VET Student Outcomes – Top 100 courses
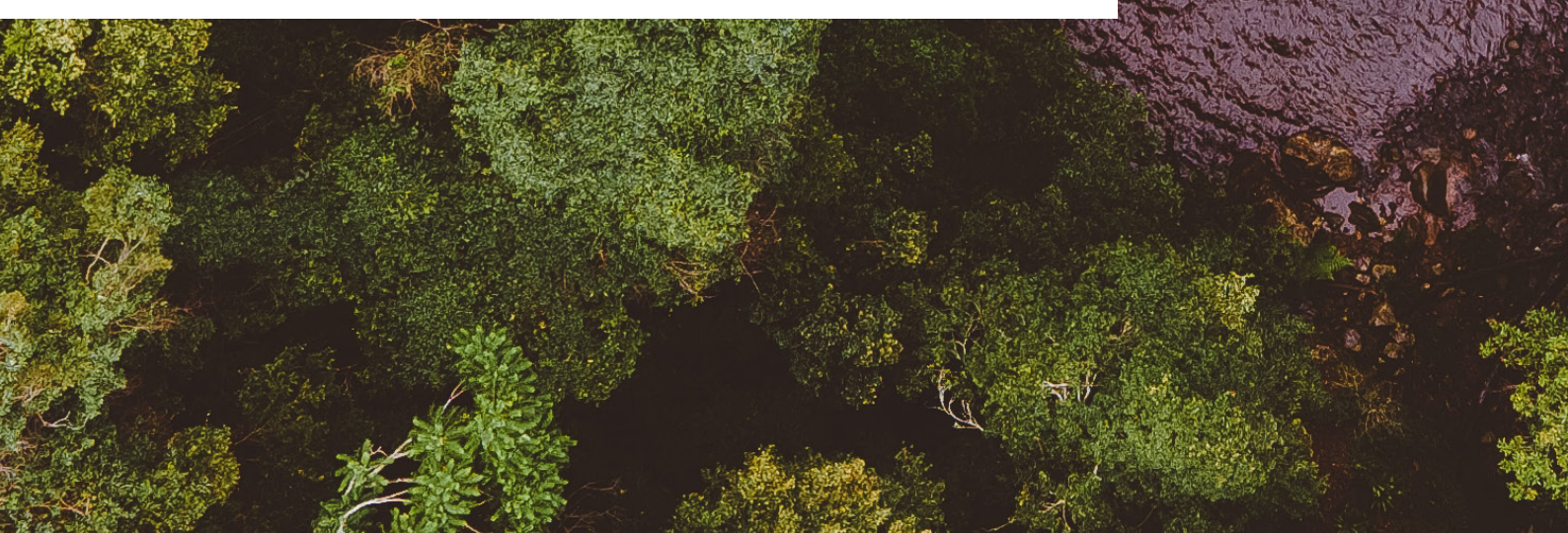
VET National Data Asset (VNDA)

July 2024 revision

Acknowledgement of Country

Jobs and Skills Australia acknowledges the Traditional Owners of Country throughout Australia and recognises the continuing connection to lands, waters and communities. We pay our respect to Aboriginal and Torres Strait Islander cultures, and to Elders past and present.

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Context

Introduction

The decision to undertake a vocational education and training (VET) course involves a substantial commitment of time and resources by individuals. Industry is reliant on the VET system to provide a flow of qualified workers to meet areas of skill demand, while Governments across Australia contribute around $4.5 billion annually to support the VET system. As such, everyone has an interest in knowing more about how the VET system contributes to economic and employment outcomes for the country.

One of Jobs and Skills Australia's (JSA) roles is to provide research and analysis on the adequacy of the VET system. Critical to this is gaining an understanding of how VET contributes to improved outcomes for VET participants. The National Centre for Vocational and Educational Research (NCVER) already produces annual data through its Student Outcomes Survey (SOS), providing rich information on students' experience of training as well as outcomes of employment and further study after completing their training.

JSA, in partnership with the Australian Bureau of Statistics (ABS), has created the VET National Data Asset (VNDA)[1] to investigate the impact of undertaking VET training across a range of student outcomes. VNDA is unique in:

- Being able to track changes to a student's income before and after training is completed
- The level of data integration across the breadth of nationally recognised VET qualifications and accredited courses is more granular
- Having the potential of comparing student outcomes across a range of measures over time as a longitudinal data asset.

Leading up to this report, JSA and the ABS undertook the complex work involved in linking data across a range of datasets at the VET course level. Sector views on the outputs of VNDA were sought in 2021 and 2022 from state and territory training authorities, state training boards, regulators, public and private registered training organisations, industry groups and students. These consultations informed the scope of the VNDA course level outcomes, with this report representing the first tranche of work – the employment, economic, and further study outcomes of the top 100 courses by completion rates.

It is important to note that this preliminary report represents descriptive statistics only. Therefore, they reflect absolute student outcomes regardless of the distribution of individual student attributes or socio-demographic circumstances. JSA acknowledge the challenges in interpreting results across courses when the capabilities, preferences, experiences and ambitions of students in these courses vary. JSA is improving the VNDA methodology to more meaningfully evaluate the outcomes that students attain across VET courses. This includes testing other approaches to modelling that may assist in controlling for different student characteristics and circumstances impacting on student outcomes.

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1   VNDA is a secure integrated data asset that links at an individual level, records from the Total VET Activity (TVA) data collected by the National Centre for Vocational Education Research (NCVER) with other government administrative data within the Multi-Agency Data Integration Projects (MADIP), within a secure ABS environment.

Ultimately the aim of this work is to provide students, parents and workers looking to develop and further enhance their skills through VET with more meaningful information to make choices throughout their lifelong learning journey.

Scope of analysis and data sources

This report and associated data set presents findings across three outcomes:

- **Employment** – post-study work status and change in status.
- **Economic** – median income and income uplift post-completion.
- **Further study** – progression to higher level of VET and higher education post-completion.

These finding are made possible by VNDA measuring outcomes from the financial year prior to training and the financial year after completing training. In this paper, Total VET Activity Data[2] is used to identify VET students who completed a qualification in the 2018-19 financial year. Course analysis is limited to the top 100 courses[3], which is based on completion numbers from the 2018-19 financial year.

Understanding the outcomes for different cohorts will continue to be focus of work on VNDA. For this report, cohort analysis is provided across all the outcomes at the aggregate level for females, First Nations students and students with disability (refer Appendix A – Student and training characteristic definitions).

VNDA integrates a subset of data products available in the ABS existing Multi-Agency Data Integration Project, as listed below in Table 1.

Table 1: Data sources used in the VET National Data Asset

Custodian	Dataset	Reference period for this report
ATO	Personal income Tax	2002 – 2021
ATO	Payment Summary	2002 – 2021
ABS	Census of Population and Housing	2016
ABS	Combined Demographics	2006 – 2021
DoE	Higher Education	2005 – 2020
DEWR	Training.gov.au	2022
DSS	Data Over Multiple Individual Occurrences	2006 – 2022
NCVER	Training activity	2015 – 2020

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2   Total VET Activity (TVA) data in VNDA captures individuals who commenced or enrolled in a VET qualification and had a Unique Student Identifier (USI). USI was introduced in 2015, so most of the enrolments observed occurred after 1 January 2015. This means in addition to those TVA records that could not be linked within MADIP, a small number of students (biased toward part-time students and courses with longer average durations, such as trade apprenticeships) who completed in the 2018-19 financial year and who commenced prior to 2015-16 are out of scope. This limitation will eventually disappear as more years of data are added.

3   'Courses' refers to nationally recognised VET qualifications and accredited courses. Top 100 courses refers to the courses with the highest number of completions.

Comparison to the Student Outcomes Survey (SOS)

As VNDA is derived from linked administrative data it can provide more granular outcomes data than NCVER's, which is derived from surveys and has a lower sample size of respondents. Table 2 provides further details showing the contrasts between VNDA and SOS.

Table 2: VNDA and the Student Outcomes Survey (SOS)

Characteristic	VNDA	Student Outcome Survey
Method	Individual level linkage to administrative datasets, 95% of graduates[1]	Survey, 28.3% response rate for qualification completers[2]
Time period	Whole of year	Point in time
Reporting lag	When available for use in Datalab – at least two years.	Two years
Data source	Administrative data	Self-reported
Employment covered	All employment income, 'gross total income earned' from ATO data	Income earned from "Main job"
Age cohort	All ages, excluding VET in school	18+, non-school
Pre-training measures available for outcomes	Employment, Economic	Employment
Coverage – no. of courses	435[3]	247[4]
Student perspectives	No qualitative information	Student and employer surveys

1 The linkage rate for individual student data in VNDA.
2 Response rate for the 2022 NCVER Student Outcomes Survey.
3 Number of courses that can theoretically be released from VNDA for the 2018-19 reference period.
4 Number of courses with public information from the 2022 SOS

Figure 1 shows how VNDA fills gaps where data is not available in SOS. For example, information on post-training income is not available in SOS for Course in Firearms Safety, Course in First Aid Management of Anaphylaxis and Certificate III in Supply Chain Operations but is available in VNDA due to the larger course coverage.

Figure 1 also shows the differences in median income between VNDA and SOS for the 20 most common courses. Even though there is a difference in how income is measured between the data sources this chart suggests there is a definite correlation between the two measures. For example, amongst the top 20 courses in VNDA by completions, Certificate IV in Training and Assessment has the highest median income at $91,541 compared to $75,322 in SOS. Certificate III in Individual Support has the lowest median income amongst the top 20 most common courses at $38,855 and the corresponding value in SOS is also lower at $33,917. It is also important to note the median income measured and reported on in Figure 1 includes a mix of students undertaking full-time and part-time work.

VNDA can also observe pre-training measures for multiple outcomes, such as employment status, wages after training and income uplift. In comparison, SOS provides pre-training information for employment measures only. Being a longitudinal data set, in future, VNDA will observe changes over multiple years.

