III in Glass and Glazing
 Certificate III in Picture Framing
 Certificate III in Soft Furnishing
 Certificate III in Upholstery
 Certificate III in Flooring Technology
 Certificate III in Blinds, Awnings, Security Screens and Grilles
 Certificate III in Interior Decoration Retail Services



Certificate III in Cabinet Making
 Certificate III in Piano Technology
 Certificate IV in Interior Decoration
 Certificate IV in Furniture Design and Technology
 Certificate IV in Kitchen and Bathroom Design
 Certificate IV in Glass and Glazing
 Diploma of Stained Glass and Leadlighting
 Diploma of Interior Design
 Diploma of Furniture Design and Technology
 Advanced Diploma of Interior Design

Laboratory Operations

Certificate II in Sampling and Measurement
 Certificate III in Laboratory Skills
 Certificate IV in Laboratory Techniques
 Diploma of Laboratory Technology
 Advanced Diploma of Laboratory Operations

Manufacturing

Certificate I in Process Manufacturing
 Certificate I in Manufacturing (Pathways)
 Certificate II in Process Manufacturing
 Certificate II in Manufacturing Technology
 Certificate II in Recreational Vehicle Service and Repair
 Certificate II in Recreational Vehicle Manufacturing
 Certificate III in Process Manufacturing
 Certificate III in Surface Preparation and Coating Application
 Certificate III in Manufactured Mineral Products
 Certificate III in Fenestration
 Certificate III in Recreational Vehicle Service and Repair
 Certificate III in Recreational Vehicle Manufacturing
 Certificate III in Recreational Vehicle and Accessories Retailing
 Certificate IV in Process Manufacturing
 Certificate IV in Recreational Vehicles
 Certificate IV in Recreational Vehicle and Accessories Retailing
 Diploma of Production Management
 Diploma of Recreational Vehicles

Sustainability

Certificate II in Competitive Systems and Practices
 Certificate III in Competitive Systems and Practices
 Certificate IV in Sustainable Operations
 Certificate IV in Environmental Monitoring and Technology
 Certificate IV in Competitive Systems and Practices
 Diploma of Sustainable Operations
 Diploma of Environmental Monitoring and Technology
 Diploma of Competitive Systems and Practices
 Advanced Diploma of Competitive Systems and Practices
 Graduate Certificate in Sustainable Operations
 Graduate Certificate in Environmental Management
 Graduate Certificate in Competitive Systems and Practices
 Graduate Diploma of Competitive Systems and Practices

Textiles, Clothing and Footwear

Certificate II in TCF Production Support
 Certificate II in TCF Production Operations
 Certificate II in Leather Production
 Certificate II in Laundry Operations
 Certificate II in TCF Services and Repair
 Certificate II in Applied Fashion Design and Technology
 Certificate III in Clothing and Textile Production
 Certificate III in Manufactured Textile Products
 Certificate III in Millinery
 Certificate III in Footwear
 Certificate III in Leather Production
 Certificate III in Laundry Operations
 Certificate III in Dry Cleaning Operations
 Certificate III in Applied Fashion Design and Technology
 Certificate IV in Textile Design, Development and Production
 Certificate IV in Clothing Production
 Certificate IV in Custom-Made Footwear
 Certificate IV in Millinery
 Certificate IV in Applied Fashion Design and Merchandising



Diploma of Applied Fashion Design and Merchandising
 Diploma of Textile Design and Development
 Advanced Diploma of Applied Fashion Design and Merchandising
 Advanced Diploma of Textile Design and Development

National Water

Certificate II in Water Industry Operations
 Certificate III in Water Industry Operations
 Certificate III in Water Industry Treatment
 Certificate III in Water Industry Irrigation
 Certificate IV in Water Industry Operations
 Certificate IV in Water Industry Treatment
 Diploma of Water Industry Operations

Chemical, Hydrocarbons and Refining

Certificate II in Process Plant Operations
 Certificate III in Process Plant Operations
 Certificate IV in Process Plant Technology
 Diploma of Process Plant Technology
 Advanced Diploma of Process Plant Technology

Plastics, Rubber and Cablemaking

Certificate II in Polymer Processing
 Certificate III in Polymer Processing
 Certificate IV in Polymer Technology
 Diploma of Polymer Technology
 Advanced Diploma of Polymer Technology

Police

Certificate II in Community Engagement
 Certificate III in Aboriginal Community Policing
 Certificate III in Police Liaison
 Certificate IV in Aboriginal Community Policing
 Certificate IV in Protective Services
 Diploma of Policing
 Diploma of Police Bomb Technical Response
 Diploma of Police Intelligence Practice
 Diploma of Forensic Investigation
 Diploma of Police Search and Rescue Coordination (Marine/Land)
 Advanced Diploma of Police Supervision
 Advanced Diploma of Human Source Management
 Advanced Diploma of Police Intelligence Operations

Advanced Diploma of Police Witness Protection
 Advanced Diploma of Surveillance
 Advanced Diploma of Undercover Operations (Operative/Controller)
 Advanced Diploma of Police Close Personal Protection
 Advanced Diploma of Forensic Investigation
 Advanced Diploma of Police Investigation
 Advanced Diploma of Police Negotiation
 Advanced Diploma of Police Search and Rescue Management
 Graduate Certificate in Police Management
 Graduate Certificate in Forensic Firearm Examination
 Graduate Certificate in Forensic Fingerprint Investigation
 Graduate Certificate in Crime Scene Investigation
 Graduate Certificate in Police Prosecution

Pulp & Paper Manufacturing Industry

Certificate II in Pulping Operations
 Certificate II in Papermaking Operations
 Certificate III in Pulping Operations
 Certificate III in Papermaking Operations
 Certificate IV in Pulping Operations
 Certificate IV in Papermaking Operations
 Diploma of Pulp and Paper Process Management

Public Sector

Certificate II in Government
 Certificate II in Auslan
 Certificate III in Government
 Certificate III in Auslan
 Certificate IV in Government
 Certificate IV in Court Operations
 Certificate IV in Government Security
 Certificate IV in Government Investigations
 Certificate IV in Trade Measurement
 Certificate IV in Procurement and Contracting
 Certificate IV in Heavy Vehicle Road Compliance
 Certificate IV in Auslan
 Diploma of Government
 Diploma of Court Operations
 Diploma of Government Security
 Diploma of Government Investigations



Diploma of Trade Measurement
 Diploma of Procurement and Contracting
 Diploma of Fraud Control
 Diploma of Translating
 Diploma of Interpreting (LOTE-English)
 Diploma of Auslan
 Advanced Diploma of Government
 (Workplace inspection/
 Investigations/Fraud control)
 Advanced Diploma of Procurement and
 Contracting
 Advanced Diploma of Translating
 Advanced Diploma of Interpreting (LOTE-
 English)
 Graduate Certificate in Strategic
 Procurement
 Graduate Certificate in Radiation Safety

Public Safety

Certificate II in Public Safety (Aboriginal or
 Torres Strait Islander Community Policing)
 Certificate II in Public Safety (Firefighting
 and Emergency Operations)
 Certificate II in Public Safety (Firefighting
 Operations)
 Certificate II in Public Safety (Aquatic
 Rescue)
 Certificate II in Public Safety (SES)
 Certificate III in Public Safety (SES
 Rescue)
 Certificate III in Public Safety (SES
 Operations)
 Certificate III in Public Safety (Firefighting
 and Emergency Operations)
 Certificate III in Public Safety (Firefighting
 Operations)
 Certificate III in Public Safety (Aquatic
 Search and Rescue)
 Certificate III in Public Safety (Community
 Safety)
 Certificate III in Public Safety (Emergency
 Communications Centre Operations)
 Certificate III in Public Safety (Biosecurity
 Response Operations)
 Certificate IV in Public Safety (SES
 Leadership)
 Certificate IV in Public Safety (Firefighting
 Supervision)
 Certificate IV in Public Safety (Leadership)
 Certificate IV in Public Safety (Community
 Safety)

Certificate IV in Public Safety (Disaster
 Victim Identification Operations)
 Certificate IV in Public Safety (Aquatic
 Search and Rescue Management)
 Certificate IV in Public Safety (Emergency
 Communications Centre Operations)
 Certificate IV in Public Safety (Biosecurity
 Response Leadership)
 Diploma of Public Safety (SES Operations
 Management)
 Diploma of Public Safety (Firefighting
 Management)
 Diploma of Public Safety (Search and
 Rescue - Coordination)
 Diploma of Public Safety (Community
 Safety)
 Diploma of Public Safety (Human Source
 Management)
 Diploma of Public Safety (Mounted
 Policing)
 Diploma of Public Safety (Police Dog
 Handling - General Purpose or Specific
 Odour)
 Diploma of Public Safety (Emergency
 Management)
 Diploma of Public Safety (Biosecurity
 Response Management)
 Advanced Diploma of Public Safety
 (Emergency Management)
 Advanced Diploma of Public Safety
 (Firefighting Management)
 Advanced Diploma of Public Safety
 (Search and Rescue - Management)
 Advanced Diploma of Public Safety
 (Community Safety)
 Advanced Diploma of Public Safety (Fire
 Investigation)
 Advanced Diploma of Public Safety
 (Disaster victim identification coordination)
 Advanced Diploma of Public Safety
 (Tactical Flight Operations - Helicopter or
 Surveillance)
 Graduate Certificate in Public Safety
 (Police Investigation)

Racing and Breeding

Certificate I in Racing (Stablehand)
 Certificate II in Racing (Greyhound)
 Certificate II in Racing Industry
 Certificate III in Racing (Greyhound)
 Certificate III in Racing (Stablehand)



Certificate III in Racing (Driving Stablehand)
 Certificate III in Racing Services
 Certificate III in Racing (Trackwork Rider)
 Certificate IV in Racing (Racehorse Trainer)
 Certificate IV in Racing (Jockey)
 Certificate IV in Racing (Harness Race Driver)
 Certificate IV in Racing (Greyhound Trainer)
 Certificate IV in Racing Integrity
 Diploma of Racing (Racehorse Trainer)
 Diploma of Racing Integrity Management

Resources and Infrastructure Safety

Certificate I in Resources and Infrastructure Operations
 Certificate II in Resources and Infrastructure Work Preparation
 Certificate II in Surface Extraction Operations
 Certificate II in Underground Coal Mining
 Certificate II in Underground Metalliferous Mining
 Certificate II in Resource Processing
 Certificate II in Mining / Field Exploration
 Certificate II in Civil Construction
 Certificate II in Bituminous Surfacing
 Certificate II in Drilling Operations
 Certificate II in Drilling Oil/Gas (Offshore)
 Certificate II in Drilling Oil/Gas (On shore)
 Certificate II in Well Servicing Operations
 Certificate II in Cross Industry Operations
 Certificate III in Surface Extraction Operations
 Certificate III in Underground Coal Operations
 Certificate III in Underground Metalliferous Mining
 Certificate III in Resource Processing
 Certificate III in Mining Exploration
 Certificate III in Small Mining Operations
 Certificate III in Mine Emergency Response and Rescue
 Certificate III in Civil Construction Plant Operations
 Certificate III in Civil Construction
 Certificate III in Civil Foundations
 Certificate III in Trenchless Technology
 Certificate III in Drilling Operations

Certificate III in Drilling Oil & Gas (Off shore)
 Certificate III in Drilling Oil/Gas (Onshore)
 Certificate III in Well Servicing Operations
 Certificate IV in Surface Extraction Operations
 Certificate IV in Surface Coal Mining (Open Cut Examiner)
 Certificate IV in Metalliferous Mining Operations (Underground)
 Certificate IV in Underground Coal Operations
 Certificate IV in Resource Processing
 Certificate IV in Civil Construction Operations
 Certificate IV in Civil Construction Supervision
 Certificate IV in Civil Construction Design
 Certificate IV in Drilling Operations
 Certificate IV in Drilling Oil & Gas (Off shore)
 Certificate IV in Drilling Oil & Gas (On shore)
 Certificate IV in Well Servicing Operations
 Diploma of Surface Operations Management
 Diploma of Underground Metalliferous Mining Management
 Diploma of Minerals Processing
 Diploma of Civil Construction Management
 Diploma of Civil Construction Design
 Diploma of Drilling Operations
 Diploma of Drilling Oil & Gas (Off shore)
 Diploma of Drilling Oil & Gas (On shore)
 Diploma of Underground Coal Mining Management
 Diploma of Well Servicing Operations
 Advanced Diploma of Metalliferous Mining
 Advanced Diploma of Extractive Industries Management
 Advanced Diploma of Underground Coal Mining Management
 Advanced Diploma of Drilling Management
 Advanced Diploma of Civil Construction Design
 Advanced Diploma of Civil Construction
 Advanced Diploma of Surface Coal Mining Management



