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VET for secondary school students: acquiring an array of technical and non-technical skills

Josie Misko
Maree Ackehurst
Rose-Anne Polvere
Tania Erzinger
Patrick Korbel
National Centre for Vocational Education Research

INFORMING + INFLUENCING
THE AUSTRALIAN VET SECTOR

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About the research

VET for secondary school students: acquiring an array of technical and non-technical skills

Josie Misko, Maree Ackehurst, Rose-Anne Polvere, Tania Erzinger and Patrick Korbel, National Centre for Vocational Education Research

The role of vocational education and training (VET) in preparing secondary school students for employment, further training and the changing world of work has long been a topic of interest among employers, educationalists and policymakers. More recent attention has also been on VET's role in assisting in the development of non-technical skills (for example, employability skills), with employer groups vocal about the need for potential employees possessing these skills.

This study is one part of a larger program of research investigating whether VET programs delivered to secondary students add value to their post-school destinations. In this report, we explore whether VET undertaken by secondary students, and in some cases by post-school students, equips them with the skills (including the non-technical skills) required to successfully participate in an ever-changing world of work. To do this, we analysed the VET programs of secondary students over the last 20 years, focusing on the number and types of programs undertaken and the characteristics of the participating students. We also undertook a content analysis of the core units of qualifications in selected training packages to identify whether these facilitate the development of non-technical skills.

Data on the numbers of secondary school students in these programs from 2003 onwards have been provided to the National VET in Schools Collection by the jurisdictional boards of studies, and these form the underlying data used in this report. Due to definitional issues and reporting pathways, these data are likely to underestimate the total number of secondary school students undertaking VET programs.

Key messages

- Participation in VET programs by secondary students over the last two decades has trended upwards (from 60 000 in 1996 to over 240 000 in 2017).

- The number of Indigenous students has also increased substantially (from 5500 in 2006 to 14 639 in 2017); the proportion of Indigenous secondary students nearly doubled (from 3.2% to 6.0%).

- Over the last decade, participation rates of all students have hovered around 30% (noting this is likely to be underestimated), with the rates of students from government schools continuing to exceed those of students from non-government schools. There has also been a continuing upward trend in more recent years of students undertaking certificate III qualifications.

- In 2017, there were around 18 000 more male secondary school students than females undertaking VET programs. However, proportionately more females were enrolled in certificate III qualifications and above; the converse was true for certificate II qualifications.

- The most popular certificate III programs for females and males were in the occupational and study areas traditionally dominated by each gender: the provision of caring, business, hospitality and beauty services for females; and information technology, trades, sport, fitness and recreation for males. The most popular certificate II qualifications where males outnumbered females were in vocational preparation programs and trade skills development.

- In addition to preparing students for the world of work, secondary schools have a range of educational, social, cultural and personal development goals and these may sometimes run counter to the industry-specific skills required by industry for VET programs.

- Analysis of relevant units of training packages selected for examination found many examples of competencies and content being taught to secondary students undertaking VET that would enable them to develop key non-technical skills.

- Additional exploration of the data and research is required to determine whether there are differences in the further education and initial employment outcomes between secondary students who undertake a VET program and those who do not, all else being equal.

Simon Walker
Managing Director, NCVER

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Executive summary

Vocational education programs delivered to students in secondary schools, historically called 'VET in Schools' programs (COAG Education Council 2014), were established with the specific aim of enabling students to undertake both nationally accredited vocational education and training (VET) programs (including part-time apprenticeships and traineeships) alongside programs that enable students to complete their senior secondary certificate of education. Such programs lead to nationally recognised VET qualifications. Today these programs are referred to as 'VET delivered to secondary school students', signifying that they are the same as all other VET programs (COAG Education Council 2014). In 1996, school-based apprenticeships were also introduced for secondary school students undertaking VET. These involved the students starting a part-time apprenticeship while still at school and receiving payment for that part of their time spent in the workplace.

From the perspective of industry, one of the key purposes of VET (including in secondary schools) is ensuring that students develop the generic and industry-specific skills and knowledge required by industry for its potential workforce. For schools, such labour-market purposes are not the only reasons for secondary schools supporting VET; they are also interested in helping students to develop knowledge and understanding of the world of work in general, explore a range of career options and progress through and complete their other educational subjects.

The effectiveness of VET programs is an important policy issue because of the underlying premise that vocational education and training equips people with the skills to get a job or progress through a job. Moreover, the contributions such programs make to the uptake of the non-specific skills required for entry into employment and for participation in changing workplaces and occupations is also a significant area of interest and concern. To date, there has been little information on the longer-term outcomes of secondary school students who have undertaken a VET program.

In this report we focus on the first phase of a project that aims to understand the value of VET delivered to secondary school students, especially for their post-school employment and training pathways. In this first part we provide a snapshot of the types of programs undertaken by students, as well as trends in participation. We also report on an investigation of the extent to which training packages assist in the development of non-technical or generic skills.

Trends in participation

To obtain a more comprehensive and up-to-date analysis of the uptake and offerings in VET undertaken by secondary school students, we describe the national trends in participation, the levels and types of qualifications undertaken by these students, and the qualifications that are on offer to meet changing industry and occupational structures.

However, it is important to remember that the data on the numbers of secondary school students in these programs from 2003 onwards are provided to the National VET in Schools Collection (see appendix A) by the jurisdictional boards of studies. These

data are likely to underestimate the total number of secondary school students undertaking VET programs.

An analysis of existing data from the National VET in Schools Collection shows that the number of secondary school students undertaking VET has trended steadily upwards over the last two decades. In 1996, when new approaches to vocational education in schools were being adopted, 60 000 students were undertaking such courses; by 2006 this had increased to about 170 000, and by 2017 the number had increased to just over 242 000. In the last few years the pattern of steady growth has slowed; in 2014, 2016 and 2017 the numbers declined from the preceding year. In 2015 the numbers had reached over 257 000.

The overall participation rate in the last decade or so has remained relatively stable, at around 30%, with participation rates for government school students being higher than those for Catholic and independent schools. In 2017, the participation rate for students in government schools, Catholic and independent schools stood at 36%, 26% and 17% respectively. This represented a very slight increase from the year before for Catholic and independent schools (one and two percentage points respectively) and a very slight decrease for government schools (by one percentage point).

Between 2006 and 2017, the proportion of Indigenous secondary school students in VET programs almost doubled, from 3.2% to 6.0%; and in 2017 their participation rate by comparison with non-Indigenous students was also substantially greater.

Queensland has the highest participation rates and since 2008 these have tended to remain around the 50% mark. Since 2013, Western Australia has had the next highest participation rates. Bearing in mind the likely underestimation of reported VET for secondary school students nationally, one of the reasons for the apparent relatively high participation rates for Queensland may be due to this state having the highest number of secondary schools that are also registered training organisations (RTOs), which are more likely to report all their VET activity.

The number of school-based apprentices and trainees increased from 12 925 in 2006 to 19 961 in 2017. Queensland had the highest numbers in 2017 but when we take the number of apprentices and trainees as a proportion of all VET secondary school students, Tasmania had the highest proportion (albeit from a low base).

In 2017, the most common qualification level undertaken by VET secondary school students was certificate II, followed by certificate III. While there are a greater number of enrolments in certificate II qualifications, since 2010 there has been a greater rate of increase in certificate III enrolments compared with certificate II enrolments. Between 2006 and 2017, there was a low uptake of certificate IV and diploma qualifications, although some minimal increases have occurred in recent years.

In 2017, males were more highly represented in certificate I and II programs than females (68% and 59% respectively), while females were more highly represented than males in certificate III programs (38% and 29% respectively). Females were also more highly represented (by a very slight margin) in certificate IV programs (3% and 2% respectively). The most popular certificate III programs for females and males were in the occupational and study areas traditionally dominated by each gender; for example, the provision of caring, business, hospitality and beauty services for females, and

information technology, trades, sport, fitness and recreation for males. The most popular certificate II qualifications where males outnumbered females were in vocational preparation programs and trade skills development.

The most common training package qualifications undertaken by students doing VET in secondary schools have only changed slightly over time. In 2006, the Certificate II in Business was the most common followed by the Certificate II in Hospitality Operations. In 2017, the Certificate II in Hospitality was the most common qualification, followed by the Certificate II in Business. In 2006, the Certificate II in Information Technology was the third most popular, but in 2017 this position was taken by the Certificate II in Kitchen Operations. The fourth most popular program in 2017 was the Certificate III in Sport and Recreation, followed by the Certificate II in Construction Pathways.

To get a more realistic understanding of the profile of VET programs undertaken in secondary schools and in post-school sectors and how trends changed across the period, we compared the qualification levels and fields of education undertaken by 15 to 19-year-olds across the sectors.[1] We found that post-school VET students were more likely to be undertaking certificate III and above qualifications and VET students in secondary schools were more likely to be undertaking the lower-level certificates. The most popular field of education for 15 to 19-year-old secondary school students undertaking VET in 2017 was society and culture, followed by management and commerce; and food, hospitality and personal services. For 15 to 19-year-old post-secondary school VET students, the order changed, with engineering and related technologies occupying first place, followed by architecture and building and then by food, hospitality and personal services. It's not surprising that 15 to 19-year-olds in post-school VET are more likely to be undertaking certificate III qualifications, especially as they may already have undertaken lower qualifications during schooling. In addition, it is more difficult for VET students still attending school to undertake many certificate III programs because of the school's limited capacity to provide these programs.

How VET contributes to the development of non-technical skills

The content analysis of relevant units of the training packages selected for examination found many examples of competencies and content being taught to secondary students undertaking VET that would enable them to learn the key non-technical skills required to enter modern workplaces.

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1 We base the comparison on post-secondary 15 to 19-year-old students in government-funded training.

The way forward

A number of different areas for further research and investigation have been raised by this study. They include the suggestions for:

- a more complete picture of all participation in VET programs delivered to secondary school students by also gathering a dataset of the participation of secondary students who are undertaking VET programs that do not contribute to the secondary school certificate of education (this analysis includes only those VET programs that do contribute to the secondary school certificate of education, due to current data limitations)

- considering the standardisation of definitions of non-technical skills to be used across educational sectors

- investigating how VET programs in secondary schools fulfil other operational functions, especially with respect to servicing the needs of students who may be at risk of leaving school

- examining the pathways taken and outcomes for those students who undertake VET during secondary schooling and then move into university programs. Such investigations can be used to demonstrate the value of VET delivered to secondary school students in addressing the needs and interests of a wider range of students (including those bound for more academic pathways). This information can be used to further promote the value of the pathway to governments, parents, students and other stakeholders

- exploring the reasons for the higher participation rates in VET programs delivered to secondary school students in some jurisdictions, including school-based apprenticeships and traineeships

- investigating non-linear pathways taken by VET students in secondary schools: tracking the multidimensional pathways of students as they move in and out of education, training and work to understand connections between the VET qualifications they take in schools and their post-school destinations could prove informative

- understanding the trajectories of students in secondary schools who undertake VET but move into university programs: understanding the connections between the VET qualifications undertaken at school and those pursued at university may provide insights into how school VET programs benefit or impact on a student's choice of university study.