Figure 1: Top 20 courses by completions, and their median annual employee income post-training in VNDA (purple) compared to SOS (green)

Annual median income after training ($)

■ VNDA   ■ SOS
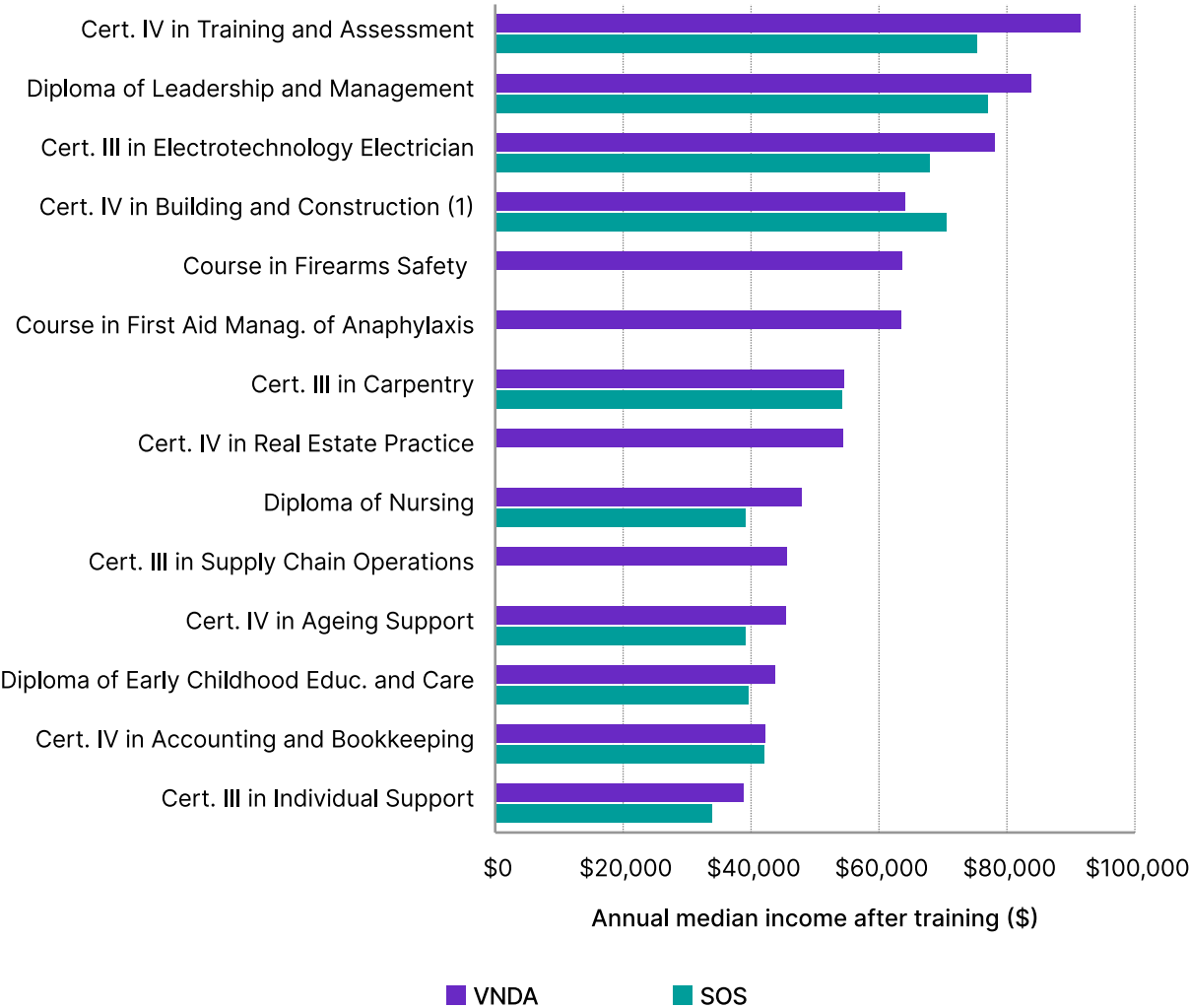
Source: Student Outcomes Survey (2020), Multi-Agency Data Integration Project (MADIP), 2002 – 2021, VET National Data Asset, ABS DataLab. Findings based on use of MADIP data.

Caveats

There are limitations to use of VNDA due to rules safeguarding against the risk of releasing course-level data that could potentially identify an individual student or provider. The timeliness of VNDA data is limited by the collection time and processes of data custodians, creating longer lags than with SOS in some instances.

VNDA also has the limitation of only being able to report income earned as an employee and as such does not include income earned through self-employment or from capital investments.

Key highlights

The key findings from the first tranche of work – descriptive statistics for the top 100 courses[4] for each of the outcomes and aggregated cohort analysis for females, First Nations students and students with disability is outlined below.

Employment outcomes

Overall, completing a VET course produces positive employment outcomes. The percentage of graduates who were employed after completing a VET course was 82.7%. Female students have comparable employment rates of 82.3%, however employment rates were lower for First Nations students (76.3%) and students with disability (61.7%).

The courses with the highest levels of employment after training[5] were concentrated in the Engineering and Related Technologies field, for example Certificate III in Light Vehicle Mechanical Technology and Certificate III in Engineering (casting and moulding trade). These courses have seen persistent demand for skilled labour over the years and offer comparatively higher wages. Courses in the Health, Society and Culture field also had relatively high levels of employment following completion, for example Certificate III in Correctional Practice and Certificate IV in Veterinary Nursing.

Conversely, courses with the lowest employment after training were Mixed Field Programmes and, at the lower end, Certificate I, II and III in Written and Spoken English. However, these courses experience employment rate changes of nearly double the national employment change rate[6] figure, indicating the value of these courses for those entering the workforce with low foundation skills.

Courses in Society and Culture, Health, and Education had the highest employment change rates, including Certificate III in Individual Support (34.5 percentage points increase) and Certificate III in early Childhood Education and Care (31.1 percentage points). These fields tend to have a relatively high percentage of female completers, with pathways into careers in demand, such as Aged in Disabled Carers and Child Carers.

Economic outcomes

In the 2018-19 financial year, students completing a VET course earned a median annual income[7] of $48,214, and median income uplift[8] of $10,285. Compared to all students, female students experience lower median income ($41,256) but a comparable income uplift. The median annual income of First Nations people is slightly above that of females and the income uplift of $12,198 is higher than the national average. Students with disability have the poorest outcomes, with the median income of $26,769 being significantly lower than the national average.

The Engineering and Related Technologies and Management field is well represented in the top courses with the highest median income. Not surprisingly, these courses also tend to have the highest income uplift, with many being Certificate III apprenticeship courses.

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4 Top 100 courses refers to courses with the highest number of completions.

5 Employment after training is the percentage of VET course completers who earn any employee income in Financial Year 2019-20 after completing a VET course.

6 Employment change is the additional percentage of people employed after training compared to before training.

7 Median employee income is the employee income declared to the ATO or DSS in Financial Year 2019-20 after completing a VET course.

8 Employee income uplift is the median difference between employee income earned before and after training.

Courses in the Management and Commerce field, such as the Certificate IV in Training and Assessment and Certificate IV in Project Management Practice, are well represented in the top courses with the highest median income. This indicates the role of VET for those who are not only completing a tertiary course for the first time, but for experienced professionals in the workplace to upskill for different roles.

Further study outcomes

Nationally, the percentage of students that commenced further study[9] in VET after completing a VET course was 15.7%, while the progression to higher education was 6.7%. Females had a comparable profile to all students, however for First Nations students and students with disability, a higher proportion progressed to further study in VET.

The top courses associated with high transitions to higher education are at the Diploma Level, in fields such as Nursing, Information Technology, Business and Media. Conversely, courses with the lowest progression rates to higher education tend to be in high demand fields with good employment outcomes and high median income, such as Engineering and Related Technologies.

Courses with high transitions to further study in VET tend to be associated with foundation skills, such as Certificate I in Spoken and Written English, or have pathways to courses that are industry standard for occupations, such as Certificate III in Fitness. Courses such as Diploma of Early Childhood Education and Care, Diploma of Beauty Therapy and Diploma of Community Services have low rates of further study in both VET and higher education. This may be because these courses are sufficient to gain and sustain employment in high demand service sector roles.

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9   Students who commenced a qualification at a higher level of education than they completed in either VET or Higher Education in financial years 2018-19 and 2019-20.

VNDA Analysis and Findings

The analysis of VNDA provides valuable insights into student outcomes achieved through completion of a VET program of study. This new analysis covers the top 100 course completions in the 2018-19 financial year, representing 66.5% of all VET course completions.

The next section provides the complete findings of the analysis by employment and economic outcomes as well as progression to further study. Courses associated with the highest and lowest rates of each outcome are examined as well as courses with the highest change in outcomes post-completion. The analysis also provides summary outcome indicators by student cohorts.

Key findings are grouped by the employment (post-study work status and change in work status) economic (median income and income uplift), and further study (progression to VET and higher education) outcomes.

Limitations

The analysis does have its limitations, one of these being the inability to adjust for student circumstances or demographics that might have an impact on student outcomes. As stated previously, JSA acknowledges the challenges in interpreting results across courses when student characteristics vary and is undertaking further work to improve the VNDA methodology to more meaningfully compare the outcomes that students attain across VET courses.

Nonetheless, the descriptive statistics provides new information on the outcomes of the top 100 courses that has not been previously available.

Employment outcomes

Employment outcomes help in understanding the vocational outcomes from completing a VET course. In this analysis, the employment rate is used, which is defined as the percentage of VET course completers who earn any employee income in financial year 2019-20 after completing a VET course (see also 'Appendix B – Employment Status' for detail). At the national level, the percentage of students that were employed after training was 82.7%[10].

This analysis also presents the employment change rates, which represents the additional percentage of people employed after training compared to before training. Overall, the employment rate grew from 70.3% before enrolment, to 82.7% after course completion, leading to an employment change rate of 12.4 percentage points.

Employment outcomes for cohorts for the top 100 courses

As Table 3 shows, compared to the national average, female students have a comparable employment rate (82.3%). However, employment rates are lower for First Nations students (76.3%) and students with disability (61.7%). However, change of employment figures for each of these cohorts were comparable or higher than the national average. The change in employment rate was 15.2 percentage points for females, which was higher than the national change rate at 12.4 percentage points. The employment change rate was 12.1 percentage points for First Nations students, and it was 11.7 percentage points for students with disability. The comparable change in employment rate show the positive and broad-ranged impacts of VET courses on different cohorts.

Table 3: Employment outcomes at the national level and by cohorts

Measure	National	Females	First Nations	People with disability
Employment rate after completion (%)	82.7%	82.3%	76.3%	61.7%
Change in employment rate (% points)	12.4% points	15.2% points	12.1% points	11.7% points

Source: Multi-Agency Data Integration Project (MADIP), 2002 – 2021, VET National Data Asset, ABS DataLab. Findings based on use of MADIP data. % points denote percentage points

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10 These figures are for all students who commenced on or before 2018-19 and completed their training in the financial year 2018-2019, regardless of their employment status at commencement.