Seafood Industry

Certificate I in Aquaculture
 Certificate I in Fishing Operations
 Certificate I in Seafood Processing
 Certificate II in Aquaculture
 Certificate II in Fishing Operations
 Certificate II in Fisheries Compliance Support
 Certificate II in Seafood Processing
 Certificate II in Seafood Industry (Sales and Distribution)
 Certificate III in Aquaculture
 Certificate III in Fishing Operations
 Certificate III in Seafood Industry (Environmental Management Support)
 Certificate III in Fisheries Compliance
 Certificate III in Seafood Processing
 Certificate III in Seafood Industry (Sales and Distribution)
 Certificate IV in Aquaculture
 Certificate IV in Fishing Operations
 Certificate IV in Seafood Industry (Environmental Management)
 Certificate IV in Fisheries Compliance
 Certificate IV in Seafood Processing
 Certificate IV in Seafood Industry Sales and Distribution
 Diploma of Aquaculture
 Diploma of Fishing Operations
 Diploma of Fisheries Compliance
 Diploma of Seafood Processing

Floristry

Certificate II in Floristry (Assistant)
 Certificate III in Floristry
 Certificate IV in Floristry
 Diploma of Floristry Design

Hairdressing and Beauty Services

Certificate II in Retail Cosmetics
 Certificate II in Salon Assistant
 Certificate III in Beauty Services
 Certificate III in Make-Up
 Certificate III in Nail Technology
 Certificate III in Hairdressing
 Certificate III in Barbering
 Certificate IV in Beauty Therapy
 Certificate IV in Hairdressing
 Diploma of Beauty Therapy
 Diploma of Salon Management
 Advanced Diploma of Intense Pulsed Light and Laser for Hair Reduction

Graduate Certificate in Hairdressing
 Creative Leadership

Funeral Services

Certificate I in Funeral Services
 Certificate II in Funeral Operations
 Certificate III in Cemetery and Crematorium Operations
 Certificate III in Gravedigging, Grounds and Maintenance
 Certificate III in Funeral Operations
 Certificate IV in Funeral Services
 Certificate IV in Embalming
 Diploma of Funeral Services Management

Retail Services

Certificate I in Retail Services
 Certificate II in Community Pharmacy
 Certificate II in Retail Services
 Certificate III in Community Pharmacy
 Certificate III in Retail
 Certificate III in Business to Business Sales
 Certificate IV in Community Pharmacy
 Certificate IV in Community Pharmacy Dispensary
 Certificate IV in Retail Management
 Diploma of Retail Leadership
 Diploma of Visual Merchandising
 Diploma of Retail Merchandise Management

Sport, Fitness and Recreation

Certificate I in Sport and Recreation
 Certificate II in Sport and Recreation
 Certificate III in Sport and Recreation
 Certificate III in Fitness
 Certificate III in Aquatics and Community Recreation
 Certificate IV in Sport and Recreation
 Certificate IV in Fitness
 Diploma of Sport and Recreation Management
 Diploma of Fitness
 Certificate II in Outdoor Recreation
 Certificate II in Sport Career Oriented Participation
 Certificate II in Sport Coaching
 Certificate III in Outdoor Recreation
 Certificate III in Sport Career Oriented Participation
 Certificate III in Sport Coaching
 Certificate III in Sports Trainer



Certificate III in Sport Officiating
Certificate IV in Outdoor Recreation
Certificate IV in Sport Coaching
Certificate IV in Sport Development
Diploma of Outdoor Recreation
Diploma of Sport Coaching
Diploma of Sport Development



Tourism, Travel and Hospitality

- Certificate I in Tourism (Australian Indigenous Culture)
- Certificate I in Hospitality
- Certificate II in Tourism
- Certificate II in Holiday Parks and Resorts
- Certificate II in Hospitality
- Certificate II in Kitchen Operations
- Certificate II in Asian Cookery
- Certificate III in Tourism
- Certificate III in Travel
- Certificate III in Guiding
- Certificate III in Holiday Parks and Resorts
- Certificate III in Events
- Certificate III in Hospitality
- Certificate III in Hospitality (Restaurant Front of House)
- Certificate III in Commercial Cookery
- Certificate III in Catering Operations
- Certificate III in Patisserie
- Certificate III in Asian Cookery
- Certificate IV in Travel and Tourism
- Certificate IV in Guiding
- Certificate IV in Holiday Parks and Resorts
- Certificate IV in Hospitality
- Certificate IV in Commercial Cookery
- Certificate IV in Catering Operations
- Certificate IV in Patisserie
- Certificate IV in Asian Cookery
- Diploma of Travel and Tourism Management
- Diploma of Holiday Park and Resort Management
- Diploma of Event Management
- Diploma of Hospitality Management
- Advanced Diploma of Travel and Tourism Management
- Advanced Diploma of Event Management
- Advanced Diploma of Hospitality Management

Training and Education

- Certificate IV in Training and Assessment
- Diploma of Vocational Education and Training
- Diploma of Training Design and Development
- Graduate Diploma of Adult Language, Literacy and Numeracy Practice
- Graduate Diploma of Adult Language, Literacy and Numeracy Leadership

Graduate Certificate in Digital Education

Transport and Logistics

- Certificate I in Transport and Logistics (Pathways)
- Certificate I in Warehousing Operations
- Certificate I in Logistics
- Certificate II in Road Transport Terminal Operations
- Certificate II in Driving Operations
- Certificate II in Rail Infrastructure
- Certificate II in Stevedoring
- Certificate II in Warehousing Operations
- Certificate II in Logistics
- Certificate II in Track Protection
- Certificate II in Shunting
- Certificate II in Rail Track Vehicle Driving
- Certificate II in Tram or Light Rail Infrastructure
- Certificate II in Rail Customer Service
- Certificate II in Furniture Removal
- Certificate III in Mobile Crane Operations
- Certificate III in Driving Operations
- Certificate III in International Freight Forwarding (Operator)
- Certificate III in Rail Driving
- Certificate III in Warehousing Operations
- Certificate III in Rail Track Surfacing
- Certificate III in Mechanical Rail Signalling
- Certificate III in Rail Structures
- Certificate III in Electric Passenger Train Guard
- Certificate III in Logistics
- Certificate III in Rail Infrastructure
- Certificate III in Rail Signalling
- Certificate III in Track Protection
- Certificate III in Rail Yard Coordination
- Certificate III in Tram or Light Rail Infrastructure
- Certificate III in Heritage Locomotive Assistant or Steam Locomotive Fireman
- Certificate III in Rail Customer Service
- Certificate III in Terminal Train Driving
- Certificate III in Furniture Removal
- Certificate III in Waste Driving Operations
- Certificate III in Stevedoring
- Certificate IV in Rail Safety Investigation
- Certificate IV in Transport Scheduling
- Certificate IV in Mobile Crane Operations
- Certificate IV in Transport and Logistics (Road Transport - Car Driving Instruction)



Certificate IV in Transport and Logistics (Road Transport - Heavy Vehicle Driving Instruction)
 Certificate IV in Transport and Logistics (Road Transport - Motorcycle Riding Instruction)
 Certificate IV in Materiel Logistics
 Certificate IV in International Freight Forwarding (Senior Operator)
 Certificate IV in Stevedoring Operations
 Certificate IV in Warehousing Operations
 Certificate IV in Logistics
 Certificate IV in Driving Operations
 Certificate IV in Rail Network Control
 Certificate IV in Rail Infrastructure
 Certificate IV in Rail Safety Management
 Certificate IV in Traffic Operations
 Certificate IV in Train Driving
 Certificate IV in Tram/Light Rail Control
 Diploma of Materiel Logistics
 Diploma of International Freight Forwarding
 Diploma of Logistics
 Diploma of Deployment Logistics
 Diploma of Rail Operations Management
 Diploma of Bus and Coach Operations
 Diploma of Customs Broking
 Advanced Diploma of Materiel Logistics
 Advanced Diploma of Deployment Logistics
 Certificate II in Split Air-conditioning and Heat Pump Systems
 Certificate III in Air-conditioning and Refrigeration
 Certificate IV in Air-conditioning and Refrigeration Servicing
 Certificate IV in Air-conditioning Systems Energy Management and Control
 Certificate IV in Refrigeration and Air-conditioning Systems
 Diploma of Engineering Technology - Refrigeration and Air-conditioning
 Diploma of Air-conditioning and Refrigeration Engineering
 Advanced Diploma of Electrical - Engineering
 Advanced Diploma of Electrical Engineering - Coal Mining
 Advanced Diploma of Engineering Technology - Air-conditioning and Refrigeration

Advanced Diploma of Air-conditioning and Refrigeration Engineering

Electrotechnology

Certificate I in ElectroComms Skills
 Certificate II in Winding and Assembly
 Certificate II in Computer Assembly and Repair
 Certificate II in Data and Voice Communications
 Certificate II in Electrical Wholesaling
 Certificate II in Electronic Assembly
 Certificate II in Fire Alarms Servicing
 Certificate II in Antennae Equipment
 Certificate II in Remote Area Power Supply Maintenance
 Certificate II in Security Assembly and Set-up
 Certificate II in Technical Support
 Certificate II in Electronics
 Certificate II in Electrotechnology (Career Start)
 Certificate II in Sustainable Energy (Career Start)
 Certificate III in Business Equipment
 Certificate III in Computer Systems Equipment
 Certificate III in Custom Electronics Installations
 Certificate III in Data and Voice Communications
 Certificate III in Electrical Machine Repair
 Certificate III in Switchgear and Controlgear
 Certificate III in Electrotechnology Electrician
 Certificate III in Electronics and Communications
 Certificate III in Fire Protection Control
 Certificate III in Gaming Electronics
 Certificate III in Instrumentation and Control
 Certificate III in Security Equipment
 Certificate III in Rail - Communications and Networks
 Certificate III in Renewable Energy - ELV
 Certificate III in Appliance Service
 Certificate III in Electrical Fitting
 Certificate IV in Computer Systems
 Certificate IV in Electrical - Data and Voice Communications



Certificate IV in Installation Inspection and Audits
 Certificate IV in Electrical - Instrumentation
 Certificate IV in Electrical - Air-conditioning Split Systems
 Certificate IV in Electrotechnology - Systems Electrician
 Certificate IV in Electronics and Communications
 Certificate IV in Electrical - Fire Protection Control Systems
 Certificate IV in Industrial Electronics and Control
 Certificate IV in Energy Management and Control
 Certificate IV in Electrical - Lift Systems
 Certificate IV in Electrical - Rail Signalling
 Certificate IV in Video and Audio Systems
 Certificate IV in Renewable Energy
 Certificate IV in Rail - Communications and Network Systems
 Certificate IV in Electrical - Renewable Energy
 Certificate IV in Electrical - Photovoltaic systems
 Certificate IV in Electrotechnology - Electrical Contracting
 Certificate IV in Instrumentation and Control
 Certificate IV in Hazardous areas - Electrical
 Certificate IV in Electrical Equipment and Systems
 Certificate IV in Energy Efficiency and Assessment
 Certificate IV in Industrial Automation and Control
 Diploma of Computer Systems Engineering
 Diploma of Electrical and Instrumentation
 Diploma of Electrical and Refrigeration and Air-conditioning
 Diploma of Electrical Engineering
 Diploma of Electronics and Communications Engineering
 Diploma of Renewable Energy Engineering
 Diploma of Research and Development
 Diploma of Industrial Electronics and Control Engineering

Diploma of Instrumentation and Control Engineering
 Diploma of Electrical Systems Engineering
 Advanced Diploma of Electronics and Communications Engineering
 Advanced Diploma of Computer Systems Engineering
 Advanced Diploma of Industrial Electronics and Control Engineering
 Advanced Diploma of Renewable Energy Engineering
 Advanced Diploma of Automated Systems Maintenance Engineering
 Advanced Diploma of Engineering - Explosion protection
 Advanced Diploma of Instrumentation and Control Engineering
 Advanced Diploma of Engineering Technology - Electronics
 Advanced Diploma of Engineering Technology - Computer Systems
 Advanced Diploma of Engineering Technology - Renewable Energy
 Advanced Diploma of Engineering Technology - Electrical
 Advanced Diploma of Electrical Systems Engineering

Gas Industry

Certificate II in Gas Supply Industry Operations
 Certificate III in Gas Supply Industry Operations
 Certificate IV in Gas Supply Industry Operations
 Diploma of Gas Supply Industry Operations
 Advanced Diploma of Gas Supply Industry Operations

Electricity Supply Industry - Generation Sector

Certificate II in ESI Generation - Operations Support
 Certificate II in Remote Area Essential Service
 Certificate III in ESI Generation - Systems Operations
 Certificate III in ESI Generation - Operations
 Certificate IV in ESI Generation - Systems Operations



Certificate IV in ESI Generation -
Operations
Certificate IV in ESI Generation
Maintenance - Electrical Electronics
Certificate IV in ESI Generation
Maintenance (Fabrication)
Certificate IV in ESI Generation
Maintenance (Mechanical)
Certificate IV in Large Scale Wind
Generation - Electrical
Diploma of ESI Generation - Systems
Operations
Diploma of ESI Generation - Operations
Diploma of ESI Generation (Maintenance)
Diploma of ESI Generation Maintenance -
Electrical Electronic

**Transmission, Distribution and Rail
Sector**

Certificate II in National Broadband
Network Cabling (Electricity Supply
Industry Assets)
Certificate II in ESI - Powerline Vegetation
Control
Certificate II in Transmission Structure
and Line Assembly
Certificate II in ESI - Asset Inspection
Certificate III in ESI - Power Systems -
Transmission Overhead
Certificate III in ESI - Power Systems -
Distribution Overhead
Certificate III in ESI - Power Systems -
Rail Traction
Certificate III in ESI - Power Systems -
Distribution Cable Jointing
Certificate III in ESI - Remote Community
Utilities Worker
Certificate IV in ESI - Network Systems
Certificate IV in ESI - Power Systems
Substations
Certificate IV in ESI - Power Systems
Network Infrastructure
Diploma of ESI - Power Systems
Diploma of ESI - Power Systems
Operations
Advanced Diploma of ESI - Power
Systems
Advanced Diploma of ESI - Power
Systems Operations

Source: Training.gov.au.