Introduction

Vocational education and training has been embedded in schools as far back as the nineteenth century.[2] The Australian VET in Schools system was introduced in the 1990s.[3] This enables students to undertake both nationally accredited VET programs, leading to accredited VET qualifications, alongside programs that enabled them to complete their senior secondary certificates of education. They could also undertake a part-time apprenticeship or traineeship, known as an Australian school-based apprenticeship (ASBA). VET programs for secondary school students have a number of defining goals:

- to prepare students for the 'world of work'

- to enable an alternative pathway to those students not generally interested in or capable of higher academic pursuits

- to cater those who are mainly interested in vocational pathways, including training for the trades.

Although VET is offered to secondary school students in Australia in Years 11 and 12,[4] it is important to note that the overall focus of VET in Australia is on post-secondary education.

While the Australian Government plays a role in coordinating national policy in relation to VET delivered to secondary students, local policy, program and delivery arrangements are the responsibility of state and territory governments.

There are multiple perspectives on the purposes of VET that somewhat match the reasons above for introducing VET in Schools:

- For industry, one of the key purposes of VET (including in secondary schools) is ensuring that students develop the generic and industry-specific skills and knowledge required by industry for its potential workforce.

- For students, VET enables them to enter and progress through to employment.

- For schools, such labour-market purposes are not the only reasons for supporting VET; they are also interested in helping students to develop knowledge and understanding of the world of work in general, explore a range of career options and progress through and complete their other educational subjects. They want their students to develop the skills, knowledge, and awareness required to successfully navigate their journey through life and work and become well-functioning members of their families, communities and society in general.

Data, definitions and terminology in this report

In this study we are interested in VET programs undertaken by students in secondary schools that both lead to a nationally recognised VET qualification and contribute to a

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2 <https://www.voced.edu.au/vet-knowledge-bank-history-vet>.
3 <https://www.voced.edu.au/vet-knowledge-bank-timeline-australian-vet-policy-initiatives-1998-2017>.
4 There are some instances where younger students participate.

student's senior secondary certificate of education. The primary source of the data used in this study derives from the National VET in Schools Collection (see appendix A), which provides data for vocational education and training (VET) undertaken by school students as part of their senior secondary certificate of education (SSCE), where the training is nationally recognised and delivered by schools or other training providers. Data from this collection also feed into official qualification certification via the USI[5] transcript service.

Historically, the term 'VET in Schools' and the acronym 'VETiS' was used to refer to these programs. In recent times, however, concerns have been raised about how to refer to the vocational training that is available to secondary school students to help them transition to the world of work. These concerns have arisen mainly from the confusion between vocational learning generally, and nationally recognised accredited VET.

There is a background to this, found within the historical phases of development. In 2001, the Australian Government's 'new framework for vocational education in schools' (MCEETYA 2001) listed six elements as key activities of the framework, including:

- vocational education and training

- enterprise and vocational learning

- student support services

- community and business partnerships

- effective institutional and funding arrangements

- monitoring and evaluation.

Then, in 2014, a new approach was adopted by the Council of Australian Governments' (COAG) Education Council when it focused on developing 'common and consistent terminology' to ensure a common understanding of the different activities that were available to secondary school students through vocational learning and/or VET. In justifying this new approach, the Education Council stated:

> This framework moves away from terms such as vocational education and VET in Schools, replacing them with terms that clearly distinguish between two different areas: vocational learning and VET. This framework therefore uses the term VET delivered to secondary students, avoiding the confusion and quality concerns created by the term VET in Schools, which became a catch-all term for vocational learning and VET, which led to perceptions that school-based VET was of a different standard. (COAG Education Council 2014, p.6)

In 2016, in addition to overseeing the continued implementation of the framework, work has been undertaken on the following priority areas:

- improving access to qualified teachers and trainers for the delivery of VET to secondary students

- improving vocational learning, including career education

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5 <https://www.usi.gov.au/training-organisations/using-usi-registry-system/transcripts-training-records>

- improving the collection of data, reporting and research on secondary students undertaking vocational learning and VET

- supporting the Aboriginal and Torres Strait Islander Education Strategy post-school transitions goal.

In this report, we refer only to the nationally recognised VET component of the training provided to secondary school students. When we use the terms 'secondary school VET' or 'VET for secondary school students', we are referring to VET programs that lead to a full VET qualification, or some units of competency within a qualification, and contribute to senior secondary certificates of education. We have steered away from the terms 'VET in Schools (VETiS)', but we note that in reviewing the related literature some of the authors have used this terminology.

Schools remit, employment-related and industry-specific skill development

In the main, VET is focused on developing skills for Australian industry. Secondary school education, on the other hand, has a broader remit. This is reflected in the goals that have been articulated for Australian schooling over the last two decades, which has undergone some development over time. *The Melbourne declaration for young Australians in the twenty-first century* (MCEETYA 2008, pp.6—7), currently under review, has two major goals:

- Australian schooling promotes equity and excellence

- all young Australians become successful learners, confident and creative individuals, and active and informed citizens.

The declaration also emphasises the need for schools to help students to make successful transitions to work and further training. It notes that globalisation and technological change have contributed to the growth of high-skill jobs, and that Australian students will require either university or vocational education qualifications if they are to compete for the available jobs.

Ten years earlier the *Adelaide declaration for young Australians in the twenty-first century* had also supported these broad goals but had used more direct language to say that students when they left school would have:

> employment-related skills and an understanding of the work environment, career options, and pathways as a foundation for positive attitudes towards vocational education and training, further education, employment and life-long-learning.
>
> (MCEETYA 1999)

In December 2018, at a meeting of COAG ministers, the current Minister for Education (Hon. Dan Tehan) established a national agreement (signed by all states and territories, with the exception of Victoria) to update the *Melbourne declaration*. The aim for this update was to 'consider how schooling can prepare all students for life-long learning — from early childhood, primary and secondary education through to higher education, vocational training and beyond'. The Minister also went on to note that Australian children 'deserve a world-leading education that is tailored to their individual learning needs and sets them up to succeed in the modern world' (Tehan 2018).

Increasing popularity of VET programs in secondary schools

A growing number of young people in Australia are using VET programs as an integral part of their pathway from school (Clarke 2013b). This growth in enrolments, which trebled between the mid-1990s and 2004, demonstrates the increasing role of VET in the senior secondary years (Misko, Korbel & Blomberg 2017).

Government policy has played a role in increasing uptake of these VET programs. A youth policy imperative across Queensland, South Australia, Victoria and New South Wales has been to increase secondary school VET participation at certificate III level (Clarke & Volkoff 2012). This policy direction has been in response to the continuing decline in full-time youth employment, along with the decreasing value of lower-level qualifications (certificates I and II) in the labour market (Clarke & Volkoff 2012). Additionally, the adoption of 'learn or earn' policies, with their associated targets for participation around Australia, in recent years has raised the age at which young people are required to be engaged with education and training. Such events have contributed to the need for schools to offer VET programs.

How secondary school students access VET

There are four major ways in which secondary school students may access VET to gain nationally recognised qualifications:

- RTO schools: here the school is the RTO and may deliver and award qualifications.

- schools partner with other RTO schools: here schools may partner with other RTO schools to deliver and award VET qualifications

- auspicing arrangements: in this option schools have an arrangement whereby teachers at the school deliver the training under the auspices of an external RTO, but the qualifications are awarded by the RTO

- external RTO attendance: in this option students do all their training and assessment at the external RTO, which awards the qualification.

School-based apprenticeships and traineeships

These are paid employment-based programs for full-time students (generally of 15 years or over), whereby students enter into a training contract with an employer with the agreement of the school. They may attend an RTO (which is often not the school) to undertake their off-the-job training. Their on-the-job training is done with the employer at the workplace. They have the option to convert these part-time apprenticeships to full-time apprenticeships when they leave secondary school.

The content of VET programs

As part of nationally accredited VET qualifications, VET programs and school-based apprenticeships draw on nationally endorsed training packages and nationally recognised accredited courses (Australasian Curriculum, Assessment and Certification Authorities 2017):

- Nationally endorsed training packages, which are designed to cater for the training needs of an industry area and are developed using competency-based principles of

teaching and learning, prescribe the competency standards and the assessment criteria to be achieved.

- Nationally recognised accredited courses are developed to meet training needs that are not addressed by existing training packages and may also include 'modules' that are not competency-based (COAG Education Council 2014).

There have been some reflections on the value of these formats. Training packages have been criticised as being either too prescriptive and reducing teacher autonomy or being too narrowly focused on job-procedural skills, which denies learners opportunities to develop the skills they require for lifelong learning (Wheelahan 2008; Clarke 2015; Southren 2015; O'Connell & Torii 2016). In a study of seven qualifications for jobs traditionally viewed as unskilled or low-skilled, training packages were found to generally cover most skills needed for the jobs for which they were designed to provide training. However, they were not always successful in covering the non-technical skills required in all jobs but which are more important in some, particularly those involving a high degree of interaction with the public (Smith et al. 2015).

Pathways to post-school destinations

In secondary schools, the VET pathways are intended to help students during their final years of schooling to complete their senior secondary certificate of education and make the transition to post-school education and training and/or employment, including apprenticeships or traineeships (Clarke 2015). The achievement of this intention is questioned by some, but there is further evidence that indicates this is achieved.

According to Clarke and Polesel (2013), this is the experience of some VET secondary school students, but not all. Further evidence suggests that 'the dominant outcome trends in VET for secondary school students are for young people to move into low-skilled and low-paid jobs' (Clarke 2013a, p.9); there is also 'little evidence to suggest that VET in Schools is providing an effective launching pad for school completers to access higher-level qualifications' (Clarke 2014, p.12).

The delivery of VET programs to secondary school students has also been criticised (by some) for lacking clarity of purpose and for relying on a 'curriculum' that focuses on the development of occupation-specific skills for industry to the detriment of the broader skills and capabilities that will apply across occupations and support future study and career-development options. Further appraisals by some others, suggest the 'separateness' of VET programs from the senior secondary education curriculum, both in concept and practice is problematic (O'Connell & Torii 2016).

According to Clarke and Volkoff (2012), there are challenges for students when moving between their VET studies at schools and post-school VET programs. These may result from the considerable variations between the two formats, as well as jurisdictional variations; there are also variations in funding arrangements and access to funding. All of these variations have the potential to impact on the quality and depth of VET delivery and in turn affect post-school education and employment pathways, leading some to question whether VET is preparing secondary school students for transition

into real work environments (Shah et al. 2015). However, these challenges may also exist equivalently for students moving into higher education from school.

Nevertheless, for a sizeable proportion of secondary school students undertaking VET, especially those in trade-specific pathways, their learning in school related both to their destination occupations and to the non-school qualifications they undertook post-school (Misko, Korbel and Blomberg 2017).