Employment rates at course level

Figure 2 below shows the top 20 courses with highest employment rates after training (left panel), and changes in their employment status (right panel). See also 'Appendix C – Table 15'. The courses with the highest levels of employment after training are concentrated in the Engineering and Related Technologies field, which have seen persistent demand for skilled labour over the years. Courses in Health, Society and Culture, such as Certificate III in Correctional Practice, Certificate IV in Veterinary Nursing, and Course in First Aid Management of Anaphylaxis had relatively high levels of employment following completion. This is likely related to the demand for services essential to maintain the health and welfare of the country that VET graduates can provide.

Courses in the Engineering and Related Technologies field also have high employment change rates. These courses include Certificate III in Light Vehicle Mechanical Technology (18.9 percentage points increase), Certificate III in Engineering (Casting and Moulding Trade) (16.7 percentage points increase) and Certificate II in Heavy Commercial Vehicle Mechanical Technology (12.3 percentage points). The high rates of post-training employment rates as well as change in employment rates highlight the pronounced impact of these courses in providing employment opportunities for VET students.

Figure 2: Top 20 courses associated with highest percentage of students employed after training, and their associated change in employment rate.
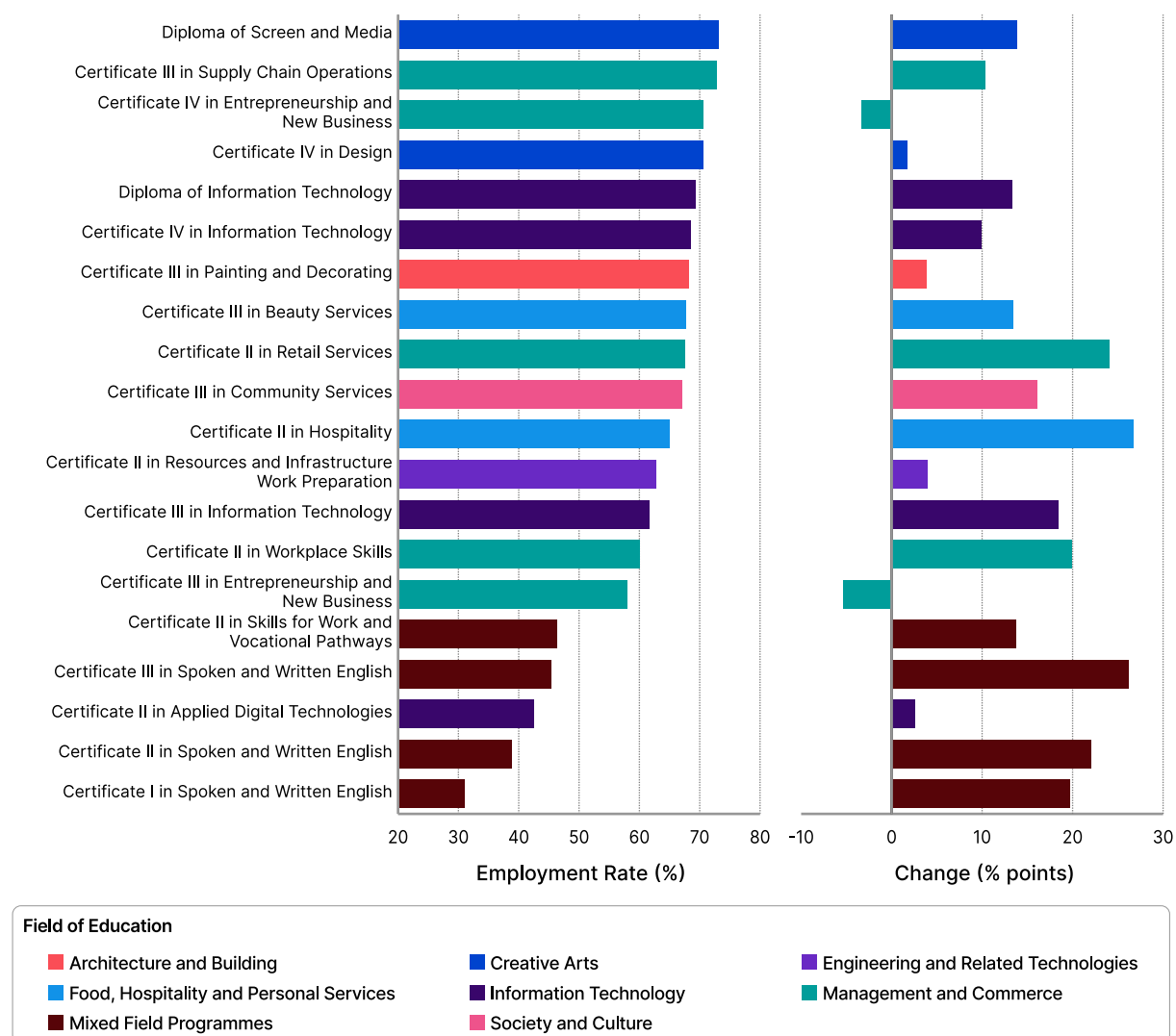

Source: Multi-Agency Data Integration Project (MADIP), 2002 – 2021, VET National Data Asset, ABS DataLab. Findings based on use of MADIP data.

Conversely, as Figure 3 shows, courses with the lowest employment after training (left panel) tend to be courses in the Mixed or General Education Program fields, however, the change in employment statistic (right panel) is well above the national figure of 12.4 percentage points (See also 'Appendix C – Table 16'). Courses stand out across a range of fields in terms of their change in employment rate such as Certificate III in Hospitality (21 percentage points), Certificate II in Retail (24.1 percentage points) and Certificate III in Information Technology (18.5 percentage points).

Courses at all levels in Spoken and Written English report a change in employment of over 19 percentage points. This is a positive outcome given students completing these courses are much more likely to have low foundation skills, for example over half (53%) of completers of Certificate I in Spoken and Written English have not completed Year 12 or an equivalent (Certificate III for example) level of education.

Only two courses had a median change of income below zero - Certificate III and IV in Entrepreneurship and New Business. It is likely these students have started earning business income which is not captured in this analysis.

Figure 3: Bottom 20 courses of students employed after training, with their associated change in employment rate.

Source: Multi-Agency Data Integration Project (MADIP), 2002 – 2021, VET National Data Asset, ABS DataLab. Findings based on use of MADIP data.

Employment change rates at course level

The five courses with the highest employment change rates are shown in Table 4 (see also 'Appendix C – Table 17' for the top 20 courses). Courses in Society and Culture, Health, and Education had the highest employment change rates, including Certificate III in Individual Support, Certificate III in Early Childhood Education and Care and Certificate III in Education Support. These courses tend to have a relatively high percentage of female completers, with pathways into careers in demand, such as Aged and Disabled Carers, Child Carers and Education Aides.

Table 4: Courses with highest employment change rates after training

Program title	FOE	Employed after training (%)	Employment change (%point)	Female completers (%)	Median age
Certificate III in Individual Support	Society and Culture	87.5%	34.5 %p	80.9%	35
Certificate III in Early Childhood Education and Care	Society and Culture	84.5%	31.1 %p	96.4%	28
Certificate III in Education Support	Education	86.8%	29.0 %p	92.9%	38
Certificate II in Hospitality	Food, Hospitality and Personal Services	65.0%	26.7 %p	60.5%	21
Certificate III in Spoken and Written English	Mixed Field Programmes	45.3%	26.2 %p	79.5%	35

Source: Multi-Agency Data Integration Project (MADIP), 2002 – 2021, VET National Data Asset, ABS DataLab. Findings based on use of MADIP data. %p denotes percentage points

Economic outcomes

Economic outcomes help in understanding the income benefits from completing a VET qualification, which flow both to students and the Australian economy. In this analysis, the median employee income is used as a measure of economic outcomes, which is defined as the employee income declared to the ATO or DSS in Financial Year 2019-20 after completing a VET course (see also 'Appendix B – Employee Income' for detail). It is important to note median employee income includes students working part-time or full-time. JSA recognise the limitations of this and are exploring how to make this distinction in the next analysis.

At the national level, the median annual income was $48,214 for those completing a course in financial year 2018-19[11]. This analysis also presents the median employee income uplift, which is the difference between employee income earned before and after training is completed. At the national level, the median employee income uplift in financial year 2019-20 was $10,285.

Economic outcomes for cohorts

As Table 5 shows, employment outcomes differ by cohorts. Compared to the median employee income for all students ($48,214), female students have significantly lower median income ($41,256). Similarly, the median income is slightly lower for First Nations students ($44,309) and at a subdued level for students with disability ($26,769). However, income uplift figures for each of these cohorts were comparable or higher to the national average. The income uplift for female students was in line with the national figure at $9,971. For First Nations students it was almost 20% higher than the national median at $12,198, but for people with disability it was lower at $7,845.

Disparities between median income post-training could reflect several factors such as part-time labour market participation, varied capacity to work and access to vocationally relevant opportunities. However, the consistent income uplift after training indicates the strong role of education and training in increasing economic outcomes, especially for disadvantaged cohorts.

Table 5: Economic outcomes at the national level and by cohorts

Measure	National	Females	First Nations	People with disability
Median employee income ($)	$48,214	$41,256	$44,309	$26,769
Median employee income uplift ($)	$10,285	$9,971	$12,198	$7,845

Source: Multi-Agency Data Integration Project (MADIP), 2002 – 2021, VET National Data Asset, ABS DataLab. Findings based on use of MADIP data.

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11 These figures are for all students who commenced on or before 2018-2019 and completed their training in the financial year 2018-2019, regardless of their median income upon commencement.

Median annual income after training at course level

Figure 4 shows the top 20 courses with the highest median annual income (left panel) and the median change in income before and after completion (right panel). See also 'Appendix C – Table 18'. The top courses for employee income are predominately in the Engineering and Related Technologies, and Management and Commerce, fields and have a median student age of more than 30 years. For Certificate IV in Train Driving and Certificate IV in Training and Assessment, the median age is closer to 50, showing the relevance of VET for experienced professionals, as well as first-time workers.