Appendix E Figure descriptions

Figure 1.1: VET students, by training type, 2017

Figure 1.1 is a chart that shows the distribution of VET student enrolments in different types of training in 2017.

In 2017, 51% of VET students were enrolled in short courses, 35% were enrolled in institutional VET qualifications, 8% of students were apprentices and trainees, 5% were enrolled in VET in Schools, and less than 1% were Australian School-based Apprentices.

Go back to [Figure 1.1](#).

Figure 1.2: Trends in total and government-funded students, 2003 to 2017

Figure 1.2 is a line chart that shows the number of government-funded VET students over the period 2003 to 2017. The graph also shows total VET students, the numbers of which are only available for the period 2015 to 2017.

It shows that government-funded VET students gradually increased from 1.3 million in 2003 to a peak of 1.5 million in 2012, and then declined to 1.2 million in 2017. Total VET students rose from 4.0 million in 2015 to 4.2 million in 2017.

Go back to [Figure 1.2](#).

Figure 1.3: Top 20 training packages by enrolments, 2017

Figure 1.3 is a graphic that shows the 20 training packages that had the greatest number of enrolments in 2017.

The largest share of enrolments was in Business Services; followed by Community Services; Tourism, Travel and Hospitality; and Construction, Plumbing and Services Integrated Framework. The next 16 packages were: Sport, Fitness and Recreation; Transport and Logistics; Health; Financial Services; Property Services; Agriculture, Horticulture and Conservation and Land Management; Auto Industry Retail, Service and Repair; Resources and Infrastructure; Creative Arts and Culture; Retail Services; Foundation Skills; Information and Communications Technology; Electrotechnology; Metal and Engineering; Hairdressing and Beauty Services; and Training and Education.

Go back to [Figure 1.3](#).



Figure 1.4: Trend in apprentices and trainees in-training by trade and non-trade occupations, 30 September 2008 to 30 September 2018

Figure 1.4 is a bar chart that shows the number of apprentices and trainees in training at 30 September each year from 2008 to 2018, broken down by those training in trade and non-trade occupations.

It shows the number of apprentices and trainees in non-trade occupations has changed significantly over this period, increasing from around 226,000 in 2008 to a peak of around 275,000 in 2012, before then declining to around 94,000 in 2018.

In contrast, the number of apprentices and trainees in trade occupations remained relatively stable at around 210,000 from 2008 to 2013, and then gradually declined to 173,000 in 2018.

Go back to [Figure 1.4](#).

Figure 1.5: Schematic of the current VET system

Figure 1.5 identifies the main bodies that are part of the current VET system.

At the government level, the Commonwealth Minister, state and territory ministers, and the COAG Industry and Skills Council have a role, which is sometimes exercised through the Commonwealth departments and the state and territory departments and training authorities.

The main VET agencies and bodies in the current VET system are the Unique Student Identifier (USI) Office; the National Centre for Vocational Education Research (NCVER), a Commonwealth, state and territory company; the Australian Skills Quality Authority (ASQA); the VET Student Loans (VSL) Ombudsman; the Australian Apprenticeship Support Network (AASN); the Australian Industry and Skills Committee (AISC); Industry Reference Committees (IRCs); Skills Service Organisations (SSOs); the Victorian Registration and Qualifications Authority (VRQA); and the Training Accreditation Council (Western Australia).

The VET participants are registered training organisations; employers; and students, apprentices and trainees.

There are multiple relationships between the government bodies, the VET agencies and bodies, and VET participants.

Go back to [Figure 1.5](#).

Figure 1.6: Total government expenditure into the VET system

Figure 1.6 is a bar and line chart that shows total government expenditure into the VET system from 2008-09 to 2017-18, in both real and nominal dollars.

Total nominal expenditure increased from around \$6.4 billion in 2008-09 to a peak of around \$8.4 billion in 2014-15. This then gradually decreased to around \$6.2 billion in 2017-18.

The real expenditure increased from around \$7.8 billion in 2008-09 to a peak of around \$9.4 billion in 2014-15. This then decreased to \$6.2 billion in 2017-18.

Go back to [Figure 1.6](#).



Figure 2.1: Government-funded student enrolments by sector, 2003 to 2017

Figure 2.1 is a line chart showing government-funded student enrolments in higher education (undergraduate) and in VET from 2003 to 2017.

It shows that between 2003 and 2017, enrolments in higher education undergraduate courses increased from around 430,000 in 2003 to around 810,000 in 2017. Over the same period, government funded VET student enrolments were around 1.3 million in 2003, increased to around 1.5 million in 2012, and then decreased to around 1.2 million in 2017.

Go back to [Figure 2.1](#).

Figure 4.1: Training package development and endorsement process policy

Figure 4.1 is a graphic that shows the training package development and endorsement process policy. This process includes stages for consultation with stakeholders, independent training package quality assurance, and validation by industry and other stakeholders.

The process follows the following steps:

- IRC Skills forecast and proposed schedule of works is developed by IRC/SSO
- National Review Schedule is agreed by the AISC
- Case for change is developed by SSO as required
- Case for change is approved by the AISC
- Training package products are drafted by the SSO
- Training package products are validated by industry
- Case for endorsement is submitted to ASIC
- AISC approval for implementation
- CISC Endorsement.

Go back to [Figure 4.1](#).

Figure 5.1: Trends in total public expenditure on higher education, VET and schools, 2008–09 to 2016–17

Figure 5.1 is a line chart showing trends in total public expenditure on each of the higher education, VET and schools sectors over the period 2008-09 to 2016-17.

It shows that over that eight year period, expenditure on schools increased from around \$47 billion to around \$58 billion (a change of 28%), and expenditure on higher education increased from around \$12 billion to around \$16 billion (a change of 24%). In contrast, expenditure on VET was around \$7.6 billion in 2008-09, rose to a peak of \$9.2 billion, and then decreased to \$7.1 billion in 2016-17 (a total change of -6.7%).

Go back to [Figure 5.1](#).



Figure 5.2: Overview of VET public funding, for 2017–18

Figure 5.2 is a graphic that gives an overview of the main sources of funding for the VET sector and funding provided in 2017-18.

It shows that the Australian Government contributed \$1.7 billion in payments to state and territory governments under the NASWD and NPA. State and territory governments contributed an estimated \$3.0 billion to state and territory subsidised VET markets. These two funding sources combined to an estimated total of \$4.7 billion of combined government funding for state and territory subsidised VET markets.

In addition, the Australian Government provided \$1.2 billion for direct Commonwealth programs, including \$16 million for industry competitiveness, \$704 million for skills development, \$379 for access to training, and \$88 million for support for the National Training System. The Australian Government also contributed \$465 million for income contingent loans.

The total government funding for VET in 2017-18 is estimated to be \$6.4 billion.

Go back to [Figure 5.2](#).

Figure 6.1: Misalignment between job aspiration and educational intention

Figure 6.1 shows the level of misalignment between job aspiration and educational intention amongst survey respondents. The figure separates respondents into three cohorts based on the education needed for their 10 year aspirational job (bachelors+, certificates+, and no specific education), and then breaks down each of these cohorts into three groups reflecting the maximum level of education completed, doing or planned for the next 3 years (high school, certificate/apprenticeship/diploma, or bachelors+). It then identifies which groups of students are expected to be underqualified or overqualified for their aspirational job.

The cohort of respondents whose aspirational job required a bachelors+ level qualification included 1,350 people; 8% of this cohort intended a maximum level of education of a high school qualification ('underqualified'), 33% intended a certificate/apprenticeship/diploma ('underqualified'), and 59% intended a bachelors+ qualification.

The cohort whose aspirational job required a certificate+ level qualification included 571 people; 11% of this cohort intended a maximum level of education of a high school qualification ('underqualified'), 44% intended a certificate/apprenticeship/diploma level qualification, and 45% intended a bachelors+ qualification ('overqualified').

The cohort whose aspirational job required no specific education included 239 people; 26% of this cohort intended a maximum level of education of a high school qualification, 49% intended a certificate/apprenticeship/diploma level qualification ('overqualified'), and 26% intended a bachelors+ qualification ('overqualified').

Go back to [Figure 6.1](#).



Figure 7.1: Secondary student enrolments in VET, by AQF level, 2006–2017

Figure 7.1 is a stacked bar chart that shows the number of secondary student enrolments in different level VET qualifications for each year of the period 2006 to 2017.

It shows that the overall numbers of secondary students enrolling in VET has increased over the period, from around 260,000 in 2006 to around 370,000 in 2017. The chart also shows that the share of enrolments in certificate I level programs has decreased, while the share of enrolments in certificate II and certificate III level programs has increased.

In 2017, around 50,000 students enrolled in certificate I level programs, around 220,000 students enrolled in certificate II level programs, around 92,000 students enrolled in certificate III level programs, around 3,500 students enrolled in certificate IV level programs, and around 4,000 students enrolled in diploma or higher level programs.

Go back to [Figure 7.1](#).

Figure 8.1: Indigenous and non-Indigenous government-funded enrolments by AQF, 2003–17

Indigenous

The first chart of figure 8.1 shows Indigenous government-funded enrolments across four AQF level programs: certificates I/II, certificate III, certificate IV, and diploma/advanced diploma level, from 2003 to 2017.

It shows that the highest number of government-funded enrolments for Indigenous students have been at the certificate I/II level, at around 38,000 in 2017. Over the 2003 to 2017 period, the enrolments in certificate III level courses have been steadily increasing, from around 13,000 in 2003 to around 37,000 in 2017. Enrolments in certificate IV and diploma/advanced diploma courses are at a lower levels.

Go back to [Figure 8.1 Indigenous](#).

Non-Indigenous

The second chart of figure 8.1 shows non-Indigenous government-funded enrolments across four AQF level programs: certificates I/II, certificate III, certificate IV, and diploma/advanced diploma level, from 2003 to 2017.

It shows that the highest number of government-funded enrolments for non-Indigenous students have been at the certificate III level, at around 500,000 in 2017.

Go back to [Figure 8.1 Non-Indigenous](#).



Figure 9.1: Roadmap to stronger skills sector

Figure 9.1 is a graphic showing a roadmap to a stronger skills sector, identifying early actions, medium term actions and the desired end state for each theme of the report's six-point plan.

The early actions support a new clearly defined vision for VET. The early actions are:

- Strengthen quality assurance in VET sector
- ASQA improves information about audit processes
- Pilot Skills Organisations (SOs) – industry-led and managed model for developing qualifications
- Introduce benchmark hours
- Establish the National Skills Commission (NSC)
- Commence skills demand forecasts and pricing work
- Revamp apprenticeships incentives
- Establish the National Career Institute (NCI)
- Launch a national VET marketing campaign
- NCI identifies vocational pathways in school subjects
- Governments and ASQA act to boost industry confidence in VET delivery in schools
- Design a new national agreement for language, literacy, numeracy and digital literacy (LLND)
- More effective support for priority equity VET students to improve outcomes

The medium term actions support an agreed strategic direction which guides reform with focus on performance and outcomes for qualification-based VET. The medium term actions are:

- ASQA regulatory approach evolves to include educative approach
- Pilot independent assessments, proficiency assessment
- Effective consumer protection arrangements for students including a sector-wide VET Ombudsman
- SOs rollout for qualification development and other tasks
- ASQA takes on responsibility for qualification approval
- AQF integrity measures in place and short-form credentials
- New national agreement for funding and skills matching
- NSC manages Commonwealth VET programs and costing and funding arrangements for national agreement



- SOs to manage apprenticeship support for their employers
- NCI fulfils lead role in consumer and careers information with a range of platforms and material available
- SOs promote VET careers in their industry
- Agreed national funding model for VET in schools
- VET in schools delivers clear robust pathways to vocational careers. SOs to assist
- SOs to promote VET careers to school students
- New national agreement in place supporting access to free LLND
- Support more Indigenous-owned and operated RTOs
- Link VET to wrap-around services for vulnerable students
- Learning hubs for students in rural and remote areas

The end state arrangements support a vision that is ongoing and reviewed in light of experience and new developments. The end state arrangements are:

- ASQA is the single national regulator for VET
- High confidence in the quality delivered by providers
- RTOs understand and comply with streamlined audit process and quality training is recognised
- Fast efficient system for approving VET qualifications
- SOs lead industry qualification development which meets their labour market needs
- Nationally consistent and transparent government funding that responds to local skills needs
- Simpler effective apprenticeships incentives for employers and apprentices
- Public funding for VET expanded over time to achieve neutral subsidies between VET and higher education
- Prospective students have accurate, nationally consistent data on VET qualifications and make better choices for their careers
- NCI leads development of improved information to support SOs and others promoting VET
- VET pathways from school equivalent to university pathway
- Secondary school students access vocational qualifications leading to real jobs or further education
- Employers have confidence in VET for school students
- All Australians who need it can gain LLND skills to gain entry to work.