Methodology

This study is the first of a suite of work which investigates the value of VET programs delivered to secondary school students.

- The second study will use an integrated database that links data from the 2011 National VET in Schools Collection with data from the 2016 Census of Population and Housing to explore employment and training destinations.

- The third study will explore the feasibility of assessing the effectiveness of VET programs delivered to secondary school students by means of a comparison of their outcomes to an equivalent group of students who did not do such programs.

In this report we only discuss the methodology and findings of the first study.

Aims

The initial aim of this study is to provide greater insight into the characteristics of secondary school students undertaking VET and the programs they undertake. This is done by updating the findings of our 2017 publication with data for 2017. The 2017 study reported on data from 1996 to 2016 (Misko, Korbel & Blomberg 2017).

Another aim is to look more closely at the arrangements available within selected training packages that enable students to develop the non-technical skills that prepare them to enter and participate in the modern workplace.

Understanding the types of programs that secondary school students undertake is useful on three counts:

- firstly, it informs policymakers about how their funding is spent

- secondly, it can satisfy critics that the course being undertaken is truly VET

- thirdly, it can shed further light on the extent to which VET in general contributes to non-technical skills development.

Research questions and methods

The following two research questions were addressed using a range of methods, including a literature review.

Question 1: What are the current trends in the quantum and type of VET training undertaken by students in secondary schools?

Data from the National VET in Schools Collection 2006—17 (see appendix A) have been used to analyse data on uptake of these programs since 1990s. This analysis focuses on the amount and type of programs undertaken; the changing enrolment patterns in qualifications; and the characteristics of students undertaking these programs. As noted above, it updates the findings of Misko, Korbel & Blomberg 2017. Data for government-funded students are used to compare 15 to 19-year-old post-school VET students with those in secondary schools.

Question 2: Do VET programs delivered to secondary school students equip students with the non-technical skills required to participate in an ever-changing world of work?

The information for this research question was collected via a content analysis of selected training packages (CHC — Community Services; CPC08 — Construction, Plumbing and Services; FSK — Foundation Skill; ICT — Information and Communications Technology; MEM05 — Metal and Engineering; and SIT — Tourism, Travel and Hospitality). The content analyses specifically identify whether material they claim to cover is in fact covered, in order to understand the coverage of the non-technical skills.

A review of the literature was undertaken to provide context for the study generally, and to draw insights from government frameworks and prior research studies.

Limitations

Our study aims to investigate participation in VET programs delivered to secondary school students by examining data from the National VET in Schools Collection. It uses data on participation in VET programs that contribute to the secondary school certificate of education (SSCE). One of the limitations is that it does not capture the participation of secondary students who are undertaking VET programs that do not contribute to secondary school certificate of education. This leads to a significant under-reporting of the total VET programs delivered to secondary school students. However, this study design still reflects a large but unquantified part of the total participation in VET programs delivered to secondary school students. To get a more complete picture of all participation in VET programs delivered to secondary school students, it would be useful to also gather a dataset of the participation of secondary students who are undertaking VET programs that *do not* contribute to secondary school certificate of education.

VET uptake and participation by secondary school students

The number of secondary school students undertaking VET as part of their secondary school program has generally increased over the last two decades (figure 1).[6] Note that within this increase, the share for government schools fell since 2016 while it rose for independent and Catholic schools (figure 4).

Figure 1   The number of students in secondary school undertaking VET programs, 1996–2017
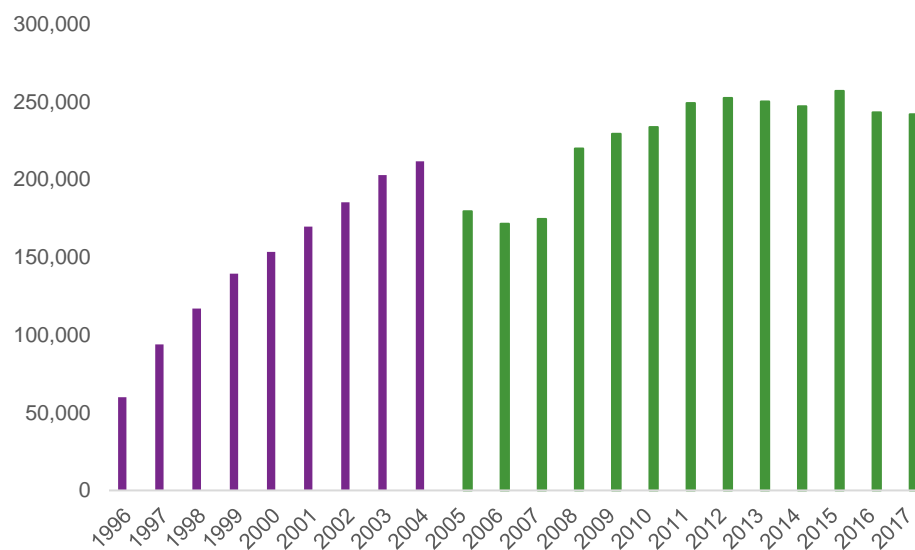
Notes: For 2005 activity and onwards, VET in Schools statistics were reported under a new unit record data collection arrangement. As a result of this new arrangement, data are not directly comparable with data reported in previous years. Data on VET in Schools activity from 2006 to 2013 should also not be compared with 2005 VET in Schools activity because of data-quality issues with 2005 data. The differences in the colours of the bars indicate differences in collection arrangements from the previous years.

Source: Data from 1996 to 2004 sourced MCEETYA (2005); data for 2005–17 sourced from the NCVER National VET in Schools Collection.

In 2006 and 2007 the VET for secondary school students' participation rate stood at around 24%. Since 2008, it has tended to be stable at just over 30% (table 1).

In figure 4 below, we find that the participation rate for secondary school students varies considerably by education sector, with a higher participation rate for secondary school students in government schools by comparison with both Catholic and independent schools.

The data presented below reveals a number of features of the VET for secondary school students in 2017 that are unsurprising, such as they mostly aged between 15 and 19 years, with the majority of those aged 16 to 18 years in Years 11 and 12. Interestingly, in the observed changes over time, we find that to 2017:

- 18 000 more boys than girls are now undertaking VET for secondary school students.

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6 In 1996 there were 60 000 such students nationwide; by 2004 this had grown to 211 800 students. By 2015 there were just over 257 000 students in these programs, with numbers declining to just over 243 200 students in 2016; in 2017 there was a further slight drop, of just over 1000 students.

- There were also gender differences in VET for secondary school qualification chosen over time:
  - In 2017, there was a greater proportion of females undertaking certificate III qualifications than males, and this gap has widened over the last ten years.
  - Over the period but more obvious from 2014 onwards, a greater proportion of males is observed at the certificate I/II levels.
  - The detailed findings below demonstrate that underlying these qualification level changes, in 2017, there are some stark differences between genders in their popular qualification choices at certificate II and certificate III levels, but also some choices in common.
- There was substantial rise in the senior school Years 10 to 12 participation rate of Indigenous VET for secondary school students, from 2006 to 2017.
- There has been a sizable change for some VET for secondary school students' qualifications over time. A key change is the steep rise to 2017 in the proportions taking up certificate III qualifications, and a slow decline in the proportion enrolling in certificate I qualifications (which at the outset exceeded certificate III qualifications).

Table 1   Participation rate of secondary school students (in Years 10, 11 and 12) undertaking VET delivered to secondary school students, 2006–17

	No. of all secondary school students in Australia in Years 10, 11, and 12	No. of students in VET delivered to secondary school students	Participation rate (%)
2006	716 602	171 657	24.0
2007	724 242	174 794	24.1
2008	732 512	219 955	30.0
2009	746 898	229 475	30.7
2010	764 065	233 821	30.6
2011	768 905	249 380	32.4
2012	761 527	252 608	33.2
2013	766 969	250 319	32.6
2014	775 410	247 154	31.9
2015	791 238	257 101	32.5
2016	794 068	243 279	30.6
2017	777 433	242 144	31.1

Note: The participation rate is calculated by taking the number of students in VET delivered to secondary school students as a proportion of the number of all secondary school students in Australia in Years 10, 11, and 12

Source: National VET in Schools Collection, 2006–17; ABS (2017).

**Secondary school
VET students are
mostly in the 15 to
19-year-old age
group.**

Gender

Boys are more likely than girls to participate in VET in secondary schools. This is
confirmed by data from the current National VET Provider Collection 2006—17
(figure 2), a pattern also identified by Lamb, Long and Malley (1998).[7] In 2006 boys
slightly outnumbered girls. However, the gap has been slowly but steadily widening; in
2017 there were around 18 000 more secondary school boys than girls in VET programs.

Figure 2   VET secondary school students by gender, 2006–17
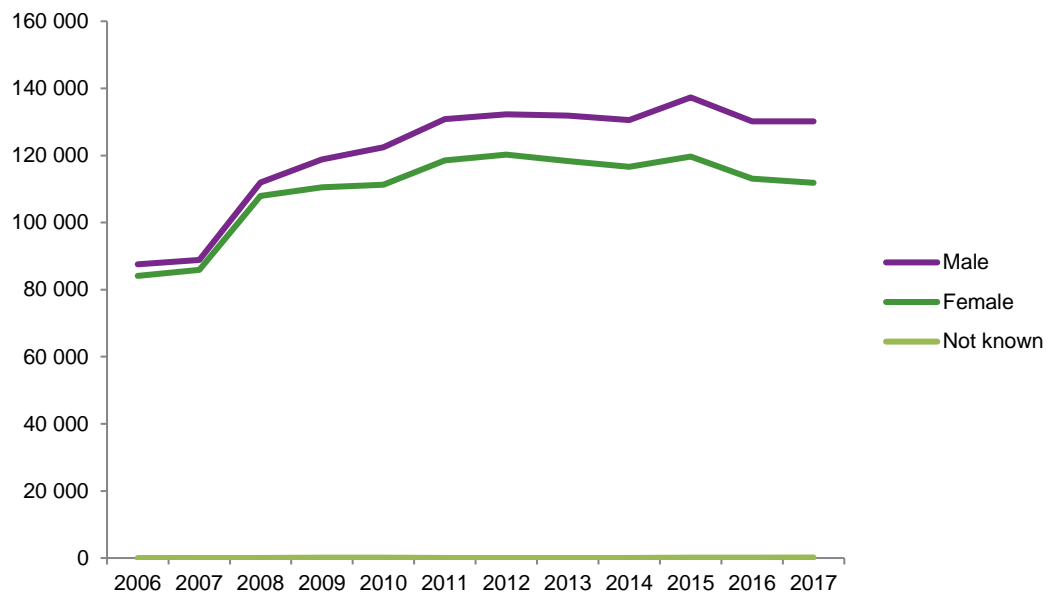
Source: National VET in Schools Collection, 2006–17.

Age

VET students in secondary schools are mostly in the 15 to 19-year-old age group, the
predominant age group in senior secondary education (table 2). However, as shown in
table 2, a small number are aged 14 years and under and 20 years and over.