Figure 4: Top 20 courses associated with highest median income after training in financial year 2019-20, and their associated median income change.
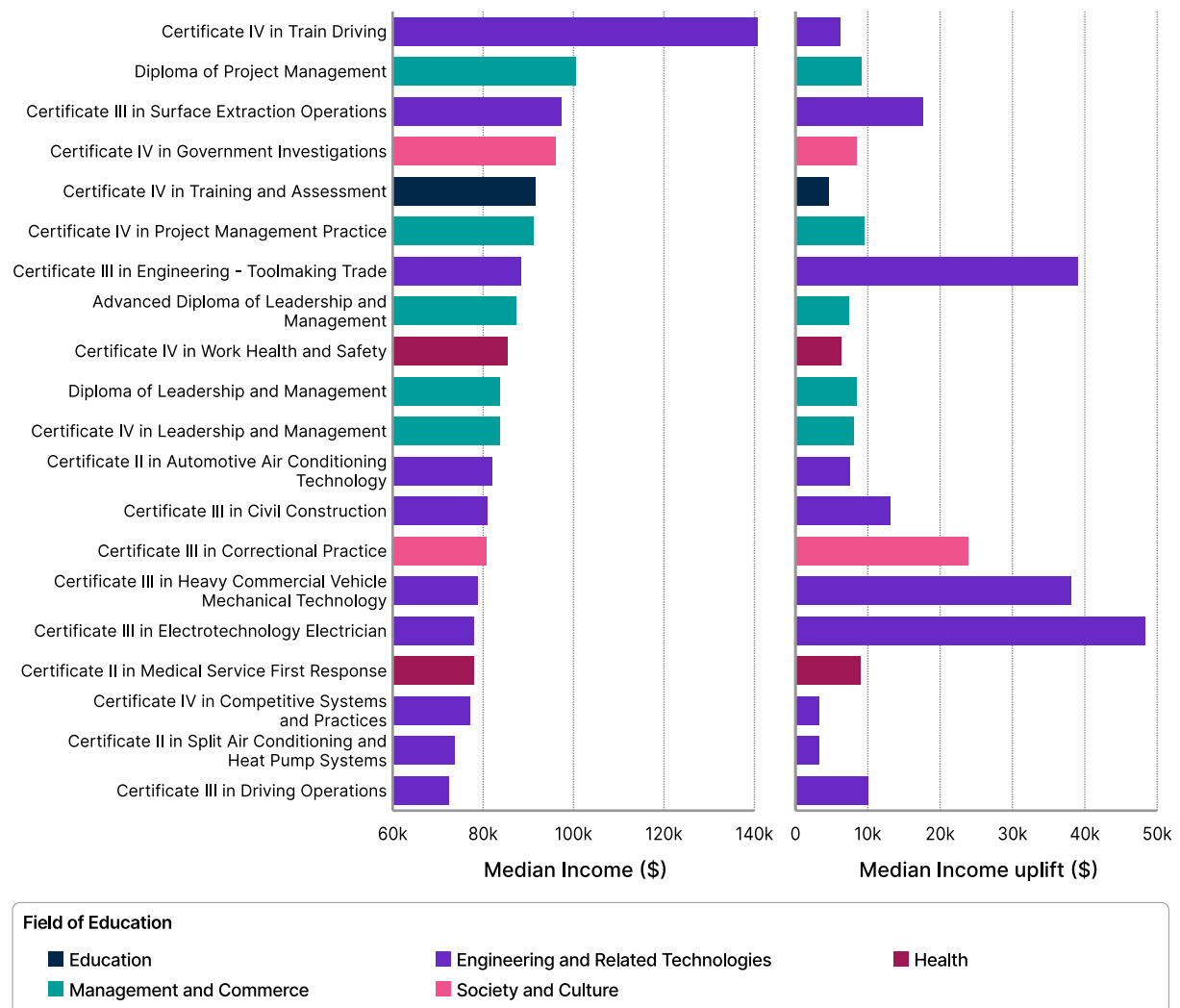

Source: Multi-Agency Data Integration Project (MADIP), 2002 - 2021, VET National Data Asset, ABS DataLab. Findings based on use of MADIP data.

Income uplift after training at course level

The top five courses for the median change in income metric (Table 6) are also predominantly in Engineering and Related Technologies (see also 'Appendix C – Table 19' for top 20 courses). They are mostly Certificate III apprenticeship courses with at least 73% being apprentices or trainees. Students that complete these courses tend to be younger and this, coupled with the longer course duration, helps explain the relatively large change in income. Completion of these courses can also affect employee's classifications and pay rates under a modern award. The top 10 courses for employee income also had a relatively high median income figure with all being above the overall national median post-completion employee income of $48,214.

Table 6: Courses with highest median change in income

Program title	Program ID	FOE	Median Income ($)	Median change in income ($)
Certificate III in Electrotechnology Electrician	UEE30820	Engineering and Related Technologies	$78,074	$48,369
Certificate III in Plumbing	CPC32420	Architecture and Building	$63,987	$43,616
Certificate III in Engineering - Toolmaking Trade	MEM31519	Engineering and Related Technologies	$88,478	$38,969
Certificate III in Air Conditioning and Refrigeration	UEE32220	Engineering and Related Technologies	$71,763	$38,182
Certificate III in Heavy Commercial Vehicle Mechanical Technology	AUR31120	Engineering and Related Technologies	$78,771	$38,112

Source: Multi-Agency Data Integration Project (MADIP), 2002 - 2021, VET National Data Asset, ABS DataLab. Findings based on use of MADIP data.

While not represented in the top five, certain Certificate I and II courses stood out as being associated with higher incomes. Certificate II in Meat Processing (Abattoirs) stood out with a relatively high median income ($51,955) and a high median income change ($19,016), likely indicating the demand for entry level positions in the Meat Processing industry.

Of the top 100 courses, only two courses had a median change of income below zero, suggesting VET course completions are in most cases associated with an income uplift (Table 7).

Table 7: Courses with a negative change in employee income

Program title	Program ID	Median age	Median income ($)	Median change in income ($)
Certificate III in Entrepreneurship and New Business	BSB30220	38	$12,995	-$1,823
Diploma of Remedial Massage	HLT52015	35	$23,291	-$300

Source: Multi-Agency Data Integration Project (MADIP), 2002 - 2021, VET National Data Asset, ABS DataLab. Findings based on use of MADIP data.

Certificate III in Entrepreneurship and New Business is a likely pathway for students wanting to start a business which may lead to a change in the form of income (e.g., business income) which is not captured in the VNDA data at present. The Diploma of Remedial Massage also offers students self-employment options as an independent practitioner. The negative change in income figure may be explained by people moving from employee income to business income, which is not captured in this analysis.
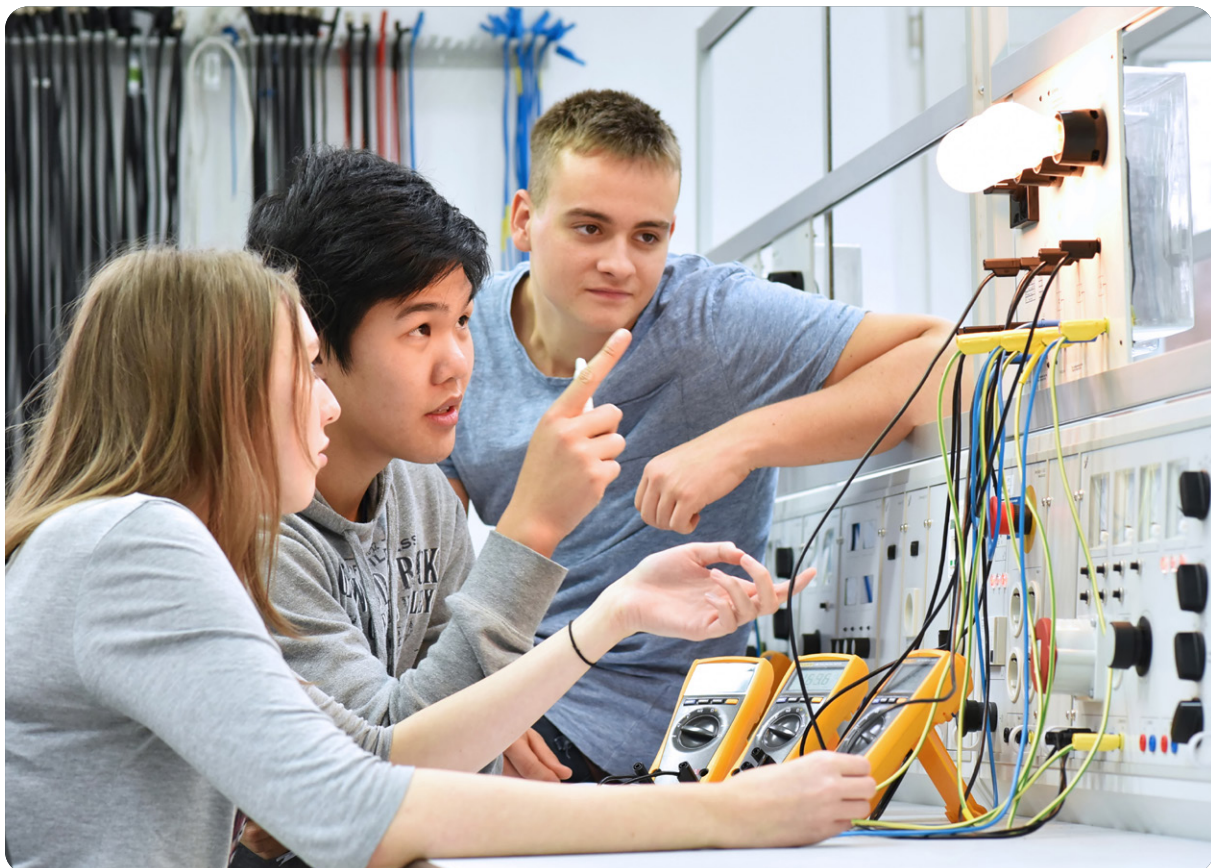
Further study outcomes

For some people, completion of a VET qualification serves as an intermediary step from which they continue their learning journey, either to pursue further VET or enrol in higher education.

For the analysis of further study outcomes, we included students who went on to enrol in a higher-level course than previously completed (and excluded those who re-enrolled in the same course or enrolled in another course at the same AQF level). A definition is provided in 'Appendix B – Further Study'. Nationally, the percentage of students that commenced further study in VET was 15.7%, while the progression to higher education rate was 6.7% nationally.

Further study outcomes for cohorts

Table 8 shows further study outcomes for cohorts of interest. For females, progression to further study in VET was comparable to the national figure at 16.4%, however they had a slightly higher rate of progression to higher education at 8%, compared to 6.7%.

First Nations students had a higher progression rate to further VET (20.5%) and a lower progression rate to higher education (4.6%). Similarly, students with disability also had a higher progression rate to further VET (22.4%) and a lower progression rate to higher education (5.9%).

Table 8: Further study outcomes at the national level and by cohorts

Measure	National	Females	First Nations	Students with disability
Progression to further VET (%)	15.7%	16.4%	20.5%	22.4%
Progression to Higher Education (%)	6.7%	8.0%	4.6%	5.9%

Source: Multi-Agency Data Integration Project (MADIP), 2002 - 2021, VET National Data Asset, ABS DataLab. Findings based on use of MADIP data.