Go back to [Figure 9.1](#) or go back to [Executive Summary](#).

Figure 9.2: Schematic of long run future VET system

Figure 9.2 identifies the main bodies that are part of the long run future VET system.

At the government level, the Commonwealth Minister, state and territory ministers, and the COAG Industry and Skills Council have a role, which is sometimes exercised through the Commonwealth departments and the state and territory departments and training authorities.

The main VET agencies and bodies in the long run future state are the Unique Student Identifier (USI) Office; the National Centre for Vocational Education Research (NCVER), a Commonwealth, state and territory company; the Australian Skills Quality Authority; the VET Ombudsman; the National Skills Commission; the National Careers Institute; and Skills Organisations.

The VET participants are registered training organisations; employers; and students, apprentices and trainees.

There are multiple relationships between the government bodies, the VET agencies and bodies, and VET participants.

Go back to [Figure 9.2](#).



Abbreviations and acronyms

AAIP	Australian Apprenticeships Incentives Program
AASN	Australian Apprenticeship Support Network
ACPET	Australian Council for Private Education and Training
ACL	Australian Consumer Law
ACSF	Australian Core Skills Framework
Ai Group	Australian Industry Group
AISC	Australian Industry and Skills Committee
AMEP	Adult Migrant English Program
ANTA	Australian National Training Authority
AQF	Australian Qualifications Framework
ASbA	Australian School-based Apprenticeship
ASQA	Australian Skills Quality Authority
AVETMISS	Australian VET Management Information Statistical Standard
ATAR	Australian Tertiary Admission Rank
ATO	Australian Taxation Office
BCA	Business Council of Australia
CEDA	Committee for Economic Development of Australia
COAG	Council of Australian Governments
CISC	COAG Industry and Skills Council
DET	Department of Education and Training (Commonwealth)
DJSB	Department of Jobs and Small Business (Commonwealth)
FSAT	Foundational Skills Assessment Tool
IRC	Industry Reference Committee
LLND	Language, literacy, numeracy and digital (skills)
MCA	Minerals Council of Australia
NASWD	National Agreement for Skills and Workforce Development
NCI	National Careers Institute
NCVER	National Centre for Vocational Education Research
NPASR	National Partnership Agreement on Skills Reform



NPSAF	National Partnership Agreement on the Skilling Australians Fund
NSC	National Skills Commission
NSNL	National Skills Needs Lists
NSPLA	National Skills Priority List for Apprentices
NTF	National Training Framework
NVETR Act	<i>National Vocational Education and Training Regulator Act 2011 (Cth)</i>
NZQA	New Zealand Qualifications Authority
OECD	Organisation for Economic Co-operation and Development
PIAAC	Programme for the International Assessment of Adult Competencies (OECD)
QCAA	Queensland Curriculum and Assessment Authority
RTO	Registered Training Organisation
SO	Skills Organisations
SSO	Skills Service Organisations
TAE	Training and Assessment
TAFE	Technical and Further Education
TEQSA	Tertiary Education Quality Standards Agency
TPS	Tuition Protection Service
USI	Unique Student Identifier
VET	Vocational education and training
VSL	VET Student Loans
VSLO	VET Student Loans Ombudsman

Over the past five years, these stakeholders have shared their concerns and challenges with us about the VET system and this contributes to the information we are collating on VET Reform.

So far, we have identified five key themes:

Industry Leadership

Industry have a leadership role in describing their skills requirements, but have very little input over what, how and when training is delivered, and how it is funded. A truly industry-led system would have industry involved, in a structured way, at all stages of the system, not only the beginning. [Read more.](#)

Competency is a Journey

It is not a training destination and it is best achieved through a combination of workplace and institutionalised practice. Our research shows that many VET sector stakeholders prefer a staged approach to competency development. [Read more.](#)

Thin Markets and RTO Delivery Challenges

The training delivery market fails to operate in high cost and thin markets with serious consequence for a number of industries and occupations. Thin markets exist where there are low student numbers or learners are spread across large geographical areas, where there are access and safety issues, and/or the training is for highly technical skills, and/or a need to use expensive materials and machinery. [Read more.](#)

Contextualisation of Units

There are more than 18,000 units in the system, despite efforts to reduce them. This is because units are developed to reflect new ways of work, but older methods still exist. Units describing the same skills also exist, but with details specific to a particular industry. National contextualisation materials could help reduce the number of units in the system. [Read more.](#)

Skills Acquisition is a National Economic/Social Imperative

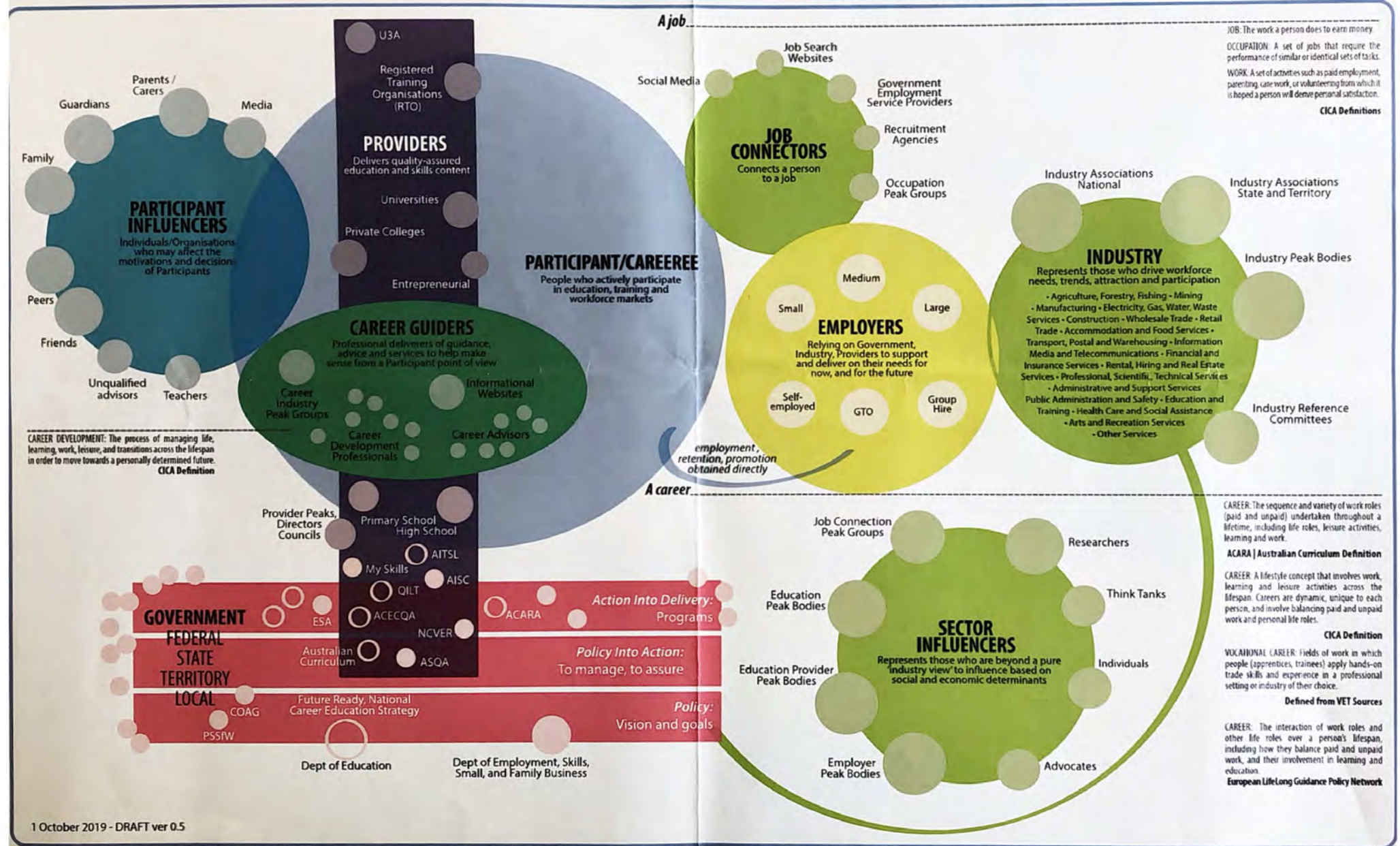
VET sector training represents less than 2% of hours worked across the economy each year. This is a lot, but clearly only a small contribution to the amount of learning that takes place while working. It is critical that Australia's skills system recognises the quality and extent of learning taking place in the workforce, which is estimated to be between 2 and 10 times the volume of VET, and ways to capture data about it. [Read more.](#)

CAREER DEVELOPMENT SERVICE SYSTEM - CURRENT STATE

The current state of the Careers Development Service System in Australia is complex and multi-layered.

The Institute knows it is being established in an existing system that has the following hallmarks:

1. The system is participant driven
2. There is a distinction between 'jobs' and 'careers'
3. Employers are the key recipients of a quality careers development system
4. There are many informal and formal influencers within the system
5. The system exists on a foundation of multiple governmental layers, policies and frameworks



What is Higher Education (HE)?

In Australia, higher education is also called tertiary education ('tertiary' means 'third' and follows on from 'primary' and 'secondary'). [Higher education](#) is generally provided by universities and by other higher education institutions such as Technical and Further Education (TAFE) institutes and Registered Training Organisations (RTOs).

What institutions can provide Higher Education in Australia?

A higher education provider is either a **university, a self-accrediting provider, or a non-self-accrediting provider**. Higher Education is often delivered at universities, academies, colleges, and institutes of technology; higher education is also available through certain college-level institutions, including vocational schools, trade schools, and other career colleges that award academic degrees or professional certifications.

Higher Education providers are required to be registered with TEQSA (The [Tertiary Education Quality and Standards Agency](#)); the national governing body for Higher Education in Australia.

What are Higher Education qualifications?

According to the [Australian Qualifications Framework](#) (AQF), higher education qualifications can include any course above Bachelor Degree level. Graduate Certificates and Graduate Diplomas are examples of higher education qualifications. There are many occupations that require Higher Education qualifications.

What is Vocational Education and Training (VET)?

Vocational Education and Training (VET) qualifications have been **developed with the specific goal of preparing students with skills for work**. VET is designed to

help people to join or re-join the workforce, move into a new career or gain additional skills in their existing career. VET qualifications have a very practical focus. As well as specific skills for your chosen occupation, a VET course will often include generic work-based topics such as workplace health and safety.

What are VET sector qualifications?

[Vocational Education and Training sector qualifications](#) include study between Level 1 (Certificate I) and Level 10 (Ph.D. which is a university qualification). The VET qualifications available for each industry are defined in the relevant national Training Packages listed on the [National Training Information Service \(NTIS\)](#).

What are the differences between VET qualifications and Higher Education qualifications?

Universities and VET providers both offer qualifications that are nationally (and often internationally) recognised. Although there is some overlap between the qualification levels, in general, **VET qualifications aim to provide a practical, work-oriented skills base**. There are also differences in the grading and assessment process, with VET qualifications using competency-based assessment, and Higher Education qualifications generally using a grading approach to assessment.

What is Competency Based Training?

Competency Based Training is designed as **an opportunity for the learner to demonstrate their ability in a certain task**. In the framework of Vocational Education and Training, this is often a workplace task, referred to as a Unit of Competency. Your qualification is made up of these workplace tasks.

Competency Based Training works by deeming a learner either competent, or not yet competent at the end of the learning pathway. It is not a graded qualification; learners are simply required to demonstrate the ability to complete a task, activity or project. A learner will need to be deemed competent in all units to achieve their full qualification. **You can find out more by [watching this video](#).**

What is a Registered Training Organisation (RTO)?

[Registered Training Organisations](#) are training providers registered by ASQA to deliver VET services. Upskilled is an RTO. You can find a full list of RTOs maintained at training.gov.au, the authoritative national register of the VET sector in Australia. Many RTOs provide a [flexible approach](#) to learning. Where you choose to study for your qualification is entirely up to you, but be sure to **select an option that fits best with your personal and professional goals**.

What qualifications can RTOs deliver?

RTOs can offer the following qualifications: Certificates I, II, III and IV, Diplomas and Advanced Diplomas, Vocational Graduate Certificates and Vocational Graduate Diplomas. Many Upskilled Diploma qualifications are Nationally Recognised and have been accredited by the [Australian Skills Quality Authority \(ASQA\)](#).

Vocational Education and Training suit a variety of people, depending on their goals. Even those with a history of existing study might choose to undertake VET.

Some people with a university qualification might require an additional qualification to achieve a particular career outcome. For example, you might have a Bachelor Degree in Communications but choose to study a 10118NAT - [Diploma of Social Media Marketing](#) to enhance your skillset. Or, you might study a Bachelor of Counselling but want to supplement this with a CHC43315 - [Certificate IV in Mental Health](#) to pursue a certain job role, or to enhance your career prospects over other candidates.