For the younger ages, in some states/territories the option to engage in VET is not
open to those below Year 10, but this is possible in others. The inclusion of the older
age groups may represent several influences. As flagged in the introduction, it may be
related to the overall rise in popularity of VET programs in secondary schools, and can
signal the operation of policies aimed at reducing the risk of students leaving school
early. There are also expanding opportunities for those in the older age groups who
may be undertaking training in senior secondary colleges, which have higher rates of
enrolments for older students, or who are availing themselves of the offerings in local
schools because of 'proximity to home' reasons. For example, a study of VET programs
for secondary school students in Tasmania conducted before 2006 (when our present
analysis starts) by the then Office of Post-Compulsory Education (2004) found that
adults mainly chose to undertake VET programs in local schools or skill centres because
training was easy to access, close to their home or place of work, and they did not
have to travel long distances (cited in Johns et al. 2004).

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7 Using information from the Australian Youth Survey, the precursor to the Longitudinal Surveys of
Australian Youth (LSAY)

Table 2   VET secondary school students by age group, 2006–17

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
14 years and under	2 248	3 160	8 690	10 068	10 321	10 196	8 133	8 559	8 042	8 616	7 624	2 577
15 to 19 years	167 075	169 340	208 632	216 677	220 917	236 376	242 312	239 734	236 589	246 497	233 707	237 745
20 years and over	2 313	2 271	2 562	2 562	2 503	2 789	2 148	2 020	2 508	1 984	1 942	1 818
Not known	21	23	71	168	80	19	15	6	15	4	6	4

Source: National VET in Schools Collection, 2006–17.

We find that in 2017, the majority of 16 to 18-year-olds still attending school (ages typically associated with senior secondary schooling), are in Years 11 and 12 at school (table 3).[8]

Table 3   Number of 15 to 19-year-olds by year level of current schooling, 2017

	Age 15	Age 16	Age 17	Age 18	Age 19	Remainder	Total
Year 13 or equivalent	538	2 179	12 235	6 937	700	468	23 057
Year 12	1 262	23 026	50 368	8 097	735	552	84 040
Year 11	18 172	63 132	17 168	1 688	261	585	101 006
Year 10	17 111	4 429	1 119	167	40	2 139	25 005
Not Known	2 445	3 057	2 284	491	104	655	9 036
Total	**39 528**	**95 823**	**83 174**	**17 380**	**1 840**	**4 399**	**242 144**

Source: National VET in Schools Collection, 2017, derived from variable on highest level of schooling completed.

Indigenous Australians

The number of VET students in secondary schools who identify as Indigenous has increased over time. There were around 5500 Indigenous students in these programs in 2006 (representing 3.2% of the total). This rose in 2017 to 14 639.[9] The result reflects the increasing involvement of Indigenous students in VET overall.[10] In figure 3 we show the rising participation rate of Indigenous secondary school students in VET programs.[11]

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8   To identify the age groups of students who are still attending school, we can examine data on current year level of schooling, derived from students' highest level of schooling completed and whether they are still attending school. This assumes that, if a student indicates Year 11 as their highest level of schooling completed and they are still at school, they are currently in Year 12; if Year 10 is given as their highest level of schooling completed, and they are still at school, then we can assume they are currently in Year 11 and so on.

9   By comparison, there were just over 153 600 non-Indigenous secondary school VET students in 2006; by 2016 there had been a 42% increase. However, the numbers of non-Indigenous students in 2017 fell by just over 11 500 from 2015 (National VET in Schools Collection 2006−17).

10   Some of the increase in Indigenous participation seen may be the result of improvements in the quality of the data in the National VET in Schools Collection, with a decrease in the number of reported 'unknown' Indigenous status from around 12 500 such records in 2006 to just over 8000 in 2017.

11   By calculating a percentage of all Indigenous students in Years 10, 11 and 12 reported for these years by the Australian Bureau of Statistics (ABS). These data, taken from Australian schools (ABS 2017), combine the 'not Indigenous' with 'not known' data and subtract from this total the data for Indigenous students. We do this because the ABS only report data for Indigenous students.

Figure 3   **Secondary school VET participation rate (Year 10, 11 and 12 students) by Indigenous status, 2006–17, %***
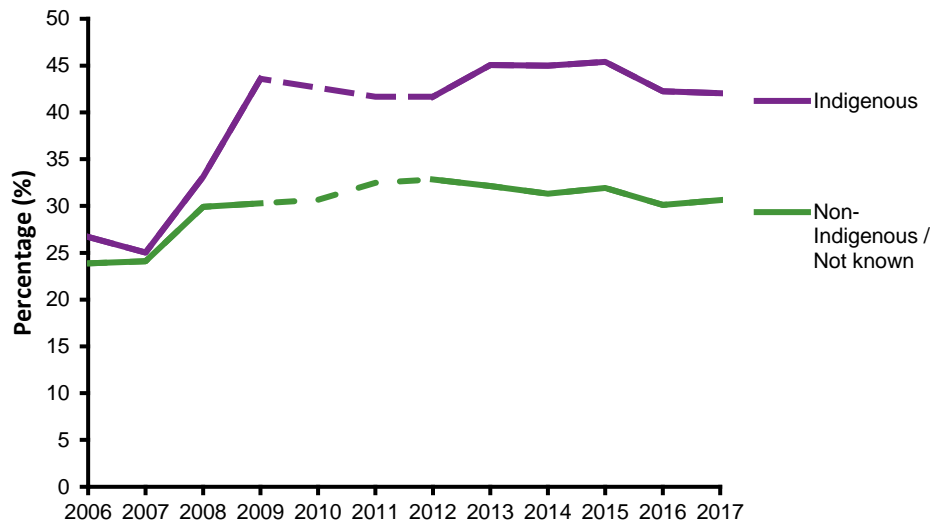
Note: * Data for 2010 and 2011 should be interpreted with caution because of the quality issues with 'unknown data'.
Source: National VET in Schools Collection, 2006–17; ABS (2017).

School sector over time

School sectors in the national VET administrative data collections and in ABS data are categorised as government, Catholic and independent. Secondary school students from the government sector are more frequently engaged in VET than students from the Catholic or independent sectors. We use information from the ABS[12] to calculate the participation rate in VET of secondary school students in each school sector (figure 4). We find that the participation rate increased relatively steadily between 2008 and 2012 for the government and Catholic school sectors, after which it started to plateau for both government schools and Catholic schools. In 2017 there was little change in participation for all three school types, although we see a slight increase in participation for independent and Catholic schools.

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12 The ABS data do not have an 'other' segment as does the National VET in Schools Collection. To deal with this, we use the total number of Years 10, 11, and 12 students for each of the sectors.

Figure 4   Secondary school VET participation rate of students (Year 10, 11, and 12) by school sector type, 2006–17, %
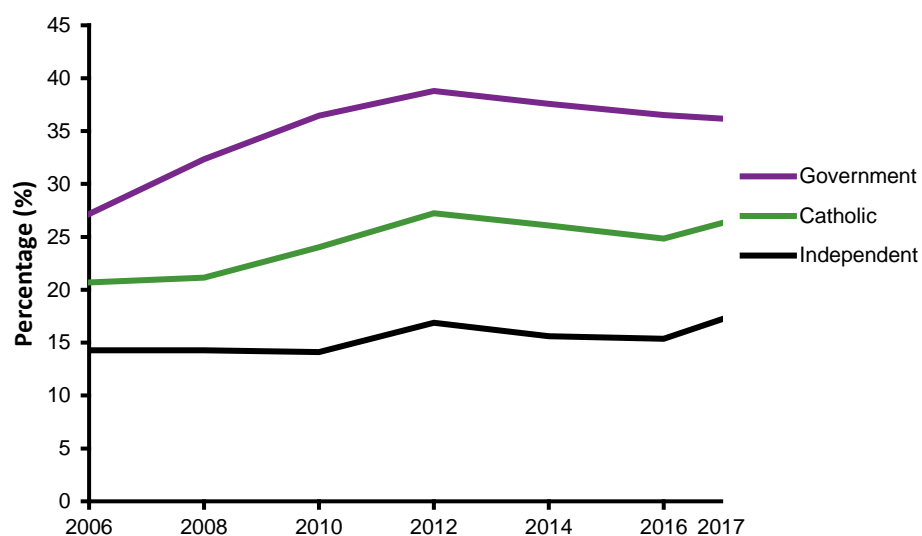
Qualifications and gender over time

There has been sizable change for some qualifications over time. A key change is shown in figure 5 by the crossing lines of the steep rise to 2017 in the proportions taking up certificate III qualifications, and a slow decline in the proportion enrolling in certificate I qualifications (which at the outset exceeded certificate III qualifications).

Between 2006 and 2011 the greatest proportion of secondary school VET students were enrolled in certificate I and II qualifications, but mostly in certificate II qualifications. Between 2012 and 2014, however, we see an increase in the proportions taking up certificate III qualifications and a slow decline in the proportion enrolling in certificate II and certificate I qualifications. There were very low levels of uptake in certificate IV and diploma qualifications and 'other' qualifications (namely, VET statements of attainment and subject-only qualifications). In 2015, most of the secondary school VET students were undertaking courses at certificate II level, followed by those at certificate III level. By 2017, 55.1% were undertaking certificate II qualifications and about a third were undertaking certificate III qualifications (figure 5).

The greatest proportion of secondary school VET students were enrolled in certificate I and II qualifications, but mostly in certificate II qualifications.

Figure 5   Secondary school VET students by qualification level of courses, 2006–17
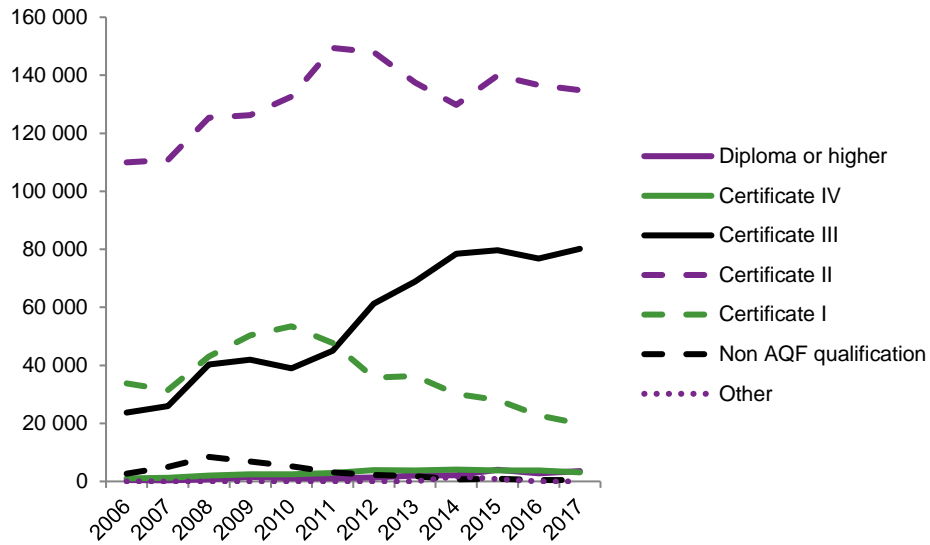
Source: National VET in Schools Collection, 2006–17.