Further study outcomes at course level

Pathways from VET to further study in VET or higher education are diverse. They are influenced by a range of factors such as immediate employment outcomes, career progression and level of education that students complete. Not surprisingly, the qualifications with the highest progression rates to higher education enrolments are Diploma or Certificate IV qualifications and these have considerably lower progression rates to further study in VET. A list of the five qualifications having the highest rates of subsequent enrolment in higher education are presented in Table 9 (see also 'Appendix C – Table 19' for top 20 courses).

Table 9: Top 5 qualifications leading to higher education enrolments.

Program title	Program ID	Field of education	Progression to Higher Education (%)	Progression to further VET (%)
Diploma of Nursing	HLT54115	Health	35.0%	0.6%
Diploma of Information Technology	ICT50220	Information Technology	29.5%	8.4%
Diploma of Business	BSB50120	Management and Commerce	23.5%	5.8%
Diploma of Screen and Media	CUA51015	Creative Arts	20.9%	29.0%
Diploma of Accounting	FNS50217	Mixed Field Programmes	20.6%	14.2%

Source: Multi-Agency Data Integration Project (MADIP), 2002 - 2021, VET National Data Asset, ABS DataLab. Findings based on use of MADIP data.

The highest rate of progression to higher education was for those who completed a Diploma of Nursing (35%). For a Diploma of Nursing graduate, a Bachelor of Nursing can be a pathway to becoming a Registered Nurse. Over a quarter of Diploma of Information Technology (29.5%) graduates also pursued higher education after completion. Interestingly, Diploma of Screen and Media had relatively high progression rates to both higher level VET courses and to higher education. It is likely that this course may offer a baseline skill set to students who undertake further study and/or training to more specialist studies.

The courses with the top rates of progression to further higher education study also indicate areas where dual-system providers are or can operate in, and where better VET to higher education transitions and/or recognition of prior learning can be facilitated for students.

Table 10 shows the top five qualifications with the lowest progression to higher education rate (see also 'Appendix C – Table 20' for top 20 courses). Qualifications with the lowest progression rates tend to be in high-demand fields with good employment outcomes, such as Engineering and Related Technologies field. As stated earlier, courses in this field of education tend to have good employment outcomes suggesting most students don't see a need for additional training to support their careers.

Table 10: Top 5 qualifications with the lowest progression to higher education.

Program title	Program ID	Field of education	Progression to Higher Education (%)
Certificate III in Engineering – Toolmaking Trade	MEM31519	Engineering and Related Technologies	0.6%
Certificate III in Light Vehicle Mechanical Technology	AUR30620	Engineering and Related Technologies	0.8%
Certificate III in Carpentry	CPC30220	Architecture and Building	0.9%
Certificate III in Driving Operations	TLI31216	Engineering and Related Technologies	0.9%
Certificate II in Spoken and Written English	10363NAT	Mixed Field Programmes	1.0%

Source: Multi-Agency Data Integration Project (MADIP), 2002 - 2021, VET National Data Asset, ABS DataLab. Findings based on use of MADIP data.

The qualifications with the highest progression rates to higher level VET study are typically Certificate II or Certificate III qualifications. The five courses with the highest rates are provided in Table 11 (see also 'Appendix C – Table 21' for top 20 courses). Certificate I and Certificate II in Spoken and Written English (61%) are undertaken by those who need to develop language skills to participate in a range of contexts in the community, undertake further training, or enter the labour market. Certificate II in Electrotechnology (Career Start) has a high progression rate and as stated earlier has a direct pathway to courses with high employment and income outcomes.

Table 11: Top 5 qualifications with highest progression rates to further VET

Program title	Program ID	Field of education	Progression to further VET (%)
Certificate I in Spoken and Written English	10362NAT	Mixed Field Programmes	61.0%
Certificate II in Spoken and Written English	10363NAT	Mixed Field Programmes	61.0%
Certificate III in Fitness	SIS30315	Society and Culture	56.3%
Certificate II in Animal Studies	ACM2011	Health	55.7%
Certificate II in Electrotechnology (Career Start)	UEE22020	Engineering and Related Technologies	52.1%

Source: Multi-Agency Data Integration Project (MADIP), 2002 - 2021, VET National Data Asset, ABS DataLab. Findings based on use of MADIP data.

Certificate III in Fitness has a natural progression to Certificate IV in Fitness, which may suggest this qualification is the standard for the industry. Similar arguments may be made for the other qualifications, even Certificate IV in Information Technology (11th highest, not shown), which has a higher-level qualification pathway, Diploma in Information Technology, to pursue. As identified earlier, this can lead to progression to further higher education study.

Unsurprisingly, the qualifications with the lowest transition rates (below 10%) to further VET are comprised almost exclusively of Diploma, Certificate IV, or Certificate III courses. The five qualifications with the lowest progression to further VET study are provided in Table 12 are all Diploma level courses (see also 'Appendix C – Table 22' for top 20 courses).

Table 12: Top 5 qualifications with lowest percentage of students commencing further VET.

Program title	Program ID	Field of education	Progression to further VET (%)	Progression to higher education (%)
Diploma of Nursing	HLT54115	Health	0.6%	35.0%
Diploma of Finance and Mortgage Broking Management	FNS50320	Management and Commerce	0.6%	3.3%
Diploma of Early Childhood Education and Care	CHC50113	Education	0.9%	10.5%
Diploma of Beauty Therapy	SHB50115	Food, Hospitality and Personal Services	1.0%	9.6%
Diploma of Community Services	CHC52015	Society and Culture	1.4%	15.0%

Source: Multi-Agency Data Integration Project (MADIP), 2002 - 2021, VET National Data Asset, ABS DataLab. Findings based on use of MADIP data.

The Diploma of Nursing has already been discussed as a pathway to higher education study. However, other courses such as Diploma of Early Childhood Education and Care, Diploma of Beauty Therapy and Diploma of Community Services scored low for both progression rates which may suggest these courses are sufficient for senior roles in their associated fields.

Conclusion

The VET National Data Asset (VNDA) provides the ability to examine student outcomes before and after the completion of training to present new results on student outcomes. Overall, completing a VET course produces positive employment outcomes. The percentage of students who were employed after completing a VET course was 82.7%.

The findings show the diverse nature of VET qualifications and students participating in them, and how courses achieve different outcomes depending on student and labour market needs. VET qualifications successfully assist people in different transition points in their life, such as young students entering the labour market for the first time by completing apprenticeships to mature students in their 30s completing diploma level qualifications to upskill in a current role or change jobs.

Courses in the Engineering and Related Technologies field at the Certification III level (EG: Certificate III in Electrotechnology Electrician) had high employment rates and the highest income, and income uplift, post completion. Courses in the Health field (EG: Certificate IV in Veterinary Nursing) had high employment and change in employment rates post-completion but were less represented in the top courses for the income measures. These results reflect the persistent demand for these vocations in the labour market and the comparative income offered by employers in each of the fields. The link between occupations in shortage and VET completions targeting labour market demand for these fields of education is strong.

Professional courses such as Diploma of Project Management and Certificate IV in Training and Assessment were in the top courses with the highest median income and highest percentage of students employed. These courses play their role in assisting professionals to upskill in their role mid-career, and/or transition into managerial roles within their field.

Mixed Field Studies and Foundation Skills such as Certificate I and II in Spoken and Written English were associated with a high change in employment rates. The immense value of these courses for those with low foundation skills is evident in the analysis both in terms of employment and progression to further VET study. Sixty-one per cent of students undertaking a certificate in these courses progress to further VET study – the highest progression of any VET course.

The report also reveals insights into post study outcomes. The top courses associated with high transitions to higher education are at the Diploma Level, in fields such as Nursing, Information Technology, Business and Media. These courses indicate areas where better VET to higher education transitions and/or recognition of prior learning can be facilitated for students. This highlights the importance of continuing to understand the pathways people are taking in the labour market and how these can be made more efficient through the VET and higher education system collaboration.

Future work

VNDA plays a key role in assisting JSA to provide advice on the adequacy of the Australian system for providing VET, including training outcomes. This report represents the first tranche of work to measure student outcomes before and after completing training for the top 100 courses.

Further analysis is underway to:

- Measure outcomes for students who completed a qualification in the 2019-2020 financial year, across the full suite of courses using updated total VET activity data.
- Break down the analysis across states and territories.
- Analyse course outcomes within fields of education and/or Australian Qualification Framework levels.

Further modelling is underway to:

- Compare the outcomes achieved by students with similar characteristics undertaking training with a focus on non-completions, foundation and pathway courses and micro-credentials.
- Incorporate variables such as location, part-time work and caring arrangements into the VNDA methodology to more meaningfully evaluate student outcomes.

In line with possible future directions in the JSA report '*Towards a national jobs and skills roadmap*' there is potential in future tranches of work to dive deeper into cohort analysis. There is also potential with VNDA and other JSA data assets to dive deeper into the occupations in shortage and identify how well VET completions are aligned.

JSA welcomes both feedback on this report and direct engagement to help shape both the modelling work that underpins the VNDA data asset and the focus of future analysis. Please get in touch at VNDA@jobsandskills.gov.au.

Disclaimer

The results of these studies are based, in part, on data supplied to the ABS under the Taxation Administration Act 1953, A New Tax System (Australian Business Number) Act 1999, Australian Border Force Act 2015, Social Security (Administration) Act 1999, A New Tax System (Family Assistance) (Administration) Act 1999, Paid Parental Leave Act 2010 and/or the Student Assistance Act 1973. Such data may only be used for the purpose of administering the Census and Statistics Act 1905 or performance of functions of the ABS as set out in section 6 of the Australian Bureau of Statistics Act 1975. No individual information collected under the Census and Statistics Act 1905 is provided back to custodians for administrative or regulatory purposes. Any discussion of data limitations or weaknesses is in the context of using the data for statistical purposes and is not related to the ability of the data to support the Australian Taxation Office, Australian Business Register, Department of Social Services and/or Department of Home Affairs' core operational requirements.

Legislative requirements to ensure privacy and secrecy of these data have been followed. For access to MADIP and/or BLADE data under Section 16A of the ABS Act 1975 or enabled by section 15 of the Census and Statistics (Information Release and Access) Determination 2018, source data are de-identified and so data about specific individuals has not been viewed in conducting this analysis. In accordance with the Census and Statistics Act 1905, results have been treated where necessary to ensure that they are not likely to enable identification of a particular person or organisation.