VET can provide niche learning to students in many areas, supplementing or complementing existing learning, or providing outcomes on their own. Every course you choose to study will have a range of Units of Competency, outlining what the course covers. Career Outcomes are often listed, to provide examples of the types of job roles that learning might prepare you for.

How long does study take to complete?

In general, a Certificate or a Diploma (12 – 24 months on average) will be faster to complete than a Bachelor Degree (approximately 3 years), and **may suit many people who are looking for specific career outcomes, or who already hold a Bachelor Degree of some kind**. Many people choose to do both a Bachelor Degree and an undergraduate Certificate or Diploma at the same time. Graduate Certificates and Graduate Diplomas can be completed as postgraduate qualifications, after completion of a Bachelor Degree, to provide specific learning

and knowledge.

What are factors that affect the length of a course?

Each type of qualification has a required 'volume of learning'. The AQF [volume of learning](#) describes how long a student (not holding any previous competencies identified in the qualification) would normally take to develop all the required skills and knowledge at that qualification level. Time scales can also be dependent on Recognition of Prior Learning (RPL) and whether you choose to study part time or full time. Find out [more about RPL](#).

VET sector overview

A skilled workforce is vital for Australia's future. Through the work of Skills Service Organisations in developing training packages, industry defines the skills required by the labour market.

ASQA seeks to ensure that registered training organisations (RTOs) are providing vocational education and training (VET) students with the required skills and competencies for employment.

VET providers can include:

- technical and further education (TAFE) institutes
- adult and community education providers
- agricultural colleges
- private providers
- community organisations
- industry skill centres
- commercial and enterprise training providers.

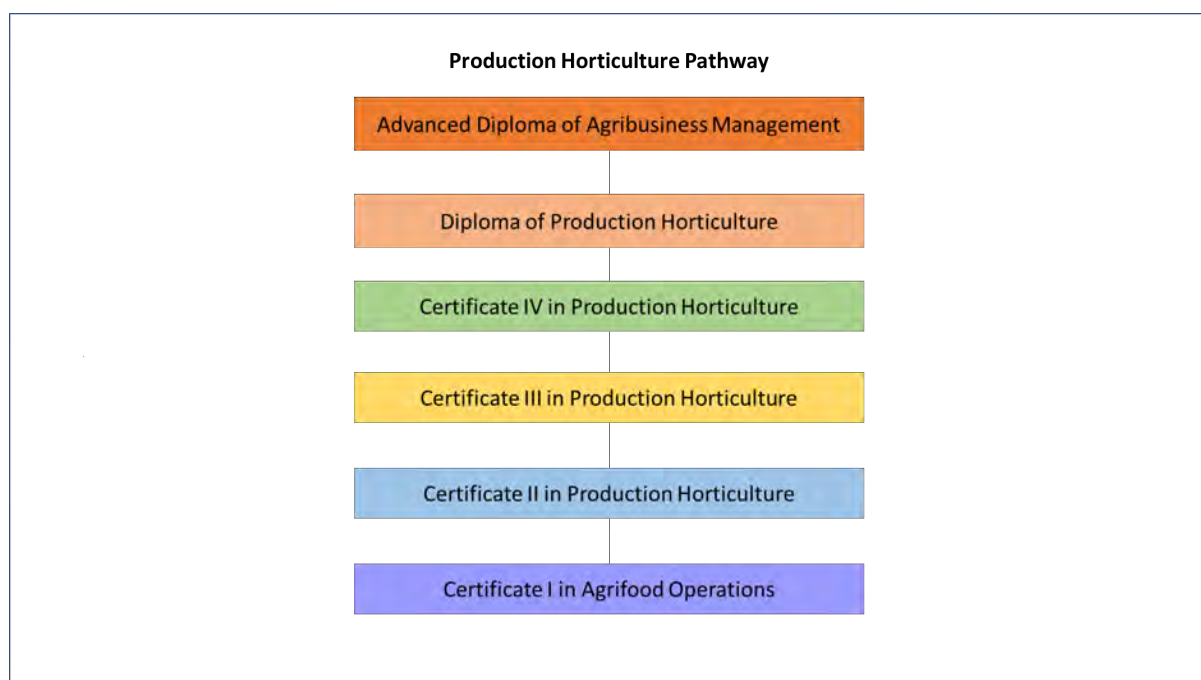
Some universities and schools also provide VET.

VET is provided through a network of eight state and territory governments and the Australian Government, along with industry, public and private training providers. These organisations work together to provide nationally consistent training across Australia.

Training packages define the skills and knowledge needed by learners to perform a job. They do not specify how to train learners.

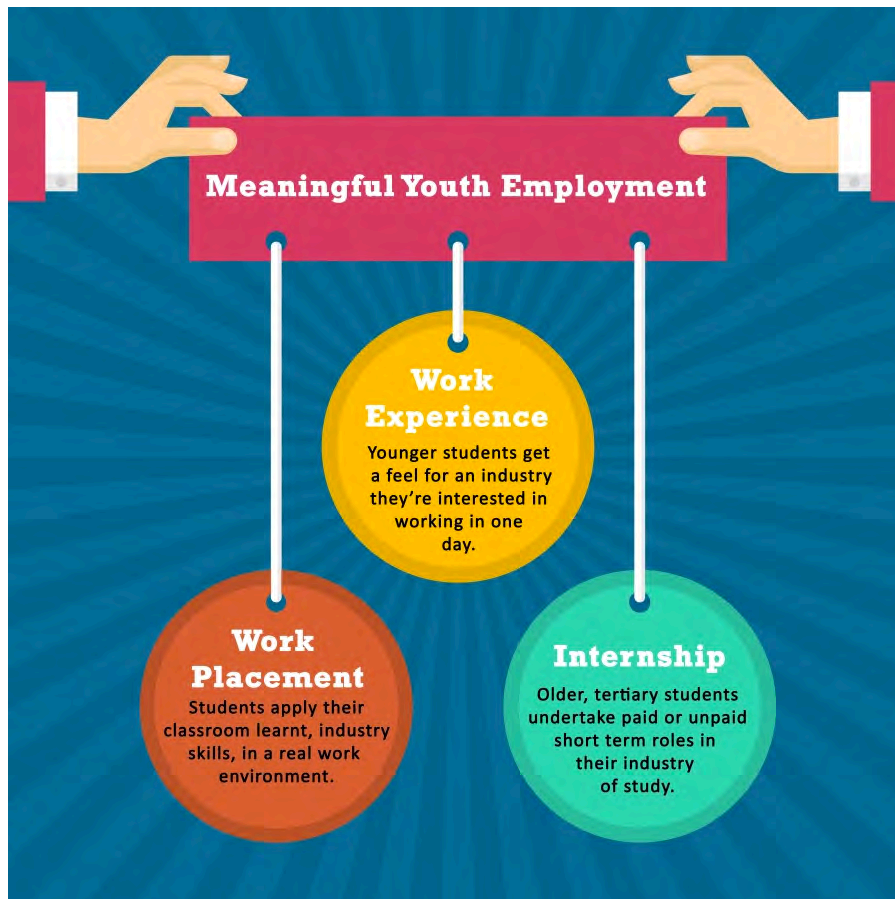
Each training package contains three components:

- **Units of competency** define the skills and knowledge needed, and how to apply them in a workplace context.
- **A qualifications framework** contains groups of units of competency used to develop learning outcomes. These groupings range from Certificate I to Graduate Diploma level.
- RTOs or organisations working in partnership with an RTO are authorised to deliver training packages qualifications and units of competency. However, they may only do so if the training package product/s are on their scope of registration.
- **Assessment guidelines** cover the qualifications required by assessors, the design of assessment processes and guidelines for assessment management. Assessment guidelines explain the industry's preferred approach to assessment.



Cert I
Cert II
Cert III
Cert IV
Diploma
Advanced Diploma

Traineeships
Apprenticeships



What is Work Placement ?

Two types :

- **Work Experience** : hands-on experience at the discretion of the employer.
- **Work Shadowing** : careful observation of the working practice of one or more staff members ; used when hands-on experience is inappropriate. e.g. doctor

Work Experience (or Internship) is an informal program that enables students to get an idea of a career they're interested in and hopefully be inspired to **work** to achieve it. ... Employers who take **work experience** students have the opportunity to inspire young people about their industry and the education and training pathways available.

Workplace Learning is a structured work experience program that provides an opportunity for students to get some first-hand, on the job experience or training. It helps young people

make informed decisions when planning their transition through school and from school, to a fulfilling working life.

Vocational (work) Placement is a requirement for many trade courses. A student is placed in a real life work site and receives practical training and experience on site to complement their in-class learning. ... It is similar to a standard trade apprenticeship which most Australian domestic students undertake.

Who can help find a training course or provider?

My Skills

My Skills is Australia's directory of training. It includes information on training in Australia for school leavers, students, apprentices, and employers.

Search My Skills for a [training provider](#) or [course](#).
training.gov.au

[training.gov.au](#), the official national register of the VET sector in Australia, maintains a complete list of training providers.

Search training.gov.au for a [training provider](#) or [course](#).
myfuture

[myfuture](#) is Australia's national career information and planning service. This site helps people to make career decisions, plan career pathways and manage work transitions. myfuture is for anyone who needs information to support their own or others' career planning.

Search for a [course on myfuture](#).

Job roles – Skills Impact workforce functional analysis

SOCIAL MEDIA STRATEGIST



1 A social media strategist works with a company or brand to market their goods and services on social media channels.


2
Bachelor's
Degree

3
\$51,341
Median Salary
PayScale.com


4 This career requires someone that has good interpersonal skills, and is able to speak and write clearly for a diverse audience. Social media strategists should also have good skills for working with technology.


DRONE SPECIALIST



 A drone specialist works with unmanned aerial vehicles to support the growing, monitoring, and/or harvesting of plants.


Certification


\$55,610
Median Salary
U.S. Bureau of Labor Statistics

 Workers in this field enjoy the latest technology and can problem-solve. Drone specialists should be open to change as the technology being used is always being improved.

IRRIGATION SPECIALIST



i An irrigation specialist is responsible for overseeing the planning, design, installation and maintenance of irrigation systems.

ii
Associate's
Degree

iii
\$25K-\$50K
Median Salary
PayScale.com

iv This career option is good for those that enjoy math and problem-solving and like to work with their hands. Irrigation specialists should also be good at working in teams.

GREENHOUSE ENGINEER



A greenhouse engineer provides design solutions for structural, civil, and mechanical engineering for greenhouses.



**Bachelor's
Degree**



\$61,900
Median Salary
Salary.com



Engineers often have work that is project-based. Many of these projects are completed by teams, so people in this career should be able to collaborate with others. Engineers should be creative and adaptable.



School of Ecosystem and Forest
Sciences x MSPACE

NATURE CONNECTIONS FOR WELLBEING

An immersive short course to better understand and create nature experiences for health and wellbeing

People living in cities face increasing disconnection from the natural world and in this year, perhaps more than any other, we have become more aware of the importance of nature in our lives. ***Nature connections for wellbeing*** explores the role of natural environments in supporting health and wellbeing. It will feature leading research setting the state of knowledge and hands on activities to experience nature connections. Learnings can inform decisions and designs of natural places, linking to professional practice. This unique Australian offering is based in the beautiful, heritage-listed Burnley gardens near inner Melbourne, itself an inspiring venue for exploring interactions between people, nature, and wellbeing.

Delivery: 27-29th June, Burnley Campus

Who is this course for?

- Urban policy-makers, urban planners, urban designers
- Architects and landscape architects
- Landscape designers and managers
- Allied health professionals
- Anyone interested in nature connections in city life

Participants will learn through a range of activities, including lectures and discussions with scholars and practitioners that focus on aspects of nature and wellbeing connections, designs and therapies. The course also includes guided experiences in nature to build learnings and a field trip visiting projects that connect people and nature.



MEET OUR TEAM



Dr Kate Lee: An environmental psychology research fellow, Kate's expertise covers nature in, on, and around buildings and why this might matter for wellbeing and workplace productivity.

Dr Sara Barron: A landscape architect and lecturer in urban forestry, Sara's expertise covers large-scale sustainable community planning and climate change projects and the effectiveness of green design interventions for micro doses of nature.

A/Prof John Rayner: A co-leader of the University of Melbourne's green infrastructure research group, John's expertise includes the design and management of urban plantings, including children's and therapeutic landscapes.

COURSE OUTCOMES

- Learn with leading Australian and International scholars and practitioners all exploring nature and wellbeing across different fields.
- Bring theory to life by experiencing nature activities firsthand, with a guided process to connect back with your own practice and interests
- Apply the learnings to your professional practice to develop evidence-informed solutions and recommendations
- Opportunities for discussion and networking with diverse group of professionals, including an optional networking dinner.

HOW TO ENROL

Enrolments open 14th May, 2021. Until then you can submit an expression of interest to Dr Kate Lee at the details below.