In 2017, there was a greater proportion of females undertaking certificate III qualifications than males, and this gap has widened over the last ten years (figure 6).

Figure 6   Male and female students in VET programs for secondary school students by certificate III level of qualification, 2006–17
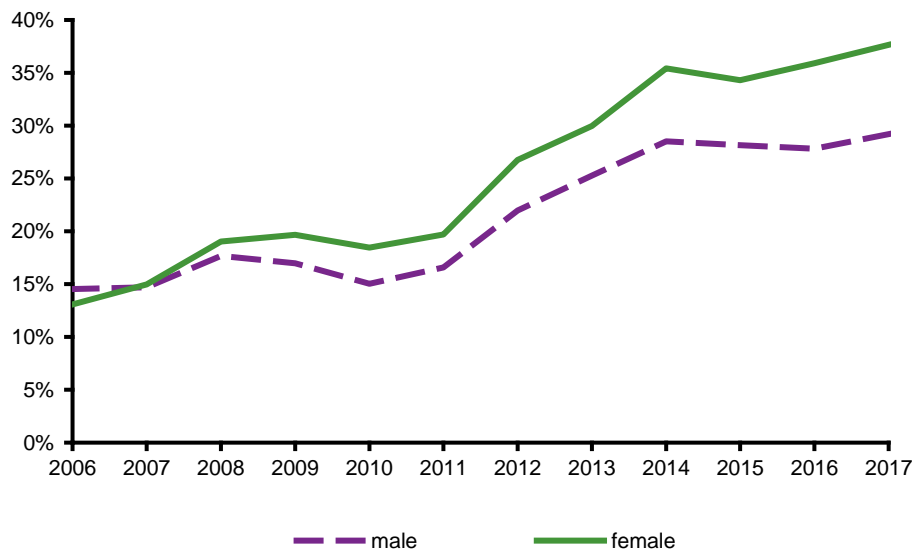
Source: National VET in Schools Collection, 2006–17.

Figure 6 depicts the female—male split for certificate III qualifications. The male—female participation by qualification levels (table 4) also shows slightly higher female participation at certificate IV and above after 2013. Over the period but more obvious from 2014 onwards, a greater proportion of males is observed at the certificate I/II levels.

Table 4   Male and female participation in VET qualifications, 2006–17 (%)

	Males				Females			
	Cert. IV and above	Cert. III	Cert. I and II	Non-AQF qual & other	Cert. IV and above	Cert. III	Cert. I and II	Non-AQF qual & other
2006	1	15	83	2	1	13	84	1
2007	1	15	82	2	1	15	81	3
2008	1	18	77	4	2	19	76	3
2009	2	17	78	3	2	20	75	3
2010	1	15	81	2	2	18	78	2
2011	2	17	80	2	2	20	78	1
2012	2	22	75	1	2	27	70	1
2013	2	25	71	1	3	30	67	0
2014	2	29	68	1	3	35	61	1
2015	2	28	69	1	4	34	61	1
2016	2	28	70	0	3	36	61	0
2017	2	29	68	0	3	38	59	0

Note: Where figures displayed do not add to 100% it is due to rounding.
Source: National VET in Schools Collection, 2006–17.

Most popular certificate III qualifications for females and males

In table 5 we present the certificate III qualifications where females outnumbered males, along with those where males outnumbered females, in order of popularity. What is also striking about these programs is that they cover a wide array of technical skills.

Females

The most popular certificate III courses for females (where females outnumbered males) were those leading to female-dominated fields, including those concerned with providing nurturing and caring services, and services in business, and hospitality. Other popular programs for females (where females outnumbered males) were in hair and beauty services.

Males

In contrast, the most popular certificate III courses for males (where males outnumbered females) were also in areas traditionally dominated by males, including sport, fitness and recreation; information, digital media and technology; and screen and media. Males were also more numerous in smaller programs, including in the trades of engineering, electrotechnology, retail butchering, automotive, roof plumbing, carpentry and joinery, and commercial cookery. Other popular courses for males (where males outnumbered females) were in the areas of agriculture and in the music industry.

Table 5   **Most popular certificate III qualifications[1] where females outnumber males and males outnumber females by name of qualification**

Top 20 certificate III qualifications where females outnumber males	Top 20 certificate qualifications where males outnumber females
Certificate III in Early Childhood Education and Care	Certificate III in Sport and Recreation
Certificate III in Business	Certificate III in Information, Digital Media and Technology
Certificate III in Retail	Certificate III in Plumbing
Certificate III in Hospitality	Certificate III in Fitness
Certificate III in Health Services Assistance	Certificate III in Music Industry
Certificate III in Community Services	Certificate III in Screen and Media
Certificate III in Beauty Services	Certificate III in Electro-technology (electrician)
Certificate III in Allied Health Assistance	Certificate III in Carpentry
Certificate III in Individual Support	Certificate III in Engineering – Fabrication Trade
Certificate III in Visual Arts	Certificate III in Agriculture
Certificate III in Retail Operations	Certificate III in Engineering – Technical
Certificate III in Tourism	Certificate III in Engineering – Mechanical Trade
Certificate III in Make-Up	Certificate III in Commercial Cookery
Certificate III in Events	Certificate III in Cabinet Making
Certificate III in Business Administration	Certificate III in Manufacturing Technology
Certificate III in Design Fundamentals	Certificate III in Aviation (Remote Pilot – Visual Line of Sight)
Certificate III in Hairdressing	Certificate III in Public Safety (Aquatic Search and Rescue)
Certificate III in Education Support	Certificate III in Accounts Administration
Certificate III in Animal Studies	Certificate III in Property Services (Agency)
Certificate III in Laboratory Skills	Certificate III in Light Vehicle Mechanical Technology

Note: 1 Where the number of students in the course was 100 or more.
Source: National VET in Schools Collection, 2017.

There were another two training packages outside the top 20 with numbers just over 100 students where females far outnumbered males. These were the Certificate III in Dance and the Certificate III in Retail Baking (Combined). Both of these courses had just over 100 students. There were also three training package qualifications which had just under 100 students where males far outnumbered females. These were: Certificate III in Meat Processing (Retail Butcher), Certificate III in Heavy Commercial Vehicle Mechanical Technology and Certificate III in Roof Plumbing. A more complete list (including course codes) appears in table B1 in appendix B.

Certificate II programs

At certificate II levels the most popular courses[13] for males (where they outnumbered females) were related to the trades, including construction, engineering, and furniture-making pathways programs and pre-apprenticeship programs (plumbing). Also popular were programs aimed at preparing students for vocational programs (automotive, electrotechnology), and the foundation skills required for work and vocational pathways. Other areas included creative industries, agriculture, music industry, and sport and recreation, although smaller numbers were involved. In table 6 we list these qualifications, grouped according to general industry areas. A more complete list (including course codes) appears in table B2 in appendix B.

Table 6 **Most popular certificate II programs[1] for males where they outnumbered females by industry area**

Industry area	Qualifications
Building and construction	Certificate II in Construction Pathways
	Certificate II in Construction
	Certificate II in Building and Construction (Pathway – trades)
	Certificate II in Plumbing
	Certificate II in Plumbing (Pre-apprenticeship)
Engineering	Certificate II in Engineering Pathways
	Certificate II in Engineering
	Certificate II in Engineering Studies
Work Preparation Pathways	Certificate II in Skills for Work and Vocational Pathways
Information and Communications Technology	Certificate II in Information, Digital Media and Technology
	Certificate II in Integrated Technologies
Sport and Recreation	Certificate II in Sport and Recreation
	Certificate II in Sport Career Oriented Participation
	Certificate II in Sport Coaching
	Certificate II in Outdoor Recreation
Automotive	Certificate II in Automotive Vocational Preparation
	Certificate II in Automotive Vocational Preparation
	Certificate II in Automotive Underbody Technology
	Certificate II in Automotive Servicing Technology
	Certificate II in Automotive Studies (Pre-vocational)
Electrotechnology	Certificate II in Electrotechnology (Career Start)
	Certificate II in Electrotechnology Studies (Pre-vocational)
Agriculture and Horticulture	Certificate II in Agriculture
	Certificate II in Agriculture
	Certificate II in Horticulture
Furniture Manufacturing	Certificate II in Furniture Making Pathways
	Certificate II in Furniture Making
Creative Industries	Certificate II in Creative Industries
Music Industry	Certificate II in Music Industry
Resources and Infrastructure	Certificate II in Resources and Infrastructure Work Preparation
Logistics	Certificate II in Warehousing Operations
	Certificate II in Logistics
Public Safety	Certificate II in Public Safety (Firefighting Operations)

Note: 1 Qualifications or combination of same qualifications with a total of 100 students and over.
Source: National VET in Schools Collection, 2017

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13 We take into account of both training package qualifications and nationally accredited courses.

Jurisdictional differences: training participation rates

Our findings for the training participation rate for a jurisdiction[14] in figure 7 demonstrate some sizable fluctuations over time, and show:

- For every year between 2008 and 2017, Queensland has had the highest training participation rates of students engaged in VET programs delivered to secondary school students. Over that time the participation rate for Queensland ranged between 46.2% and 53.6%.

- Over the last five years, Western Australia has consistently had the next highest participation rates (figure 7), with training participation rates ranging between 33.8% and 43.9%.

- Between 2006 and 2017, apart from 2011, it is the smaller jurisdictions, in terms of overall population (the Australian Capital Territory, the Northern Territory and Tasmania) that at various times have displayed the second or third highest participation rates.

In appendix C we provide details on the numbers on which the participation rates in figure 7 are based (tables C1, C2) and the participation rates themselves (table C3). We also provide a discussion about the overall shares held by each jurisdiction and how these have changed over time.

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14 When we talk about the training participation rate for a jurisdiction, we are referring to the number of students in that state or territory who are engaged in a certain training activity as a proportion of an eligible cohort of students. In this case the jurisdictional training participation rate for VET programs delivered to secondary school students is based on the number of students in these programs as a proportion of the total number of students in Years 10, 11 and 12 in that jurisdiction (see tables C1, C2 and C3 in appendix C).