Appendix A – Student and training characteristic definitions

Current Program Identifier

JSA Definition	Uniquely identifies a qualification, course, or skill set.
Data Source	NCVER Training activity, Program completed and Training.gov.au
Treatment	Aggregated cluster grouping of superseded and current program identifier.
Concordance Analysis	VET National Data Asset Technical Paper Input variable – Current program ID, Section 4. The JSA approach to program ID.

Pre-training Period

JSA Definition	'Pre-training' is defined as the financial year prior to the earliest available date of enrolment for each student.
Data Source	NCVER Training activity
Treatment	Aggregated cluster grouping of superseded and current program identifier.
Concordance Analysis	VET National Data Asset Technical Paper Definition of pre- and post-training period, Section 5.3.1 Consultation with NCVER on commencement dates.

Post-training Period

JSA Definition	'Post-training' is defined as the financial year after the completion of a course.
Data Source	NCVER Program completed
Treatment	Financial year derived from completion date for student program.
Concordance Analysis	VET National Data Asset Technical Paper Definition of pre- and post-training period, Table 4: Confrontation of actual versus derived program completion date for students completing in FY 2017-18.

Aboriginal and Torres Strait Islander people

JSA Definition	Indicates whether a student has ever identified as an Aboriginal or Torres Strait Islander person.
Data Source	NCVER Training activity, program completed, and ABS combined demographics

Treatment	1. The minimum value reported by each student will be taken as their reported Indigenous status. This approach prioritises students who have ever reported as Aboriginal or Torres Strait Islander (1, 2 or 3) in the TVA dataset, before non-Indigenous (4 or @/missing).
	2. The categorical variable will then be transformed into a binary variable:
	   a. Where Indigenous ID = 1, 2, 3 then yes (1)
	   b. Where Indigenous ID = 4 AND ever Indigenous = 1 then yes (1)
	   c. Where Indigenous ID = 4 then no (0)
	   d. Where Indigenous ID = missing, then remain missing
	3. The binary variable will then be combined (coalesced) with the three Combined Demographics binary variables (ever Indigenous, ever Aboriginal, ever Torres Strait Islander).

Concordance Analysis	VET National Data Asset Technical Paper Input variable – Aboriginal and Torres Strait Islander students, Table 5: Count of values at each stage of the JSA treatment.

Apprentice and Trainee

JSA Definition	A student with an apprenticeship/traineeship training contract.
Data Source	NCVER Training activity
Treatment	The methodology used to develop the A&T indicator is based on the presence of an A&T flag available in TVA enrolments. The following rules were applied to identify the A&T cohort: 1. If an A&T flag exists for a student for any subject as part of a program, then that student is categorised as an A&T for that whole program. 2. If an A&T flag does not exist for a student for any subject, then that student is categorised as a non-A&T student.
Concordance Analysis	VET National Data Asset Technical Paper Input variable – Apprentice and trainee students, Section 4. JSA analysis of the identified A&T cohort.

Gender

JSA Definition	The gender variable indicates whether a student identifies as female, male, or other. Gender is a self-reported by the student and must not be determined by the training organisation. JSA use the TVA collection as the primary source, supplemented with data from other sources in some instances, to identifying the gender of students per program enrolment.
Data Source	NCVER Training activity and Program completed
Treatment	1. Where a student has completed a program, JSA will take the most recently reported gender value from the TVA completions dataset to determine a student's overall gender for that program enrolment. JSA assumes this to be the last data collection point for a student and therefore their most current gender identity.
	2. Where the reported gender at completion of a program is unspecified (@), JSA will take the value reported at commencement of the program (the gender value reported at the first activity start date in TVA enrolments).
	3. JSA expects there to be instances where students 'have not reported gender at both time points'. Therefore, where a student has reported as unspecified at both completion and commencement of their program, JSA will convert all remaining unspecified values to missing and coalesce the TVA gender variable with the Combined Demographics module. This helps reduce the number of unspecified values, by filling in the TVA gender variable with a known value reported in the Combined Demographics module (where available).
	4. Additionally, in the rare scenario where a student has reported multiple gender values at completion of their program and JSA cannot determine whether the student has reported F, M or X (non-binary), then JSA will take their gender from Combined Demographics. For example, where a student has reported an M and an F at program completion, then JSA will resolve the inconsistency by using the gender from Combined Demographics module.
Concordance Analysis	VET National Data Asset Technical Paper Input variable – Gender, Table 3: Concordance rates between the untreated TVA variable and Combined Demographics.

State of Training

JSA Definition	The state or territory of a student's training for a program enrolment.
Data Source	NCVER Training activity and Program completed

Treatment	The JSA approach to deriving a state of training variable for each student per program enrolment is as follows:
	
	1. In the first instance, the JSA will take the value reported under state of student residence at completion of a program, where the state value is 01, 02, 03, 04, 05, 06, 07, or 08.
	
	2. Where the state of student residence at completion of a program is not a code of 01-08, then the JSA will apply the following steps to allocate a state of training:
	
	    a. Where the state of student residence value at completion is 09, 99, or @@ (see Table 7 for code descriptions), or where a student has duplicate values (i.e., more than one 01-08 state code reported at this time point), then the JSA will take the value reported under state of delivery location at commencement of the program.
	
	    b. Where the state of delivery location value at commencement is 09, 99, or @@, or where a student has duplicate values (i.e., more than one 01-08 state code), then JSA considers the state of training to be unknown.

Concordance Analysis	VET National Data Asset Technical Paper Input variable – State of training, Section 4. JSA analysis of the TVA data.

Students Living with Disability

JSA Definition	The disability status indicates whether students consider themselves to have a disability, impairment, or long-term condition.
Data Source	NCVER Training activity and Program completed
Treatment	To address the duplicate disability values the maximum value reported by each student, by program ID, will be taken as their reported disability status. This approach prioritises a response for students who have ever reported as living with a disability (Y) during their program before, students who have not ever identified as living with a disability (N or @). This allows JSA to identify students who have ever reported as living with a disability, by program, in the TVA dataset. For example, where a student has reported both Y and @, the Y value will be taken for that student over the @ value. Similarly, the N value will be taken over the @ value. This ensures that where students have reported a known value (Y or N) but have also reported an unspecified value (@), the known value will be retained, reducing the amount of overall unspecified values.
Concordance Analysis	VET National Data Asset Technical Paper Input variable – Students living with disability, Table 3: Percentage concordance of disability status reporting for commencement vs completion.

Secondary School Status

JSA Definition	Students who are undertaking vocational education and training (VET) in school program while also completing secondary school studies.
Data Source	NCVER Training activity
Treatment	Where a student has received a VET in Schools Flag value of 'Y' as the last program subject enrolment, then that student will be considered a secondary school student.
Concordance Analysis	VET National Data Asset Technical Paper Input variable – Secondary school status, Section 6.4 Confrontation of the identified secondary school cohort with NCVER Data-Builder.

Funding Source and International Students

JSA Definition	JSA categorises students as domestic fee-for-service, international fee-for-service, or government funded.
Data Source	NCVER Training activity
Treatment	The JSA will apply the following approach: Variable national funding source ID will first be recategorised as follows: 1. Government funded = codes 11, 13, 15 2. International fee-for-service = 30, 31, 32 3. Domestic fee-for-service = 20 4. Other (TAFE) = 80 Then, to de-duplicate where students have reported multiple values during their program enrolment, JSA will take the highest reported funding source based on the hierarchy: 1. Government funded 2. International fee-for-service 3. Domestic fee-for-service 4. Other (TAFE).
Concordance Analysis	VET National Data Asset Technical Paper Input variable – Secondary school status, Section 6.4 Confrontation of the identified secondary school cohort with NCVER Data-Builder.

Appendix B – Definitions of outcome measures

Employee income

JSA Definition	Income earned as an employee (excluding any income earned through self-employment or from the investment of existing capital)
Business Definition	Capture employee income from employment to understand outcomes achieved through VET training.
Data Source	ATO Personal Income Tax Return, ATO Payment Summary, Department of Social Services (DSS) DOMINO
Treatment	Employee income is sourced from three locations: 1. ATO Personal Income Tax Return (PIT) 2. ATO Payment Summary (PS) 3. DSS DOMINO dataset (DOMINO) The following priority method is used: • Where a PIT record exists (for a given individual in a given year), then PIT is used. • If no PIT record exists, then PS is used. • If no PIT record, and no PS record, then DOMINO is used. PIT employee income is defined by the adding up the following data items. • Salary or wages • Allowances, earnings, tips, directors' fees etc. • Attributed personal services income. • Reportable employer superannuation contributions • Total reportable fringe benefits PS employee income is defined by adding up the following data items. • Gross payment amount • Total allowances • Reportable employer superannuation contributions • Reportable fringe benefits DOMINO employee income is defined by adding up the following data items. • Continuous employee income • Variable employee income

Employment status

JSA Definition	Employment status is defined in Australia with reference to categories used in the Census of Population and Housing (Census) and the Labour Force Survey (LFS). That is, those employed are distinguished from those who are not employed and seeking paid employment ('unemployment'), with those not working and not seeking paid employment regarded as 'not in the labour force.'
Business Definition	Infer employment status from the employee income data to understand outcomes achieved through VET training.
Data Source	ATO Personal Income Tax Return, ATO Payment Summary, DSS DOMINO
Treatment	Employment status is not consistently recorded in any single administrative database for the Australian population in a way that aligns with the requirements for the VNDA project.

Consequently, JSA defines employment status in a given financial year as a binary flag based on whether that individual received any employee income in that year. |

Further study

JSA Definition	A student is considered to have progressed to further study where they have commenced in a qualification at a higher level of education than they completed in either VET or Higher Education in the same financial year as the completed training or in the subsequent financial year.
Business Definition	Understand student educational pathways based on whether students' progress to further study after completing a VET qualification.
Data Source	NCVER Training activity, Program completed and Department of Education (DoE) Higher Education
Treatment	TVA data uses the ABS Australian Standard Classification of Education (ASCED) to classify the level of education for VET qualifications, whereas higher education Information Management System (HEIMS) uses its own classification. To align with ASCED and to allow ease of comparison with TVA data, JSA re-assigned Higher Education levels of education to their best fit within the ASCED codes.

JSA uses the following process to de-duplicate multiple commencements:

1. Reclassify the levels of education categories to align with ASCED.
2. Where a student commenced in more than one level of education in the same financial year, the lowest ASCED value (corresponding to the highest level of study) is taken to capture the student's highest level of education commencement. The process is done for both TVA and higher education data, that is, we obtain the highest level of enrolment for VET and the highest level for higher education separately.