PRICE

\$1,320 (INC GST)

<i>Overview</i>	
Sunday 27th 15.30-20.30	Defining and connecting with nature Registration, introductions, & networking There's a plant on my roof and a tree at my door! Small but powerful ways of connecting with nature in daily life Nature art therapy session
Monday 28th 9.00-17.00	What does it mean to connect with nature? How can we design for this? The big picture: Different views on people, nature and wellbeing through history Field trip to immerse in standout nature settings and programs
Tuesday 29th 9.00-17.00	How do we encourage connecting with nature? How do we as professionals encourage people to connect with nature? Nature prescriptions, healthy design, and connecting at all ages Guided urban forest walk Horticultural therapy activity on the heritage Burnley gardens
<i>There will be an opportunity to join a networking dinner event on Monday evening.</i>	

ENTRY REQUIREMENTS

None

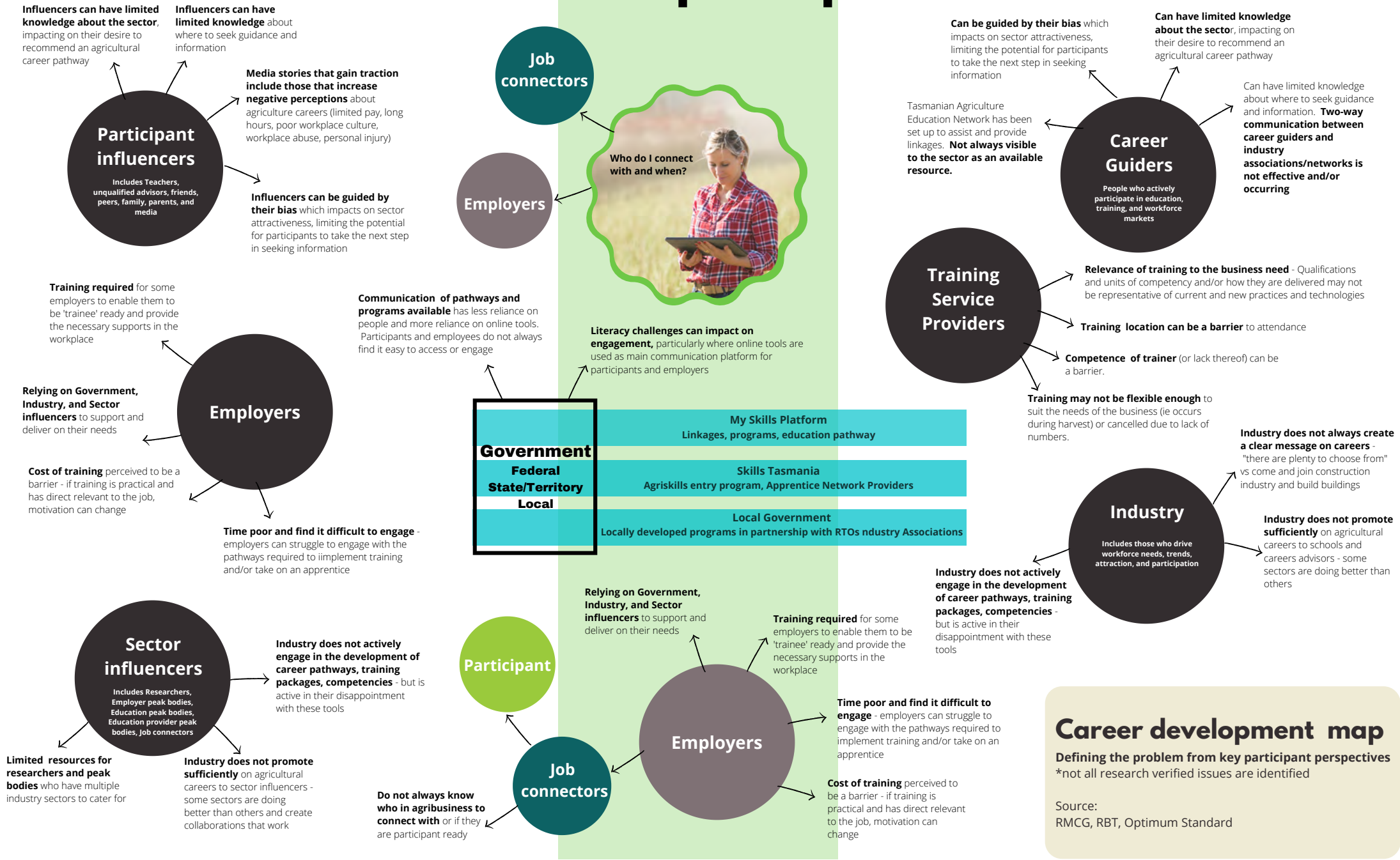
For further information please contact:

Dr Kate Lee

Email: kate.lee@unimelb.edu.au

Enrol at: <https://www.unimelb.edu.au/cpd/natureconnectionsforwellbeing>

Issues impacting on increased agricultural workforce participation



Career development map
Defining the problem from key participant perspectives
*not all research verified issues are identified

Source:
RMCG, RBT, Optimum Standard

Work Exposure Opportunity 2021

Exploring Career Pathways- How can you interact with the forest in your career?

Like the idea of working outdoors, spending time amongst the trees, high tech gadgets and machinery or maybe working with wood - from design and architecture to building and construction? Meet the Forest Education Foundation (FEF) teachers and the Arbre Forest Industries Training and Careers Hub to explore the different career pathways and skills you can experience working in the forest industry - from caring for the forest and growing the trees through to harvesting, transporting and processing the products.

What you can expect: school-based

Introduction: A quick overview of the forests of Tasmania - What grows where and why? How is understanding this part of a career pathway in the forest industry?

Trees: How trees grow - in the forest or on the farm - which pathway do you choose?

Landscapes: How do we manage the forest within the bigger picture? -Try being a professional forester.

Technology: Test your skills with the Arbre training simulators - see how you perform in operating the machinery and harvesting the trees - don't damage those trees!!

Design and Make: How about a career working with wood? - From design and architecture through to building and construction. Time to test your carpentry skills with the toolbox construction challenge!!

Learning pathway: Find out how you can become a Cadet Forester trainee or explore other ways of entering the forest industries.

Field Trip Opportunity:

Subject to location a field visit to a working forest can be part of the experience - a great opportunity to meet and talk to a variety of professionals across many areas of the forest industry.





Forest Education Foundation

The stories behind our trees

2021 Programs: Teacher Information



Exploring Career Pathways – Year 9 - 12 student programs

Over the past several years the Forest Education Foundation (FEF) has been working in collaboration with Arbre - Forest Industries Training and Careers Hub and the Beacon Foundation to provide opportunities for teachers and students to learn more about careers across the forest industries.

How the Program works

- **A school-based workshops (morning through to lunch):** Introduces students to a broad range of careers and related learning pathways within the forest industries of Tasmania. This includes a range of hands-on activities, presentations and conversations with people working in the industry.
 - A practical experience of interacting with high tech training simulators for operating harvesting machinery.
 - A chance to meet people working in the industry - explore different career journeys and discuss learning pathways currently available.
 - Learn more about the future of timber products as you construct a plywood toolbox.
- **A field trip experience** to a working forest operation to continue the conversations with industry professionals and further explore career pathways.
 - Please note: The field trip is subject to location and availability of specialists. This may form part of a full-day experience following the school-based workshop or can be delivered at another time to suit all involved.

Grant opportunity for 2021

A limited number of grants are available to participating schools during 2021 to support:

- School-based workshop delivery
- Field trip delivery and transport
- Miscellaneous expenses

Interested to find out more?

Contact the FEF to organise a school visit to discuss the details of how we can plan an individualised program to suit your students.

Email: dvickers@forest-education.com

Darcy Vickers: 0417 532 058

www.forest-education.com

Appendix K: Career's guide v6



SMART PEOPLE GROW PLANTS

A guide to careers in
Australia's Greenlife Industry

Greenlife 
Industry Careers

Greenlife Industry Careers

Careers in Australia's Greenlife Industry

A career with greenlife is future focused and rewarding; and has an impact on creating liveable cities, healthy environments and protecting Australia's food security.

Contents

A career with benefits	3
Come and work with us	4
Where do you start?	5
Understanding the industry	6
Job roles in the Greenlife Industry	7
Other roles within the Greenlife Industry	8
Case Studies	9
More information	12



A career with benefits

Imagine working in an industry where you meaningfully contribute to creating sustainable and liveable cities and suburbs, support the physical and mental health of Australians and underpin food security in Australia.

What if we told you plants are the answer to everything (well, almost everything...).

The industry needs professionals who want to rewild our cities and suburbs, improve the environment and feed the nation.

Cities & Suburbs

- Reduce heat island effect
- Shaded places
- Places for community
- Increase property prices
- Natural air filtration
- Cooler cities
- Reduced energy consumption
- Reduced urban drought
- Increased local commerce.

Healthy Australians

- Connection with community
- Improved physical health
- Improve mental health
- Greater worker productivity
- Indoor air purifiers
- Faster hospital rehabilitation
- Reduced disease
- Innate human connection to nature

Climate & Land Management

- Carbon sequestration
- Improved Biodiversity
- Water management
- Erosion control
- Food security



Trees reduce temperatures by up to **8 degrees Celsius**, reducing air conditioner use and carbon emissions by an estimated **12-15% per annum**²



People working in a place with plants and trees are **17% more productive** than people working in bare spaces³.



74% of Australians see green space as a place for **relaxation**⁴. **73%** see their garden as a sanctuary for **mental well-being** and **89%** believe access to green space is a **Human Right**.



Trees and plants act as a **natural water filtration system**, they **reduce run-off** and **reduce erosion**.



Urban trees can help **improve air quality** for many different air pollutants in cities, and consequently can help **improve human health**⁵.



Customers could pay **9-12% more** for goods sold in CBDs with **high quality tree canopy**⁶.



Greenlife supports urban biodiversity of threatened species with 25% of plants and 46% of animals, intersecting with cities⁷



Come and work with us



\$2.6 Billion
annual farm gate value



Employing
23,000
Australian's



Over
1,600
Growers nationally



Over
2,500
plant retailers nationally



Considered an
essential
industry



67% of businesses
nationally invest in new
infrastructure



42% of businesses
nationally invest in new
technology



67% of businesses
nationally employ
tertiary qualified staff

The Australian Greenlife Industry is seeking passionate, innovative and hardworking individuals to embrace tried and tested horticultural techniques, sensible science and the latest in horticultural innovation to deliver over 2 billion plants into Australia's landscapes, buildings, backyards, kitchen windows and dinner plates.

Come and join an industry of over 3,000 businesses and 23,000 individuals who are committed to leading the greening of Australia.

There is a career pathway for everyone.



Where do you start?

A career path in Horticulture is only limited by your interests and motivation, there are many learning pathways you can take. But before you start you should consider the following steps for planning your career.

Step 1 – Know yourself! Are you made for horticulture?

What do I like doing?

What don't I like doing?

What am I good at?

What do I know about my personality?

What is my five-year plan?

What do I want I want to achieve through my career?

What don't I want?

Horticulturists have distinct characteristics.

They are enterprising individuals - adventurous, ambitious, decisive, energetic, enthusiastic, confident, and optimistic. They can also be persuasive, and motivational. Many are realistic - independent, stable, persistent, genuine, practical, and thrifty.

Horticulturalists are strategic, engaging, solutions focused and innovative. They are life-long learners, flexible and adaptable. People in Australia's greenlife industry are resilient and hard-working experts.

They are highly educated, future focused professionals who want to make a difference.

Do you have any of these traits?

Step 2 – Find out more! It's all about the plants!!

What skills, experiences or qualifications do I have already?

What skills or experience do I need?

What can I expect from this industry?

Are there any gaps between skills?

Can I learn on the job?

What options do I have to gain new knowledge, skills or qualifications?

How far can I go?

Let us help you with that.

If you let them, plants will take you around the world. Horticulture is a global profession with large industries in Europe and America. Back at home, Australia's \$2.6 billion industry has experienced three consecutive years of growth.

Horticulture is the science of growing plants. Greenlife encompasses all types of seed, plant, shrub or tree, including tissue culture, seedlings, herbs, vegetables, fruit trees, nut trees, vines and all plants in indoors and outdoors. Every indoor and outdoor plant, whether tall and shady, colourful, leafy or flowery, ornamental or edible - it started its life in the greenlife industry.

Whether you are outdoors in a production nursery or garden centre, in greenhouses and labs or in an office, plants will be at the centre of what you do.

Whether you are performing essential hands-on work such as planting, potting, pruning or dispatching; advising your

customers, promoting new releases, planning production cycles, crop rotation, irrigation schedules; managing plant nutrition or plant biosecurity; or marketing and selling greenlife, understanding the science of plants is the foundation knowledge of the greenlife industry.

Plants have seasons and so while horticulturists tend to keep regular hours, workloads are adjusted for the seasons to ensure plants arrive and thrive in their forever home, at the optimal time of year.

Look at all the opportunities the industry provides on page 8 and read the case studies in this guide for a first hand look at where Australia's greenlife industry can take you.

Step 3 – Make a decision and take action – Choose the Greenlife Industry!

What are my best work or training options?

How do they match my current skills and interests?

How do they fit with the existing job opportunities or with jobs that may come up in future?

What are the advantages and disadvantages of each option?

What actions will help me achieve my work, training and career goals?

What are the main challenges?

Where can I get help?

Who will support me?

From a Certificate II to a Doctorate there is an education pathway and career for everyone.