Figure 7   Participation rate of students (Years 10 to 12) in VET programs delivered to secondary school students by states and territories, 2006–17
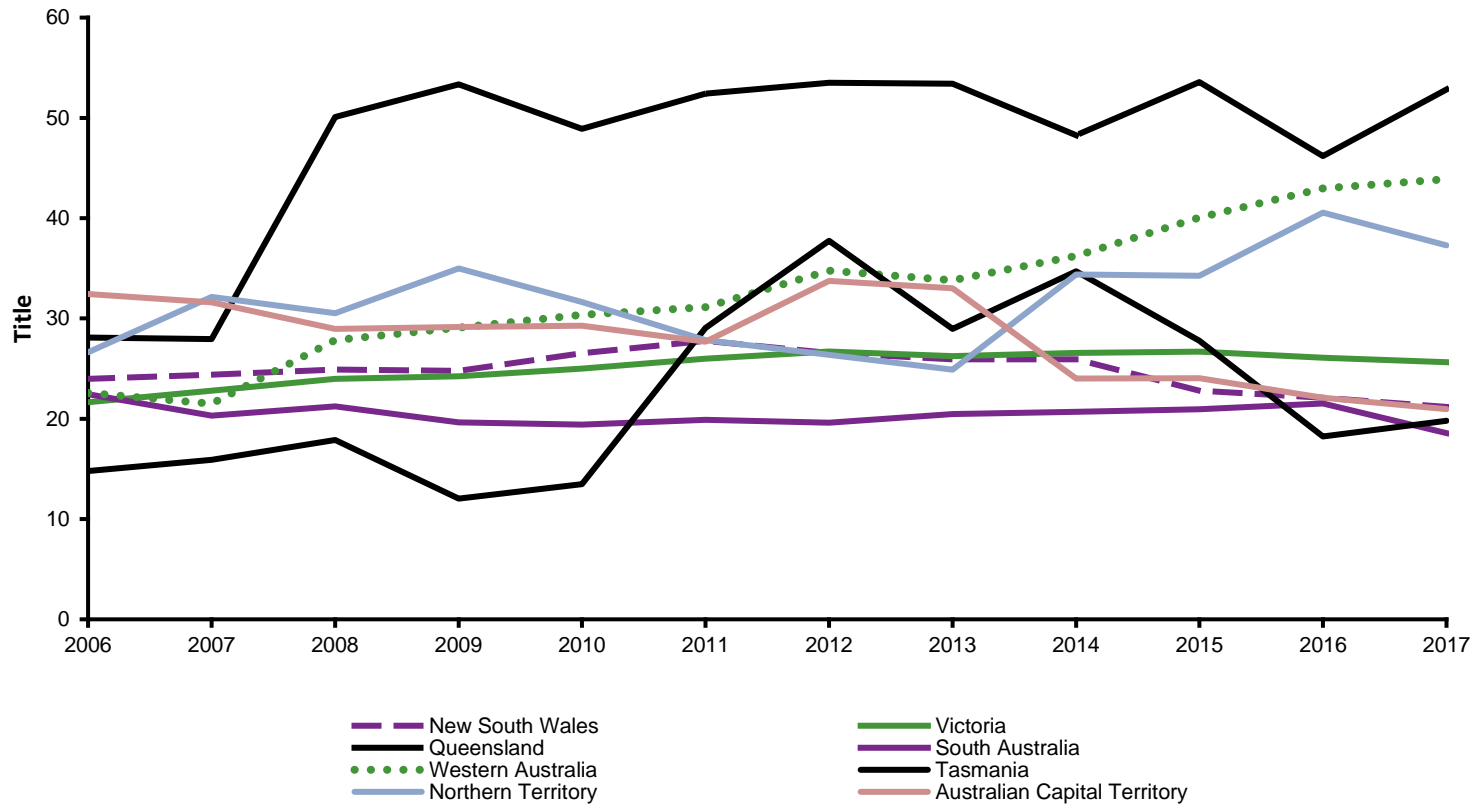
Source: National VET in Schools Collection, 2006–17; ABS (2006–17).

School and post-school qualification and field of education comparisons

How does the pattern of VET qualifications in secondary schools compare with that of VET more broadly? The answer to this question will enable us to understand any differences and similarities between the two groups.

This section will also investigate whether VET for secondary school students targets only the lower-level qualifications, which are perceived to be easier to resource and deliver, thus leaving the higher-level qualifications to post-school VET.

In making these comparisons, it is important to note that students in school-based VET may be required to complete core senior secondary subjects. This in turn may present them with a range of timetabling challenges. In addition, the offerings may also be constrained by the school's capacity to deliver various programs.

That data presented below shows that:

- although post-school VET for 15 to 19-year-olds is predominantly at certificate III and above, the pattern of qualifications undertaken by secondary school VET students is changing, with increased proportions of these students undertaking courses at certificate III level

- for both post-school and secondary school VET students, certificate I qualifications declined by almost half over the time-period

  - within this, we find that Indigenous students are also participating in certificate I programs at twice the rate of non-Indigenous students (14.3% and 7.7% respectively)

- for secondary school VET students, the most popular fields of education in 2017 were society and culture (18.6%), closely followed by management and commerce (18.1%) and food, hospitality and personal services (16.3%); and 10.9% undertook engineering and related technologies.

- the greatest change over time between 2006 and 2017 for secondary school VET and post-school VET students aged 15 to 19 years arose for management and commerce, which fell by 10.3% for secondary school VET; 8.9 % for post-school VET. This meant it was still one of the most popular three for secondary school VET students, as set out above, but not for post-school VET students

- for information technology, post-school VET was mostly stable between 2006 and 2017 but fell sharply for secondary school VET (by 8.2%)

- for society and culture, there was a rise over time for both groups, but post-school VET rose by 3.4% and there was a steeper rise for secondary school VET (13.8%).

Lower-level VET qualifications and secondary school VET students

In general, comparisons between secondary school VET students and post-school VET students ignore the fact that the two groups have different age distributions, which can make it difficult to compare them appropriately. To deal with this difficulty, we compare the VET qualifications undertaken by secondary school VET students aged 15 to 19 years with those undertaken by 15 to 19-year-olds post-school (table 7).[15]

Table 7 shows that the secondary school VET students more frequently undertake certificate I and II qualifications (in 2017, 7.9% certificate I and 55.7% certificate II) and less frequently undertake certificate III and above qualifications and other qualifications than post-school VET students in the 15 to 19 years age group. The pattern has changed over time: from 2006 a higher share of secondary school VET students undertook certificate II qualifications (64.4% in 2006 compared with 55.7% in 2017) and certificate I (19.3% in 2006 compared with 7.9% in 2017). In contrast, more secondary school students in the 15 to 19 years age group now undertake certificate III qualifications — up from 13.8% in 2006 to 33.4% in 2017. Hence, we can conclude that, although post-school VET for 15 to 19-year-olds is predominantly at certificate III and above, the pattern of qualifications undertaken by secondary school VET students is changing, with increased proportions of these students undertaking courses at the certificate III level.

Table 7 **15 to 19-year-olds undertaking VET programs in secondary schools and post-secondary[1] VET institutions (%), 2006, 2017**

	Post-school VET[2]		VET for secondary school students	
	2006 %	2017 %	2006 %	2017 %
Diploma and above	11.6	9.7	0.2	1.5
Certificate IV	8.4	8.7	0.6	1.3
Certificate III	49.5	57.6	13.8	33.4
Certificate II	17.0	12.4	64.4	55.7
Certificate I	4.7	2.8	19.3	7.9
Other qualifications and courses	8.8	8.7	1.6	0.2
	100.0	100.0	100.0	100.0
N	210 848	183 316	167 075	237 745

Note: 1 Based on students in post-secondary VET courses that are government-funded.
      2 Students not attending school.
Source: National VET in Schools Collection 2006, 2017; National VET Provider Collection, 2006, 2017.

For both groups we see that certificate I qualifications declined by almost half over the time-period. Nevertheless, there are some groups for whom programs at the certificate I level may still fulfil an important function, especially students with specific learning issues and those who may need to hone their basic skills. We find that Indigenous students are also participating in certificate I programs at twice the rate of non-Indigenous students (14.3% and 7.7% respectively).

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15 In table 3, presented earlier, we noted that most students undertaking VET in secondary schools are 15 to 19-year-olds.

Field of education

In table 8 we find that, for 15 to 19-year-olds:

- for secondary school VET students, the most popular fields of education in 2017 were society and culture (18.6%), closely followed by management and commerce (18.1%) and food, hospitality and personal services (16.3%); and 10.9% undertook engineering and related technologies

- for post-school VET students, engineering and related technologies (20.0%) is the most popular field, followed by architecture and building (14.4%) and then food, hospitality and personal services (12.9%).

In examining the change over time in table 8 for 15 to 19-year-olds:

- the greatest change between 2006 and 2017 for secondary school VET and post-school VET students aged 15 to 19 years arose for management and commerce, which fell by 10.3% for secondary school VET; and 8.9 % for post-school VET. This meant it was still one of the most popular three for secondary school VET students, as set out above, but not for post-school VET students

- for information technology, post-school VET was mostly stable between 2006 and 2017 but fell sharply for secondary school VET (by 8.2%)

- for food, hospitality, and personal services, post-school VET was stable between 2006 and 2017 but fell for secondary school VET (by 4.1%)

- for society and culture, there was a rise for both groups, but post-school VET rose by 3.4% and there was a steeper rise for secondary school VET (13.8%).

Table 8   15 to 19-year-olds undertaking VET programs in secondary schools and post-secondary[1] VET institutions, by field of education, 2006, 2017 (%)

	Post-school VET		VET for secondary school students	
	2006	**2017**	**2006**	**2017**
01 – Natural and physical sciences	0.5	0.4	0.1	0.5
02 – Information technology	3.1	2.4	14.4	6.2
03 – Engineering and related technologies	23.8	20.0	11.2	10.9
04 – Architecture and building	11.4	14.4	5.1	8.3
05 – Agriculture, environmental and related studies	3.5	2.9	3.6	3.6
06 – Health	1.7	4.8	0.6	3.4
07 – Education	0.6	2.8	0.1	0.4
08 – Management and commerce	20.5	11.6	28.4	18.1
09 – Society and culture	7.1	10.5	4.8	18.6
10 – Creative arts	3.4	3.0	5.4	7.3
11 – Food, hospitality and personal services	12.9	12.9	20.4	16.3
12 – Mixed field programmes	9.7	8.6	5.9	6.3
Not known	1.9	5.5	0	0
Total %	100	100	100	100
Total number	210 848	183 316	167 075	237 745

Note: 1 Students in post-secondary VET courses that are government-funded.

Source: National VET in Schools Collection 2017; National VET Provider Collection, 2006, 2017.

The most frequently used qualifications

Looking at students by field of education gives us a sense of the broad fields of learning in which students are engaged but little information on the specific types of qualifications undertaken. To shed more light on the types of VET qualifications undertaken by secondary school students within these broad fields of education, we examine the list of training package qualifications for 2017.

In table 9 we create some 'domains' (which may combine several related training package areas). We find that the two most common qualifications in 2017 are in the domains we have called *Hospitality,* and *Business, management and financial services*. These are the Certificate II in Hospitality with 14 684 students, and the Certificate II in Business with 13 190 students. These are followed by the Certificate II in Kitchen Operations, recording just 11 561 students.[16] Next is the Certificate III in Sport and Recreation from the *Sport, fitness and recreation* domain, with 9855 students, ahead of the Certificate II in Construction Pathways, from the *Construction and plumbing* domain with 8495 students.