In the instance where a VET completing student has progressed to a TVA level of education that is unassigned (for example, 999, 991 or 992), then that student will not be considered to have progressed to further study for that subsequent program commencement. |

Data Confidentiality

JSA has complied with all output rules (refer to Input and output clearance | Australian Bureau of Statistics (abs.gov.au) for more information). These rules safeguard against the risk of releasing course-level data that could potentially identify either an individual or an organisation.

Where there is a risk of disclosure (in terms of identifying an individual or an RTO), we have applied "data suppression" These instances appear in the summary statistics and are identified in some instances with an asterisk ('*'). Alternatively, where it has been deemed safe to do so, we may mask a statistic by replacing it with a range (e.g., 90% to 100%).

Appendix C – Detailed results

Table 13: Top 20 courses associated with highest percentage of students employed after training, and their associated change in employment rate.

Program title	Field of education	Employed after training (%)	Employment change (%p)
Certificate III in Correctional Practice	Society and Culture	99.07%	9.05%
Certificate III in Engineering - Casting and Moulding Trade	Engineering and Related Technologies	96.97%	16.71%
Certificate III in Heavy Commercial Vehicle Mechanical Technology	Engineering and Related Technologies	96.68%	12.27%
Certificate III in Engineering - Toolmaking Trade	Engineering and Related Technologies	96.54%	11.43%
Certificate IV in Leadership and Management	Management and Commerce	96.38%	2.21%
Certificate IV in Veterinary Nursing	Health	95.92%	14.10%
Certificate IV in Project Management Practice	Management and Commerce	95.86%	2.14%
Course in First Aid Management of Anaphylaxis	Health	95.83%	3.14%
Certificate III in Electrotechnology Electrician	Engineering and Related Technologies	95.41%	11.34%
Certificate IV in Training and Assessment	Education	95.13%	2.80%
Certificate IV in Work Health and Safety	Health	94.99%	2.63%
Diploma of Human Resource Management	Management and Commerce	94.89%	3.44%
Certificate III in Plumbing	Architecture and Building	94.61%	15.08%
Diploma of Nursing	Health	94.46%	16.46%
Certificate III in Air Conditioning and Refrigeration	Engineering and Related Technologies	94.44%	11.69%
Certificate III in Civil Construction	Engineering and Related Technologies	94.04%	7.05%
Certificate III in Light Vehicle Mechanical Technology	Engineering and Related Technologies	93.94%	18.88%
Certificate III in Telecommunications Technology	Engineering and Related Technologies	93.82%	6.52%
Certificate IV in Disability	Society and Culture	93.74%	17.62%
Certificate III in Driving Operations	Engineering and Related Technologies	93.54%	6.54%

Source: Multi-Agency Data Integration Project (MADIP), 2002 – 2021, VET National Data Asset, ABS DataLab. Findings based on use of MADIP data. %p denotes percentage points.

Table 14: Bottom 20 courses of students employed after training, with their associated change in employment rate.

Program title	Field of education	Employed after training (%)	Employment change (%p)
Diploma of Screen and Media	Creative Arts	73.13%	13.92%
Certificate III in Supply Chain Operations	Management and Commerce	72.85%	10.37%
Certificate IV in Entrepreneurship and New Business	Management and Commerce	70.66%	-3.36%
Certificate IV in Design	Creative Arts	70.54%	1.71%
Diploma of Information Technology	Information Technology	69.31%	13.32%
Certificate IV in Information Technology	Information Technology	68.51%	9.99%
Certificate III in Painting and Decorating	Architecture and Building	68.27%	3.86%
Certificate III in Beauty Services	Certificate III in Beauty Services	67.75%	13.43%
Certificate II in Retail Services	Management and Commerce	67.63%	24.09%
Certificate III in Community Services	Society and Culture	67.16%	16.08%
Certificate II in Hospitality	Food, Hospitality and Personal Services	64.95%	26.72%
Certificate II in Resources and Infrastructure Work Preparation	Engineering and Related Technologies	62.77%	3.97%
Certificate III in Information Technology	Information Technology	61.63%	18.48%
Certificate II in Workplace Skills	Management and Commerce	60.07%	19.94%
Certificate III in Entrepreneurship and New Business	Management and Commerce	57.93%	-5.40%
Certificate II in Skills for Work and Vocational Pathways	Mixed Field Programmes	46.30%	13.74%
Certificate III in Spoken and Written English	Mixed Field Programmes	45.34%	26.20%
Certificate II in Applied Digital Technologies	Information Technology	42.56%	2.63%
Certificate II in Spoken and Written English	Mixed Field Programmes	38.84%	22.03%
Certificate I in Spoken and Written English	Mixed Field Programmes	31.07%	19.72%

Source: Multi-Agency Data Integration Project (MADIP), 2002 – 2021, VET National Data Asset, ABS DataLab. Findings based on use of MADIP data. %p denotes percentage points.

Table 15: Top 20 courses with highest employment change rates after training

Program title	Field of education	Employed after training (%)	Employment change (%p)	Female completers (%)	Median age
Certificate III in Individual Support	Society and Culture	87.45%	34.51%	80.91%	35
Certificate III in Early Childhood Education and Care	Society and Culture	84.47%	31.10%	96.40%	28
Certificate III in Education Support	Education	86.77%	28.97%	92.93%	38
Certificate II in Hospitality	Food, Hospitality and Personal Services	64.95%	26.72%	60.48%	21
Certificate III in Spoken and Writ-ten English	Mixed Field Programmes	45.34%	26.20%	79.52%	35
Certificate IV in Ageing Support	Society and Culture	91.17%	25.60%	89.10%	38
Certificate III in Health Services Assistance	Health	81.58%	24.44%	79.76%	29
Certificate II in Retail Services	Management and Commerce	67.63%	24.09%	62.74%	20
Certificate II in Spoken and Written English	Mixed Field Programmes	38.84%	22.03%	78.88%	36
Certificate III in Hairdressing	Food, Hospitality and Personal Services	83.76%	21.17%	92.73%	22
Certificate III in Hospitality	Food, Hospitality and Personal Services	81.61%	21.05%	60.95%	21
Certificate II in Meat Processing (Abattoirs)	Food, Hospitality and Personal Services	91.80%	20.80%	25.78%	24.5
Certificate IV in Education Support	Education	86.87%	20.67%	94.49%	39
Certificate II in Workplace Skills	Management and Commerce	60.07%	19.94%	60.41%	23
Certificate III in Pathology Collection	Natural and Physical Sciences	82.87%	19.74%	90.04%	32
Certificate I in Spoken and Written English	Mixed Field Programmes	31.07%	19.72%	70.73%	39
Certificate III in Dental Assisting	Health	93.06%	19.65%	97.16%	23
Certificate II in Security Operations	Society and Culture	83.09%	19.35%	16.63%	29
Certificate III in Light Vehicle Mechanical Technology	Engineering and Related Technologies	93.94%	18.88%	3.12%	23
Certificate III in Information Technology	Information Technology	61.63%	18.48%	16.32%	20

Source: Multi-Agency Data Integration Project (MADIP), 2002 – 2021, VET National Data Asset, ABS DataLab. Findings based on use of MADIP data. %p denotes percentage points.

Table 16: Top 20 courses associated with highest median income after training in FY 2019-20, and their associated median income change.

Program title	Field of education	Median income ($)	Median change in income ($)
Certificate IV in Train Driving	Engineering and Related Technologies	$140,750	$6,160
Diploma of Project Management	Management and Commerce	$100,450	$9,142
Certificate III in Surface Extraction Operations	Engineering and Related Technologies	$97,287	$17,607
Certificate IV in Government Investigations	Society and Culture	$95,971	$8,388
Certificate IV in Training and Assessment	Education	$91,541	$4,564
Certificate IV in Project Management Practice	Management and Commerce	$91,192	$9,547
Certificate III in Engineering - Toolmaking Trade	Engineering and Related Technologies	$88,478	$38,969
Advanced Diploma of Leadership and Management	Management and Commerce	$87,357	$7,332
Certificate IV in Work Health and Safety	Health	$85,418	$6,321
Diploma of Leadership and Management	Management and Commerce	$83,814	$8,462
Certificate IV in Leadership and Management	Management and Commerce	$83,757	$8,021
Certificate II in Automotive Air Conditioning Technology	Engineering and Related Technologies	$81,936	$7,475
Certificate III in Civil Construction	Engineering and Related Technologies	$81,002	$13,120
Certificate III in Correctional Practice	Society and Culture	$80,739	$23,837
Certificate III in Heavy Commercial Vehicle Mechanical Technology	Engineering and Related Technologies	$78,771	$38,112
Certificate III in Electrotechnology Electrician	Engineering and Related Technologies	$78,074	$48,369
Certificate II in Medical Service First Response	Health	$78,062	$8,989
Certificate IV in Competitive Systems and Practices	Engineering and Related Technologies	$77,036	$3,278
Certificate II in Split Air Conditioning and Heat Pump Systems	Engineering and Related Technologies	$73,806	$3,294
Certificate III in Driving Operations	Engineering and Related Technologies	$72,509	$10,069

Source: Multi-Agency Data Integration Project (MADIP), 2002 – 2021, VET National Data Asset, ABS DataLab. Findings based on use of MADIP data. %p denotes percentage points.

Table 17: Top 20 courses associated with the highest median change in income.

Program title	Field of education	Median income ($)	Median change in income ($)
Certificate III in Electrotechnology Electrician	Engineering and Related Technologies	$78,074	$48,369
Certificate III in Plumbing	Architecture and Building	$63,987	$43,616
Certificate III in Engineering - Toolmaking Trade	Engineering and Related Technologies	$88,478	$38,969
Certificate III in Air Conditioning and Refrigeration	Engineering and Related Technologies	$71,763	$38,182
Certificate III in Heavy Commercial Vehicle Mechanical Technology	Engineering and Related Technologies	$78,771	$38,112
Certificate III in Engineering - Casting and Moulding Trade	Engineering and Related Technologies	$68,173	$37,537
Certificate III in Light Vehicle Mechanical Technology	Engineering and Related Technologies	$53,386	$33,330
Certificate III in Cabinet Making	Engineering and Related Technologies	$52,598	$31,983
Certificate III in Carpentry	Architecture and Building	$54,468	$28,080
Certificate III in Correctional Practice	Society and Culture	$80,739	$23,837
Certificate III in Hairdressing	Food, Hospitality and Personal Services	$37,811	$23,136
Certificate II in Meat Processing (Abattoirs)	Food, Hospitality and Personal Services	$51,955	$19,016
Certificate III in Painting and Decorating	Architecture and Building	$46,065	$18,553
Certificate III in Dental Assisting	Health	$41,869	$18,093
Certificate IV in Disability	Society and Culture	$56,714	$17,756
Diploma of Nursing	Health	$47,927	$17,639
Certificate III in Surface Extraction Operations	Engineering and Related Technologies	$97,287	$17,607
Certificate III in Early Childhood Education and Care	Society and Culture	$35,019	$17,148
Certificate IV in Veterinary Nursing	Health	$46,535	$17,146
Certificate III in Commercial Cookery	Food, Hospitality and Personal Services	$45,456	$16,046

Source: Multi-Agency Data Integration Project (MADIP), 2002 - 2021, VET National Data Asset, ABS DataLab. Findings based on use of MADIP data.