The industry's tissue culture laboratories, plant breeders, production managers, operations managers, soil scientists, growing media specialists, plant protection experts, plant nutritionists, entomologists, horticulturists, growers, garden retailers, landscapers, environmental scientists, communicators, marketers, logistics, television presenters, garden writers and radio broadcasters, automation

experts, policy writers, researchers, academics and educators bring the industry to life.

For more information review the education opportunities on page 7 or visit the Greenlife Careers Hub at www.greenlifecareers.com.au

Understanding the industry

What is Horticulture?

Horticulture is the science of growing plants.

Horticulturists apply scientific knowledge, skills and technologies to cultivate, propagate and grow plants. Their work involves plant propagation and cultivation with the aim of improving plant growth, yields, quality, nutritional value and resistance to insects, diseases and environmental stresses.

What is a Production Nursery?

Production nurseries produce plants in bulk for the greenlife supply chain. Their customers include retail garden centres, landscapers, large scale land managers, development projects, bush regeneration, forestry and fruit, vegetable and nut growers.

Some production nurseries propagate and grow on and others specialise in only the propagation stage or growing on.

Commercial nurseries produce and distribute plants, including ornamental trees, shrubs, and bulb crops and many of them specialise in particular plant types e.g. natives or rose. Some growers specialise based on their customers e.g. growing for landscape supply or growing for bush regeneration.

Most production nurseries consist of greenhouses, shaded and open areas outside.

Plants are commonly cultivated from seed, tissue culture or cuttings and are predominantly grown in pots or other temporary containers. Some production nurseries produce stock in the ground and sell them 'bare rooted' or without soil.

What is a garden centre or retail nursery?

Garden centres or retail nurseries house a wide variety of plants, flowers and trees that are sold primarily to garden owners. Some retail businesses also have commercial clients such as landscape designers.

Retail nurseries may not plant and propagate flowers and trees themselves but may purchase them from a production nursery or nursery wholesaler.

Retail nurseries and garden centres can offer very wide or quite specialised arrays of plants and garden supplies. Nurseries can sell indoor and outdoor plants, annual and perennial flowers and flowering plants, herbs, specialised local and Australian native plants, seedlings and propagated plants, vegetable and fruit seeds, seedlings and more mature plants, as well as trees of all types and ages - from seedlings through to fully matured trees.

Nurseries which offer semi-mature and mature trees often provide tree planting services to ensure the tree is properly transported and positioned. Nurseries will also work in conjunction with landscape architects on residential, commercial and civic projects.

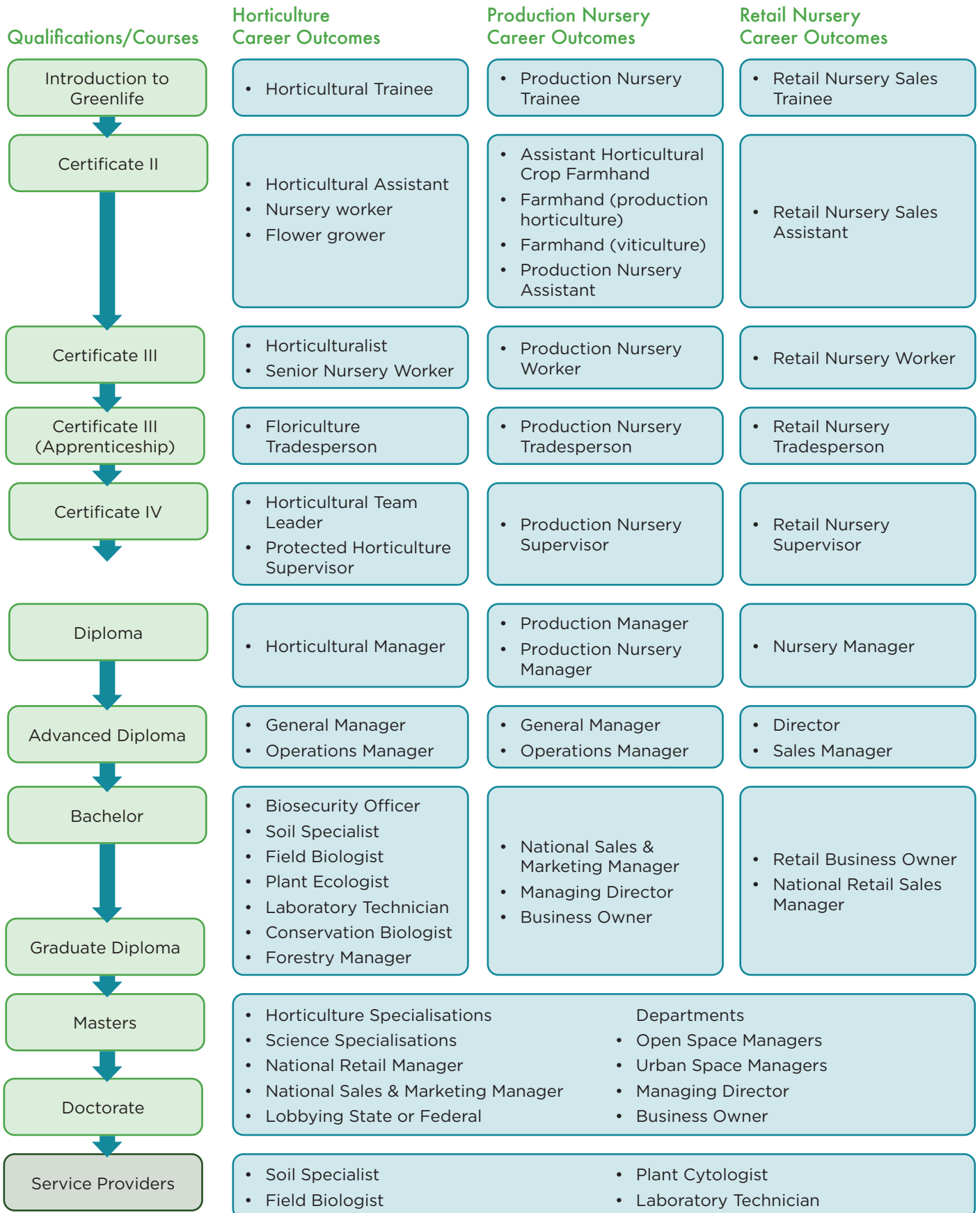
Garden centres also stock garden supplies and various types of garden equipment. Some garden centres will also stock barbecues and garden furniture and accessories, including chairs, tables, umbrellas, plant pots, ceramic pots and planters. Water features and equipment are another speciality item offered by some garden centres and nurseries.



Job roles in the Greenlife Industry

Below is a flow chart which demonstrates the different education pathways and important roles within the greenlife industry. Education providers including registered training organisations (RTO's), vocational training (TAFE) and higher education institutions (University) offer courses in horticulture, supporting key learning competencies for the greenlife industry. Visit www.greenlifecareers.com.au for information about which training providers offer courses.

Greenlife industry career pathways



Other roles within the Greenlife Industry

Sciences

- Biosecurity Specialist
- Plant tissue culture lab technician / specialist
- Agronomist
- Botanist
- Ecologist
- Ethnobotanist
- Entomologist
- Plant Breeding
- Plant Genetics
- Plant pathologist
- Research and development roles
- Plant Health Scientist
- Biological Scientist
- Conservation Biologist
- Soil specialist
- Laboratory Technician
- Horticulture Supply Chain Specialist
- Plant Nutritionist
- Plant Pathologist
- Plant Physiologist
- Plant Biologist
- Plant Morphologist
- Conservation and Land Management
- Field Biologist
- Habitat Restoration Scientist
- Ecologist
- Conservation Biologist
- Plant Ecologist
- Plant Geographer

Engineering

- Greenhouse Engineer
- Industrial Engineer
- Environmental Engineer
- Agricultural Engineer
- Robotics Engineer

Media & Communications

- Communications officer
- Graphic Designer
- Photographer / Videographer
- Product designer, Innovator, Inventor
- Garden Writer

Marketing and Sales

- Marketing and Promotion
- Sales representative / Account Manager

Administration

- Business administration
- Procurement Officer
- Accountant, Finance and Payroll
- Systems Coordinator
- Human Resources Manager
- Work Health and Safety
- Quality Assurance
- Data management

Dispatch and Logistics

- Dispatch
- Dispatch Manager
- Truck Driver
- Operator – Ticketing and Labelling
- Forklift Driver
- Storage Controller
- Logistics Manager

Service Technology Providers

- Agribusiness / input supplier
- Precision Agriculture/ GIS/ Drone specialist
- Entomologist
- Training provider/ teacher / lecturer in Horticulture
- IT consultant

Management & Administration

- Business, sales, HR, Marketing
- Procurement Officer
- Accountant, Finance and Payroll
- Systems & Data management



Chris Sargent

Industry loves

I often say I believe I have one of the best jobs in the world. I can live in the magnificent state of Tasmania and get to travel the world. I have the opportunity to meet wonderful people, hear their inspiring stories and be apart of their life and horticultural journeys. They welcome me into their lives and businesses and are happy and proud to share their experiences.

The most significant honor for me is they entrust me and our business to manage the outcomes of their passion for developing new plant innovations.

Current Role

Managing Director
Plants Management Australia

Responsibilities

For our clients, I navigate them through the world of new plant introductions from concept to consumer. This includes Market research, comprehensive trials, imports/exports, propagation, and production through to licensing, distribution, PBR protection, and marketing. For our business, I am responsible for business development, relationship management, business strategy, custom software development, operating procedures, human resources, and company finances.

Skills required

In my role, you need a deep sense of integrity, self-belief and -self-awareness. You need to have both grit and empathy; a willingness to fail and re-learn, strong communication and exceptional listening skills. Ultimately, you also need persistence.

Qualifications

Since completing my apprenticeship I have also completed a Diploma of Frontline Management and Human Resources and am a Fellow of the Australian Institute of Management.

Career Highlight

A highlight would be the people who have nurtured and shared their knowledge with me, empowering my passion for plants. I am now able to share this knowledge with others. That's the power of greenlife - you will never know everything about it and every day is an opportunity to learn, educate and inspire.

I'm also very proud of the awards that I personally, and our business have achieved. Recognition through the Telstra Business Awards, AMP Innovation Awards and the Australian Government Export Awards instil in me, that our industry can match it with and, be as innovative as any other Australian industry.



Case Study

Chris attributes his early passion for plants to his grandmother, Nell Wilson who was a plant collecting pioneer. Nell created a forest of indoor plants in her sunroom which consumed Chris as a child.

"I still have many plants in my house derived of cuttings from my grandmother's sunroom."

Growing up in Hobart, surrounded by Tasmania's pristine environment, Chris spent most of his spare time outdoors, and still does. Instead of following the family footsteps into accounting, Chris forged his own path into horticulture starting a four-year apprenticeship at age 18. His apprenticeship was served in both retail and wholesale greenlife organisations where he gained valuable experience in customer service, merchandising and plant propagation.

"This varied and diverse working environment allowed me to build a foundation of understanding- a cross-section of what horticulture can offer in both the wholesale and retail sectors."

At age 22, Chris travelled to the UK where his apprenticeship helped him land a role in one of the largest and most successful retail garden centres in the UK. This opportunity exposed him to several world leading horticultural expos including the Chelsea Flower Show and internationally renowned gardens across Europe where he learnt the international language of horticulture.

"You can be on the other side of the world, in a country where you can't read signs or speak the language, but still be connected to people through plants."

Chris returned to Australia via, Canada, The USA and New Zealand where the international language empowered him to connect the dots between retail and wholesale, plants, people and their stories. He found that if he combined all the skills he had learned, it would provide him with the foundation to guide plant breeders from their initial concepts through to the consumer, and everything in between. The result of this vision was the establishment of a horticultural plant management company.

"Horticulture has literally taken me around the world and back, time and time again. That's the power and scope our industry provides for anyone who wishes to connect with it."



Emma De Landre

Case Study

Industry loves

I love working outdoors and I love plants. There is always more to learn about plants, and they are easier to look after than people (laughs). Seriously, “teamwork” can be a cliché, but some of my greatest achievements have been because of the people I work with. You cannot do it alone. People in this industry are generally practical and a lot of fun to work with. Production of quality plants takes skill, commitment, and knowledge. I have been fortunate to work with so many professional growers from diverse backgrounds.

Current Role

Plant Protection Officer
Greenlife Industry Australia

Responsibilities

My role is to provide businesses with technical advice relevant to plant production, promote nursery best practice management and act as the nursery industry biosecurity contact in NSW. This holistic approach contributes to efficient and sustainable plant production. I also audit businesses participating in industry accreditation programs including NIASA Nursery Production, Ecohort (Environmental Management Program) and Biosecure HACCP.

Skills required

To be successful in my role, it is important to have knowledge of plant production and biosecurity principles. Qualifications in horticulture are essential. I am also required to maintain professional certifications around business auditing and chemical training. Importantly, good communication skills and the ability to develop trusted working relationships is critical to successful engagement with industry.

Qualifications

Since graduating as an apprentice, I have also completed a Diploma of Horticulture, Certificate IV in Training & Assessment and completed the Masterclass in Horticultural Business with University of Tasmania. I am currently studying Horticultural Science at Charles Sturt University.