The profile of the most common qualifications has only changed slightly from 2006 (see Misko, Korbel & Blomberg 2017). Notable changes are:

- In 2006, the most common training package qualification for secondary school students undertaking VET was also the Certificate II in Business, but with a total of 23 555 students, which was far more than the 2017 figure of 13 000. This type of fall over time was also observed in field of study *Management and commerce*.

- Hospitality qualifications were next most common. The Certificate II in Hospitality Operations, with a total of 23 500 students in 2006. This also fell over time, and was more than the Certificate II in Hospitality, with 14 684 students in 2017. A fall over time was also observed for the similar field of education, food, hospitality and personal services (see table 8).

- The third most popular qualification in 2006 was the Certificate II in Information Technology, with 11 736 students, although this is not as common in 2017 and is not amongst the most popular course domains. A fall over time was also observed for the similar field of education, information technology (see table 8).

In appendix D, we expand the list provided in table 9 by identifying the three most popular qualifications in 2017 (table D1).

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16 Reported in appendix D, table D1.

Table 9   The most popular qualification by number of VET secondary students by industry domain, 2017

Domain	Most popular qualification	Number of students undertaking qualification
Agriculture, horticulture, conservation, land and turf management, racing, animal studies	Cert. II Agriculture	3 038
Automotive	Cert. II Automotive Vocational Preparation	3 556
Arts, culture, and design	Cert. II Visual Arts	2 801
Beauty, nails and hairdressing	Cert. II Salon Assistant	1 794
Business management and financial services	Cert. II Business	13 190
Community services and children's services	Cert. III in Early Childhood Education and Care	5 156
Construction and plumbing	Cert. II Construction Pathways	8 495
Electro-technology	Cert. II Electro-technology (Career Start)	2 974
Engineering and aero skills	Cert. II Engineering Pathways	5 074
Foundation skills	Cert. II Skills for Work and Vocational Pathways	7 018
Furnishing, furniture making, upholstery, interior decorating	Cert. II Furniture Making Pathways	1 087
Health	Cert. III Health Assistance Services	2 213
Hospitality	Cert. II Hospitality	14 684
Tourism	Cert. II Tourism	2 024
Information and communications technology	Cert. III Information, Digital Media and Technology	5 377
Live production theatre and events and dance	Cert. III Live Production and Services	2 936
Music	Cert. III Music Industry	2 959
Retail	Cert. II Retail Services	3 171
Screen and media	Cert. III Screen and Media	2 996
Sport, fitness and recreation	Cert. III Sport and Recreation	9 855

Note: The shaded qualifications are the most frequently undertaken in 2017.
Source: National VET in Schools Collection, 2017.

School-based apprenticeships and traineeships

A key policy shift in the last two decades has been the introduction of school-based part-time apprenticeships and traineeships, with the acceptance of these arrangements for delivery in secondary schools. This has led to some substantial changes in volume over time for school-based apprenticeships and traineeships, with the initial fast growth followed by some steadying. The data shows that:

- in 1998 there were 1591 school students in school-based apprenticeships and traineeships in Australia (MCEETYA 2005)

- by 2008 this had risen to 25 727 students. In 2015 it dropped to 20 093 students and continued to decline the following year

- in 2016, there were 17 198 students in these programs, with a slight increase (19 961) the following year (VET in Schools Collection 2006—17).

From table 10, we can get a sense of the apprenticeships and traineeships amongst secondary school students in VET programs across Australia and in different states and territories.[17] We find that in 2006, Victoria had the highest ratio of apprentices and trainees to secondary school VET students, but in 2017 it was Tasmania with the highest proportion (albeit with a low number of students). Queensland had the next highest ratio and Western Australia had the lowest ratio in 2006, but it increased slightly in 2017.

Table 10   School-based apprentices and trainees as proportion of secondary school VET students by state and territory, 2006, 2017

State and territory	2006		2017	
	No. of all secondary VET students	% within that jurisdiction who are apprentices and trainees	No. of all secondary VET students	% within that jurisdiction who are apprentices and trainees
New South Wales	52 339	3.2	50 167	5.0
Victoria	38 100	14.4	50 439	6.0
Queensland	42 173	9.7	84 158	13.4
South Australia	12 854	4.7	11 375	9.0
Western Australia	17 150	4.4	36 782	3.5
Tasmania	2 665	4.7	3 380	15.7
Northern Territory	1 841	7.1	2 684	5.0
Australian Capital Territory	4 535	1.5	3 159	5.8
Australia	171 657	7.5	242 144	8.2

Source: National VET in Schools Collection, 2006, 2017.

We can speculate that one of the key reasons for Queensland consistently having one of the highest proportions of apprentices and trainees within their secondary school VET populations could be due to the large numbers of schools that are RTOs themselves. This may make them more likely to have developed strong local partnerships with industry

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17 In appendix E (table E1) we provide more detail on the number of apprentices and trainees compared with the number of non-apprentices and trainees across the jurisdictions. Table E1 lists the training packages used by school-based apprentices and trainees in 2006 and 2017.

(including with group training companies) to enable the higher volumes. Nevertheless, this may be an area that requires further investigation.

In the following tables, detailed presentations reveal the underlying training packages for these apprentice/trainees in secondary school and how this has changed between 2006 and 2017. Further analysis then explores their volumes, identifying niches and other features from the student and proportions undertaking specific training packages.

Table 11 shows the pattern of training packages undertaken by school-based apprentices and trainees from 2006 to 2017.

- The largest proportions of school-based apprentices and trainees were enrolled in the Retail Services Training Packages, followed by the Tourism, Travel and Hospitality Training Package and the Business Services Training Packages.[18] These three training packages (in this same order) also accounted for the highest proportions of all school-based apprentices in 2006.

- While the Retail Services Training Packages accounted for around a third of all school-based apprentices and trainees in 2006, this had declined to 16.3% in 2017. By contrast, the Tourism, Travel and Hospitality Training Packages, which accounted for the second largest proportion of apprentices and trainees in 2006, remained relatively stable.

- The third highest shares of apprentices and trainees in 2006 were accounted for by the Business Services Training Package, which remained relatively stable in 2017. However, the biggest change is observed in the Sport, Fitness and Recreation Training Package. Representing the tenth most popular group of courses in 2006 (accounting for 2.4% of school-based apprentices and trainees), by 2017 this had almost doubled.

- A similar trajectory was exhibited by the Community Services Training Package. In 2006, it accounted for 3.1% of the share of school-based apprentices and trainees, yet by 2017 this too had more than doubled.

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18 We use the plural form here and in ensuing descriptions because there are several training packages relevant to this particular sector.

Table 11   Training packages by school-based apprentices and trainees in secondary school VET programs, 2006, 2017 (%)

	2006	2017
SIR – Retail Services (SIR, WRP, WRR)	33.4	16.3
SIT – Tourism, Travel and Hospitality (SIT, THH, THT)	14.3	15.1
BSB – Business Services (BSA, BSB)	13.6	12.5
ICT – Information and Communications Technology (ICA, ICT)	5.5	3.2
AUR – Automotive Industry Retail, Service and Repair (AUR)	5.1	4.3
AHC – Agriculture, Horticulture and Conservation and Land Management (AGF, AGR, AHC, RTD, RTE, RTF, RUA, RUH)	5.0	5.3
MEM – Metal and Engineering (MEM)	3.4	2.9
CPC – Construction, Plumbing & Services Integrated Framework (BCF, BCG, BCP, CPC)	3.3	6.6
CHC – Community Services (CHC)	3.1	8.9
SIS – Sport, Fitness and Recreation (SIS, SRC, SRF, SRO, SRS)	2.4	8.9
SHB – Hairdressing and Beauty Services (SHB, SIH, WRH)	1.4	2.9
SIB – Beauty (SIB, WRB)	1.2	0.0
CUF – Screen and Media (CUF)	0.9	0.1
MSF – Furnishing (LMF, MSF)	0.7	0.9
CUA – Creative Arts and Culture (CUA, CUE, CUV)	0.6	1.4
AMP – Australian Meat Processing (AMP, MTM)	0.5	0.7
TLI – Transport and Logistics (TDT, TLI)	0.5	1.7
UEE – Electrotechnology (UEE, UTE, UTL)	0.4	2.1
CUS – Music (CUS)	0.4	0.0
FDF – Food Processing Industry (FDF)	0.3	0.7
ACM – Animal Care and Management (ACM, RUV)	0.3	0.6
HLT – Health (HLT)	0.2	2.2
CPP – Property Services (CPP, PRD, PRM, PRS)	0.2	0.1
PMB – Plastics, Rubber and Cable making (PMB)	0.1	0.0
All other training packages and courses	3.3	2.6
	100.0	100.0
Total numbers of apprentices and trainees	**12 925**	**19 961**

Note: The first three Training Packages that have been shaded represent the three most popular Training Packages; the next two Training Packages that have been shaded represent the Training Packages where there has been the most increase.

Source: National VET in Schools Collection, 2006−17.

Training packages supporting the greatest proportions of school-based apprentices and trainees

A further aspect is identifying the detail of which training packages support the largest proportions of school-based apprentices and trainees amongst their enrolments.

We briefly discuss the findings, providing more detailed analyses for further reference in tables F1 and F2 in appendix F:

- The number of students across the training packages shows small volumes associated with niche areas.

- In 2006, half of the students supported by the Retail Services Training Package were school-based apprentices and trainees, while for the Automotive, Industry, Retail,

Services and Repair Training Package, the number of school-based apprentices and trainees was about a fifth. In 2006, these two training packages accounted for 4312 and 665 school-based apprentices and trainees respectively (table F1). Although there were other training packages whose proportions of school-based apprentices and trainees were greater than these two packages, they represented substantially smaller numbers of individuals. For example, around three-quarters of the students in the Library, Information and Cultural Services and the Australian Meat Industry Training Packages were for school-based apprentices and trainees but these accounted for just 16 and 65 individuals respectively.

- In 2017, the training packages that supported the greatest proportions of school-based apprentices and trainees compared with other VET students in secondary schools were not necessarily those with the greatest numbers of students overall.[19] For example, three-quarters (77.2%) of the students in the Australian Meat Processing Training Package and around a half of the students in the Floristry, and Public Services Training Packages were school-based apprentices and trainees (54.8% and 48.4% respectively). However, these listed training packages accounted for small numbers of students overall, with those that had only apprentices and trainees enrolled accounting for very minimal numbers of enrolments overall.

- Of the training packages with substantial numbers of school-based apprentices and trainees (including SIT — Tourism, Travel and Hospitality; SIR — Retail Services; SIS — Sport and Fitness; and CPC — Construction), the largest proportions of apprentices and trainees by comparison with other VET students in secondary schools were accounted for by the Retail Services Training Package (41.9% versus 58.1% respectively).