Table 18: Bottom 20 courses associated with lowest median income after training in FY 2019-20, and their associated median income change.

Program title	Field of education	Median age	Median income ($)	Median change in income ($)
Certificate III in Retail	Management and Commerce	20	$29,150	$15,716
Certificate III in Hospitality	Food, Hospitality and Personal Services	21	$28,362	$11,076
Certificate IV in Design	Creative Arts	24	$28,309	$3,334
Certificate II in Resources and Infrastructure Work Preparation	Engineering and Related Technologies	27	$27,731	$4,701
Certificate III in Information Technology	Information Technology	20	$27,475	$10,851
Certificate III in Education Support	Education	38	$27,376	$8,304
Certificate III in Community Services	Society and Culture	34	$26,465	$7,918
Certificate II in Animal Studies	Health	21	$25,878	$7,250
Diploma of Screen and Media	Creative Arts	20	$24,745	$11,023
Certificate III in Spoken and Written English	Mixed Field Programmes	35	$23,749	$5,562
Diploma of Remedial Massage	Health	35	$23,291	-$300
Certificate II in Spoken and Written English	Mixed Field Programmes	36	$23,080	$9,642
Certificate II in Workplace Skills	Management and Commerce	23	$22,963	$10,381
Certificate II in Applied Digital Technologies	Information Technology	47	$22,565	$631
Certificate I in Spoken and Written English	Mixed Field Programmes	39	$21,081	$6,829
Certificate III in Beauty Services	Food, Hospitality and Personal Services	24	$21,044	$7,256
Certificate II in Retail Services	Management and Commerce	20	$20,476	$14,188
Certificate II in Hospitality	Food, Hospitality and Personal Services	21	$19,786	$9,777
Certificate II in Skills for Work and Vocational Pathways	Mixed Field Programmes	23	$16,396	$6,415
Certificate III in Entrepreneurship and New Business	Management and Commerce	38	$12,995	-$1,823

Source: Multi-Agency Data Integration Project (MADIP), 2002 – 2021, VET National Data Asset, ABS DataLab. Findings based on use of MADIP data. %p denotes percentage points.

Table 19: Top 20 qualifications leading to progression to further higher education.

Program title	Field of education	Progression to higher education (%)	Progression to further VET (%)
Diploma of Nursing	Health	34.98%	0.61%
Diploma of Information Technology	Information Technology	29.54%	8.41%
Diploma of Business	Management and Commerce	23.45%	5.76%
Diploma of Screen and Media	Creative Arts	20.86%	29.03%
Diploma of Accounting	Management and Commerce	20.63%	14.19%
Diploma of Counselling	Society and Culture	18.05%	2.12%
Certificate IV in Allied Health Assistance	Health	17.97%	6.50%
Certificate IV in Information Technology	Information Technology	16.00%	35.86%
Diploma of Community Services	Society and Culture	15.00%	1.37%
Certificate III in Retail	Management and Commerce	14.22%	9.02%
Certificate IV in Design	Creative Arts	13.63%	39.57%
Certificate II in Medical Service First Response	Health	12.73%	28.76%
Certificate III in Information Technology	Information Technology	12.54%	44.15%
Certificate III in Hospitality	Food, Hospitality and Personal Services	12.40%	11.58%
Certificate IV in Fitness	Society and Culture	12.40%	2.98%
Certificate III in Pathology Collection	Natural and Physical Sciences	12.15%	12.24%
Diploma of Human Resource Management	Management and Commerce	11.76%	2.55%
Certificate IV in Youth Work	Society and Culture	11.30%	23.86%
Diploma of Early Childhood Education and Care	Education	10.52%	0.92%
Diploma of Financial Planning	Health	34.98%	0.61%

Source: Multi-Agency Data Integration Project (MADIP), 2002 - 2021, VET National Data Asset, ABS DataLab. Findings based on use of MADIP data.

Table 20: Top 20 qualifications with least progression to further Higher Education.

Program title	Field of education	Progression to higher education (%)	Progression to further VET (%)
Certificate III in Engineering - Toolmaking Trade	Engineering and Related Technologies	0.63%	6.41%
Certificate III in Light Vehicle Mechanical Technology	Engineering and Related Technologies	0.75%	6.20%
Certificate III in Carpentry	Architecture and Building	0.86%	16.76%
Certificate III in Driving Operations	Engineering and Related Technologies	0.93%	3.04%
Certificate II in Spoken and Written English	Mixed Field Programmes	0.95%	60.99%
Certificate III in Cabinet Making	Engineering and Related Technologies	1.08%	3.89%
Certificate III in Electrotechnology Electrician	Engineering and Related Technologies	1.17%	7.16%
Certificate III in Surface Extraction Operations	Engineering and Related Technologies	1.32%	3.36%
Certificate III in Air Conditioning and Refrigeration	Engineering and Related Technologies	1.40%	4.08%
Certificate IV in Building and Construction	Architecture and Building	1.40%	13.05%
Certificate III in Landscape Construction	Agriculture, Environment and Related Studies	1.41%	6.56%
Certificate III in Telecommunications Technology	Engineering and Related Technologies	1.51%	12.51%
Certificate III in Spoken and Written English	Mixed Field Programmes	1.73%	25.37%
Certificate II in Skills for Work and Vocational Pathways	Mixed Field Programmes	1.77%	36.14%
Certificate IV in Competitive Systems and Practices	Engineering and Related Technologies	1.84%	2.30%
Certificate III in Hairdressing	Food, Hospitality and Personal Services	1.92%	6.66%
Certificate III in Food Processing	Engineering and Related Technologies	1.95%	6.11%
Certificate II in Meat Processing (Abattoirs)	Food, Hospitality and Personal Services	2.10%	21.18%
Certificate II in Applied Digital Technologies	Information Technology	2.13%	30.84%
Certificate III in Supply Chain Operations	Management and Commerce	2.35%	4.78%

Source: Multi-Agency Data Integration Project (MADIP), 2002 - 2021, VET National Data Asset, ABS DataLab. Findings based on use of MADIP data.

Table 21: Top 20 qualifications with highest progression rates to further VET

Program title	Field of education	Progression to higher education (%)	Progression to further VET (%)
Certificate I in Spoken and Written English	Mixed Field Programmes	0% to 10%	61.02%
Certificate II in Spoken and Written English	Mixed Field Programmes	0.95%	60.99%
Certificate III in Fitness	Society and Culture	9.58%	56.30%
Certificate II in Animal Studies	Health	5.89%	55.70%
Certificate II in Electrotechnology (Career Start)	Engineering and Related Technologies	4.92%	52.13%
Certificate II in Workplace Skills	Management and Commerce	4.42%	50.63%
Certificate III in Information Technology	Information Technology	12.54%	44.15%
Certificate IV in Design	Creative Arts	13.63%	39.57%
Certificate II in Retail Services	Management and Commerce	8.03%	39.25%
Certificate III in Community Services	Society and Culture	5.30%	38.22%
Certificate II in Resources and Infrastructure Work Preparation	Engineering and Related Technologies	0% to 10%	37.02%
Certificate II in Skills for Work and Vocational Pathways	Mixed Field Programmes	1.77%	36.14%
Certificate IV in Information Technology	Information Technology	16.00%	35.86%
Certificate II in Hospitality	Food, Hospitality and Personal Services	7.90%	35.82%
Certificate III in Early Childhood Education and Care	Society and Culture	4.99%	34.66%
Certificate IV in Community Services	Society and Culture	9.25%	31.99%
Course in Asbestos Awareness	Architecture and Building	3.02%	31.94%
Certificate III in Plumbing	Architecture and Building	0% to 10%	31.81%
Certificate II in Applied Digital Technologies	Information Technology	2.13%	30.84%
Certificate III in Beauty Services	Food, Hospitality and Personal Services	4.21%	30.59%

Source: Multi-Agency Data Integration Project (MADIP), 2002 - 2021, VET National Data Asset, ABS DataLab. Findings based on use of MADIP data.

Table 22: Top 20 qualifications with least progression rates to further VET

Program title	Field of education	Progression to higher education (%)	Progression to further VET (%)
Diploma of Nursing	Health	34.98%	0.61%
Diploma of Finance and Mortgage Broking Management	Management and Commerce	3.26%	0.62%
Diploma of Early Childhood Education and Care	Education	10.52%	0.92%
Diploma of Beauty Therapy	Food, Hospitality and Personal Services	9.57%	0.98%
Diploma of Community Services	Society and Culture	15.00%	1.37%
Diploma of Building and Construction (Building)	Architecture and Building	6.05%	1.90%
Diploma of Counselling	Society and Culture	18.05%	2.12%
Certificate IV in Veterinary Nursing	Health	7.57%	2.16%
Certificate IV in Competitive Systems and Practices	Engineering and Related Technologies	1.84%	2.30%
Advanced Diploma of Leadership and Management	Management and Commerce	8.59%	2.33%
Diploma of Human Resource Management	Management and Commerce	11.76%	2.55%
Certificate IV in Fitness	Society and Culture	12.40%	2.98%
Certificate III in Driving Operations	Engineering and Related Technologies	0.93%	3.04%
Certificate III in Heavy Commercial Vehicle Mechanical Technology	Engineering and Related Technologies	0% to 10%	3.19%
Certificate III in Surface Extraction Operations	Engineering and Related Technologies	1.32%	3.36%
Certificate IV in Real Estate Practice	Management and Commerce	3.64%	3.73%
Certificate III in Cabinet Making	Engineering and Related Technologies	1.08%	3.89%
Diploma of Remedial Massage	Health	8.19%	4.07%
Certificate III in Air Conditioning and Refrigeration	Engineering and Related Technologies	1.40%	4.08%
Certificate IV in Government Investigations	Society and Culture	4.59%	4.52%

Source: Multi-Agency Data Integration Project (MADIP), 2002 - 2021, VET National Data Asset, ABS DataLab. Findings based on use of MADIP data.