Career Highlight

There have been many memorable moments in my career including a Flame Tree planting with Jimmy Barnes in honour of Steve Prestwich, Cold Chisel’s drummer. I have collected seed and propagated a rare tree species myself which is now growing in a complete forest at The National Arboretum, Canberra. I am also proud of managing a crew to deliver 540,000 potted trees over winter despite record breaking floods while at Ferrero in the NSW Riverina.



Emma grew up in Yass in New South Wales and Canberra, starting her career in horticulture at seventeen with an apprenticeship working at a retail nursery, Pialligo Plant Farm.

“I’ve always been interested in plants for as long as I can remember. I started a herb garden as a teenager and I regularly visited a local nursery to buy herbs. In my last year of school they offered me an apprenticeship – and I said yes.”

After completing her trade certificate, Emma spent many years developing skills as a horticulturist in both the retail and production sectors. During this time, she also began writing a garden column for The Daily Telegraph as ‘The Garden Doctor’.

“I was contacted by the editor for comment on a story. When it went to print the information was out of context. I rang the editor to discuss. By the end of the conversation, they had offered me a job to write a regular weekly column.”

Emma commenced a role as Nursery Technical Officer at Canberra Institute of Technology where she taught nursery subjects part time and in 2010, she began as Senior Horticulturist at the National Arboretum Canberra (NAC). This role focused on implementing the design masterplan and evolved into arboretum Project Manager.

“I was responsible for overseeing the propagation and planting of trees, developing contract specifications, coordinating design competitions, writing policies, landscape management and delivering the ‘Water Security Project.’”

After the Arboretum opened to the public Emma was approached about another greenfield project with the Australian arm of Ferrero, Agri Australis, in Narrandera NSW. They were establishing a 2,000 Ha hazelnut orchard and needed a Nursery Manager to produce tree stock from mother plants for internal plantings and out growers.

“I started as the Nursery Manager and coordinated intensive production of hazelnut trees with a team of 8 locals and up to 80 labour hire during the peak season.”

I am currently studying Horticultural Science at Charles Sturt University to develop skills in science subjects such as botany, plant physiology and microbiology. While I received significant study credit for my extensive industry experience, the skills I am learning support me in my Plant Protection Officer role and general knowledge of plants.

Daniel Ewings

Industry loves

In my current position I have the perfect mix of plants, horticulture, and people. I am lucky that in any one day, I can be outside in the field then meeting with staff and customers. I have had the opportunity to travel Australia and the world; and I love that what I do makes a massive difference to the environment and the wellbeing of our country. I especially love driving around Sydney and saying to my kids "See all these trees, Dad grew them."

Current Role

General Manager, Alpine Nurseries

Responsibilities

I am responsible for the oversight of the business departments of sales, inventory management, finance, marketing, site operations and distribution. I also take a special interest in training and development. My key task is to provide support to the department managers to ensure they achieve their goals.

Skills required

To be successful in my current role as General Manager of a production nursery, you need to have experience in all the different aspects of greenlife production businesses and the supporting qualifications. I have employed people of all ages, backgrounds, and work history. The common theme with all these people is a passion for plants, the outdoors, and the environment but if you have passion for what you do, it is a lot of fun and can take you many places.

Qualifications

Since graduating as an apprentice, I have also completed Certificates in Arboriculture, Parks and Gardens, Frontline Management and Work, Health and Safety. I also have a Diploma of Horticulture; a Cert III in LEAN manufacturing and have recently completed the Masterclass in Horticultural Business with University of Tasmania.

Career Highlight

I have many. Winning the Nursery and Garden Industry Australia National Young Leader was a great professional boost. I have also been fortunate to complete horticultural study tours of Sri Lanka and Europe, attending the world's largest Hort Trade Fair in Germany. But my biggest achievement to date is holding management positions where I can develop and mentor young people in our industry. I am especially proud of developing the apprentice system currently used by Andreasens Green.



Case Study

Born and raised in Western Sydney, Daniel found his love of horticulture early in life helping his father, a landscape architect, in a small nursery on the family's property.

"Growing up, I often tagged along with my father to look at different tree species in their landscapes and visit many plant nurseries - that's how I developed my passion for horticulture."

In 1998, Daniel began working with Andreasens Green commencing his horticulture apprenticeship, gaining his Certificate III in Horticulture in 2000. After a year travelling, Daniel returned to Australia and managed a small inner city garden centre.

"Working in the garden centre was valuable learning experience. I gained important insights into retail operations, greenlife supply and customer service."

Daniel soon returned to Andreasens Green as the Site Manager for their flagship fifty-acre greenlife production site in Kemps Creek. He spent time boosting his skills by earning multiple trade certificates and he took an interest in approaches to apprenticeships to attracting new staff to the business. In 2014, Daniel was awarded the peak industry body's National Young Leader Award for his whole of industry perspectives on training and education.

"Winning the Young Leader Award is a career highlight. I honestly believe that award gave me the profile and boost I needed for career progression."

After ten years with the nursery and attaining his Diploma in Horticulture, Daniel started with Garden City Plastics (GCP). Here, he expanded his knowledge of sales and manufacturing, gained valuable domestic and global experience, and achieved his certificate in LEAN manufacturing.

"Two years on, I was asked back to Andreasens Green as National Operations Manager. The opportunity to manage all four production nursery sites and my passion for horticulture made the offer too hard to resist."

Daniel spent four years in the role where he was responsible for multiple departments across a multi-site operation. In 2020 he completed the Masterclass in Horticultural Business with the University of Tasmania. Daniel's solid experience and education perfectly positioned him for his most recent venture.

"I am now the General Manager for Alpine Nurseries. My focus for the next five years is on delivering premium stock, service and supply for our customers; and to ensure the business supports continued professional development and mentoring of our people."

Carole Fudge

Industry loves

I love the people. I love the plants. I love that I am still learning every day – that just keeps me interested! Most of all, I love that the work we do every day is important for the planet we live on. We all have a deep connection to nature and those of us who are fortunate enough to call it 'work' are the luckiest of all.

Current Role

Sales and Marketing Manager
Benara Nurseries, Perth, Western Australia

Responsibilities

Key account management, tracking and managing sales, Greenlife production planning, pre-sale stock assessments, forecasting trends and strategic planning for marketing and communications.

Skills required

Good communication skills are very important, a love of people, love of plants and willingness to learn and embrace change. Adaptability is also needed these days as the world changes so quickly, as well as being a quick thinker and always solutions focused.

Career Highlight

I have been given the tremendous opportunities to regularly travel interstate to visit other nurseries. I've also travelled overseas to plant trade fairs looking for new plant varieties, innovation and marketing ideas.

I have been extremely privileged to join the Nursery Industry Advisory Panel for Hort Innovation. This has been one of the most meaningful experiences where I have worked alongside a talented team of industry professionals identifying strategies to highlight the importance of Greenlife in our lives and in our cities. This has been very rewarding and educational.



Case Study

Carole grew up in Yorkshire, UK where her deep love for nature began by escaping to the woods and roaming the moors. Carole's mother, a keen gardener, shared her love of greenlife, teaching Carole the names of plants as they nurtured their garden of vegetables, flowers and trees.

"I didn't realise until much later that she was giving me a great gift of knowledge."

Carole arrived in Australia as a teenager and at seventeen, attended secretarial college to study bookkeeping. Carole's first role after college was in a Nursery. It happened to be a family run Retail Nursery, rather than an early childhood kindergarten as she had expected. Carole was mentored over the next few years learning more about plants, pests and diseases, the industry, the people and life lessons in general.

"I quickly worked out that I thoroughly enjoyed being in the nursery and was able to balance time working in the nursery with the plants and customers, with the bookkeeping in the office".

In her 40 years in the industry, Carole has held roles in retail and production nursery operations. During this time Carole has developed a sound understanding of greenlife practices as well as plant identification.

Carole has met some truly lovely, honest, hardworking and thoughtful people over the years in this industry. She explains there is a joy in watching things grow, the changing of the seasons and flowers unfurling. There are always challenges, failures and successes, dealing with the natural world, but there is a level of exhilaration and an energy that takes your breath away.

"Wouldn't change a thing, other than to say I wish I had gone to Horticultural College rather than secretarial college when I was 17!"



More information

More information about careers within the Greenlife Industry is available in the Careers Hub.

Visit www.greenlifecareers.com.au to access videos, more case studies, links to education providers and more.

Hort Innovation
Strategic Levy Investment

NURSERY FUND

This project has been funded by Hort Innovation using the nursery research and development levy and funds from the Australian Government. For more information on the fund and strategic levy investment visit horticulture.com.au

Appendix L: Draft course subjects for key nursery needs

Draft of introductory level course utilising existing subjects available in TAFE

Using feedback from the Workshop in Nov 2019 together with a survey of industry on their highest needs, these subjects were chosen to meet those needs.

It was recognised that the existing subjects may need to be supplemented with subjects (potentially from other disciplines) to fully meet the needs of industry. It is included here as a starting point from which more work can progress with a collaborative approach between industry and education providers.

comments from survey <u>general comments</u>	potential subjects	level	New Cert III in production Hort
A love of plants and a yearning to continuously learn about them is CRITICAL An ability to learn on the job from experience sustainability and waste reduction requirements Other qualitative comments on next tab - pls read they are well thought through			AHCWRK309 - Apply environmentally sustainable work practices
<u>specific skill sets</u> 1. Safe work practices machinery/ vehicle operation OH&S/WHs	AHCMMOM203- Operate basic machinery and equipment AHCWH5201- Participate in work health and safety processes		AHCMMOM304 - Operate machinery and equipment AHCWH5301 - Contribute to work health and safety processes
HORTICULTURAL EQUIPMENT and MAINTENANCE - incl greenhouses, irrigation equip, computerised environmental controls, pots, trays, spraying equipment, Intro to chemicals, chemical application and recommendations use of hand tools	AHCPER212 - Use and maintain garden hand tools and equipment AHCNSY308 - Maintain nursery plants AHC30716 - Certificate III in Horticulture AQF3 Chems MEM18001 - Use hand tools	Several units required to cover this list at cii level	
2. Plant and soil science Plant identification Plant maintenance and care, understand quickly when a plant is dry, what is a quality plant	AHCPCM303 - Identify plant specimens AHCPCM201 Recognise plants AHCNSY202 - Care for nursery plants AHCIBIO302 - Identify and report unusual disease or plant pest signs AHCPMG201 Treat weeds		AHCNSY308 - Maintain nursery plants
Pest and Disease identification and plant hygiene	AHCPCM202 Treat plant pests, diseases and disorders		AHCIBIO301 - Identify and report unusual disease or plant pest signs other emergency disease or pest response
Plant basic Biology & Botany, including pollination Plant nutrition Soil science, nutritional problems	AHCNSY305 - Prepare specialised plants AHCPCM301- Implement a plant nutrition program AHC SOL2XX Assist with soil or growing media sampling and testing		AHCBAC508 - Apply plant biology to agronomic practices (Diploma level) AHCPCM301 - Implement a plant nutrition program AHC SOL401 - Sample soils and interpret results
Biosecurity - esp moving plants between states	Not sure which one would be best AHCIBIO202 Follow site quarantine procedures AHCNSY202 - Care for nursery plants AHCPMG201 Treat weeds AHCPMG202 Treat plant pests, diseases and disorders		AHCIBIO303 - Apply biosecurity measures
Plant Health	AHCPMG202 Treat plant pests, diseases and disorders		AHCPCM501 - Diagnose plant health problems (Diploma level)
3. Growing and propagation Growing structurally sound stock - trees	AHC PGD201 - Plant trees and shrubs In growing/prop units AHCARB303- Perform pruning operations Can be in growing units for production or maybe AHC PGD303 Specialist amenity pruning AHCNSY203- Undertake propagation activities		
Pruning Propagation Hand watering technique Irrigation Potting on skills Management of environmental conditions in semi enclosed & protected greenhouse systems	Non accredited? AHCNSY202 - Care for nursery plants Not sure which one would be best AHCNSY202 - Care for nursery plants FBPVIT2002- Carry out potting operations / AHCNSY201 Pot up plants		AHCIRG346 - operate pressurised irrigation systems
	AHCNSY308 - Maintain nursery plants		AHC PHT503 - Manage a controlled growing environment (Diploma level)
4. Emotional intelligence, team and people skills, professional skills communication skills CUSTOMER and TEAM Relations : How to get over yourself and not annoy folk LOL, plus Timekeeping, NEGOTIATION SKILLS, HR, how to add value to the team, Team building PROBLEM SOLVING: how to identify a problem, how to THINK about it and identify solutions, where to look for help real world and on-line, resources available to you (I'd put plant ID in here as a course example, or a difficult customer request)	AHCWRK205 Participate in workplace communications AHCWRK205 Participate in workplace communications AHCPCM201 Recognise plants		AHCPCM302 Provide information on plants and their culture
5. Retail and business skills SALES and MARKETING : the obvious frontline skills, incl practice but also MARKETING, sales and plant inventory data collection and storage, basic accounting, using a till Customer service and engagement	AHCMEB303- Sell products and services SIRXSL5001 Sell to the retail customer		SIRXCEG001 Engage the customer