- The AUR —Automotive Industry Retail and Repair; the CHC — Community Services; the AHC — Agriculture, Horticulture Conservation and Land Management; and the SHB — Hairdressing and Beauty Services Training Packages also supported substantial numbers of students, but by comparison with the SIR — Retail Services Training Package they accounted for smaller proportions of apprentices and trainees (see table F2) than other VET students in secondary schools (14.3%, 13.3%, 13.1%, 9.4% respectively).

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19 For example, all (100%) of the students in the AUM — Automotive Industry Manufacturing, the NWP — National Water, the PMB — Plastics, and the SIF — Funeral Training Packages were school-based apprentices and trainees. We do not present this information in our in Table F2 Appendix F because of the very small numbers involved.

Developing non-technical skills for VET students in secondary schools

Recent national discussions relating to reforming training products, including training packages, have highlighted the need for learners to acquire non-technical skills, including 'future work skills' along with 'foundation skills'.

These foundation skills are usually articulated in training packages as 'employability skills', where they are defined as comprising English language, literacy and numeracy skills, several other skills (namely, collaboration, problem-solving, self-management, learning, and information and communications technology).

These are designated as necessary for functioning successfully in the contemporary workplace and life in general (Australian Department of Education & Training 2017).

'Future work skills' are described as those that equip young people with the ability to adapt to ongoing changes in the economy and nature of work. They are commonly defined as: skills that facilitate an individual's ability to quickly gain new skills, deal with changes within an existing job and move into different jobs.

In this chapter we present evidence for answering the research question: Do VET programs delivered to secondary school students equip them with the non-technical skills required for participating in an ever-changing world of work?

We collect the information using the content analysis technique.

The content analysis

When we apply the term 'content analysis' to the methodology used for this study, we refer to a research technique for examining texts (in this case, training and curriculum materials) to identify in a systematic way the pattern of opportunities for skills development available to students in secondary school VET programs. The content analysis technique can also be used to examine other records of activity or information which are not text-based. The value of using such a technique is that it enables us to systematically record our observations as we read the various relevant documents. This can then provide us with some quantitative evidence to enable us to make judgements about the existence or absence of opportunities for learning.

In undertaking the content analysis, we looked more deeply into how training packages presented the skills and knowledge required to develop in students the non-technical skills necessary for entry into the modern workplace, as well as adaptability skills for emerging and changing occupations.

In the content analysis, we concentrated on certificates I, II and III qualifications because these were the qualification levels most applicable to VET programs for secondary school students. They were also the levels most in use (see earlier, in figure 5). For the purposes of this study, only core units for each of the qualifications were

examined. Certificate III qualifications were the most frequently studied for each of the selected training packages.

We selected five training packages in discrete areas for investigation mainly because we could not examine all of them. Because the SIT — Tourism, Travel and Hospitality and CHC — Community Services Training Packages were among the more popular programs for secondary school students undertaking VET, they were chosen for investigation, while the CPC — Construction, Plumbing and Services and the MEM — Metals and Engineering Training Packages were selected because they were more closely related to the trades. We examined the FSK — Foundation Skills Training Package because it incorporates a range of basic non-technical literacy and numeracy skills.

In table 12 we set out each training package, along with the number of qualifications investigated for each.

Table 12   Core units examined by training package and level of qualifications

	Certificate I	Certificate II	Certificate III
CPC08 – Construction, Plumbing and Services, release 9.4	1	6	29
CHC – Community Services, release 3.0	1	2	5
MEM05 – Metal and Engineering, release 11.1	2	4	11
ICT – Information and Communications Technology, release 3.1	1	2	5
SIT – Tourism, Travel and Hospitality, release 1.1	2	5	11
FSK – Foundation Skills Training Package, release 1.1	2	1	
Total number of core units examined	**9**	**20**	**61**

Note: Links to each of the training packages are provided in the reference list. They are organised alphabetically according to the initial codes in their titles.

Establishing a framework for categorisation

Our main task in the content analysis was to investigate the frequency with which non-technical skills were identified as skills and knowledge to be developed in units of competency of the selected training packages. To do this we adopted the following sequential approach.

The categories

We first established the categories that would guide our content analysis. Here we were informed by the skill categories used to describe competencies and employability skills in the publication *Employability skills for the future* (Department of Education, Science and Training, Australian Chamber of Commerce and Industry & Business Council of Australia 2002). These key skills were: communication; teamwork; problem-solving; initiative and enterprise; planning and organising; self-management; learning; and technology. To complete our framework, and to ensure it reflected our aim of analysing course content for evidence of opportunities for students to develop non-technical skills, we also included occupational health and safety (OHS) or workplace health and safety (WHS) skills.

Prerequisite literacy and numeracy skills

Noting that literacy and numeracy skills are skills basic to learning across vocational and academic education and are required before a higher-order skill can be performed, we also looked for evidence of literacy and numeracy competencies being specifically described in units of competency in all of the training packages (anticipating that these were more likely to be found in the FSK — Foundation Skills Training Package). We found that, apart from their inclusion in the Foundation Skills Training Package, literacy and numeracy skills were not specifically articulated in the remaining training packages (but were comprehensively addressed at basic levels in this package). However, in conducting our analysis we made a judgement that a prerequisite level of literacy and numeracy would be required for students to undertake training for these qualifications.

The guide

To guide us in our reading of the relevant documents and to assist in the identification and classification of skills belonging to the various categories, we developed a more detailed reference document: 'The skills terminology guide' (detailed in the accompanying support document available at <https://www.ncver.edu.au>). In constructing this we referred to the Employability Skills Framework (Department of Education, Science and Training, Australian Chamber of Commerce and Industry & Business Council of Australia 2002) and to the 'general capabilities' as defined in the Australian curriculum (Australian Curriculum, Assessment and Reporting Authority 2015). For each skill category, this guide lists different aspects or indicators of the skill in action and the range of terminologies used to describe these.

Identifying the non-technical skills

Across most of the training packages in our sample, non-technical skills are listed under the 'employability skills qualification' summary usually found at the head of qualification requirements. Where these summaries were not available, we drew from the general competencies listed for each qualification, and if still not clear at this level we then looked at unit titles. Following this, if necessary, we looked closely at competencies specific to these units. This enabled us to identify the presence or absence of these skills in the documentation.

Findings on non-technical skills for VET students in secondary schools

The non-technical skills were easier to recognise in the training packages where they had been specifically articulated in the employability skills qualification summaries. If not present in this summary, the references to these skills became increasingly vague and therefore more difficult to observe. Table 13 provides an analysis of the records of each of the non-technical skills of interest to the study.

Table 13   Number of non-technical skill observations by qualification level in training packages

Qualification level	Total number within sample	Communication	Teamwork	Problem-solving	Initiative and enterprise	Planning and organising	Self-management	Learning	Technology	Literacy	Numeracy	OHS/WHS
Certificate I	9	9	6	7	6	9	9	9	6	2	2	7
Certificate II	20	20	19	20	19	20	20	17	17	1	1	19
Certificate III	61	61	60	61	60	61	61	58	53	0	0	61
Total sample	**90**	**90**	**85**	**88**	**85**	**90**	**90**	**84**	**76**	**3**	**3**	**87**

Note: Core units of CPC08 – Construction, Plumbing and Services; MEM05 – Metal and Engineering; ICT – Information and Communications Technology; CHC – Community Services; SIT – Tourism, Travel and Hospitality; FSK – Foundation Skills.

Following the approach described earlier, our findings indicate that the non-technical skills (of communication, teamwork, problem-solving, initiative and enterprise, planning and organising, self-management, learning, technology, and occupational or workplace safety skills) are generally well covered, with evidence that these skills are to be taught in certificate I, II and III levels in the training packages studied. We also found that:

- Skills identified at the certificate I level were more generic and contained a broader spectrum of activities than did the higher-level qualifications.

- The activities to be covered in certificate II and III qualifications tended to become more industry specific.

- The generic technology skill tended to develop in complexity as qualification levels increased; this could explain the decrease in observations of this skill beyond certificate I level.

- Learning as a skill was also observed less frequently beyond certificate I. We believe that fewer instances were observed because it may be perceived as a foundation skill by training package developers and writers. As qualification levels increased, learning became an applied skill in the more complex contexts of certificates II and III.

To understand how non-technical skills progress as qualification levels increased, we looked briefly at certificate III/IV and diploma/advanced diploma of the MEM05 — Metals and Engineering Training Package (even though secondary school students would not be undertaking diploma and advanced diploma qualifications as a rule). We also noticed a regular pattern of skills compounding as qualification levels increased. For example, the communication skills at diploma and advanced diploma levels comprised a merging and bundling of the more basic communication skills from the lower-level qualifications, enabling more complex communication at the higher levels; including, for instance, activities such as complex liaising, consulting, negotiating, advising, researching, and evaluating (table 14). This is evidence of how the skills of students can develop across the levels, building on earlier levels, also meaning that it may be difficult for those students who enter directly into higher-level qualifications (for example, by recognition of prior learning) to achieve these skills, assuming that they lack prior exposure by not having studied these lower-level qualifications.

Table 14 Observations of increasing complexity of a non-technical skill between lower- and higher-level qualifications within the MEM05 – Metal and Engineering Training Package

Non-technical skill	Certificate I/II	Certificate III/IV	Diploma +
Communication aspects	Enter routine and familiar information onto proforma and standard workplace forms	Produce sketches, diagrams, charts or graphs	Prepare reports, graphics, specifications and other documentation
	Orally report routine information	Provide clear and precise information to others, including trade team members, apprentices, production employees	Negotiate, develop, implement and document work instructions, outcomes and performance measures Communicate complex ideas through presentations, meetings and one-on-one communication Research, evaluate and report information on systems, techniques, requirements, options and solutions
	Follow verbal instructions	Liaise with appropriate authorities	Consult and advise internal and external clients to ensure clarification of requirements for projects or operations Liaise with internal and external stakeholders and others to confirm specifications and discuss alternatives

Source: Core units of MEM05 – Metal and Engineering Training Package.

⚖ Conclusion: an array of technical and generic skills

Our study of the uptake of VET by students in secondary schools by different groups across different time periods provides a snapshot of the amount and type of programs undertaken. This along with our content analysis of relevant training documents, demonstrates that the programs secondary students undertake, provide the opportunities for the development of industry-specific specialist technical skills and the more generic non-technical skills, required to prepare them for the world of work.

Uptake and participation

What are the current trends in the quantity and type of VET training undertaken by students in secondary schools? Since the mid-1990s the uptake of VET programs by secondary school students has steadily increased, with the participation rate since 2008 stabilising at around 250 000, or 30%, for a few years, although slight dips were observed in both 2016 and 2017. Noteworthy, however, is that the participation rate for students from government schools has always been much higher than that of students from either Catholic or independent schools. In 2017 the rate for students in government, Catholic and independent schools stood at 36%, 26% and 17% respectively. This represented a very slight increase from the year before for Catholic and independent schools (one and two percentage points respectively), while the rate for government schools decreased by one percentage point. Participation rates are higher for males, for Indigenous students by comparison with non-Indigenous students, and for students from government schools by comparison with students from non-government schools.

Each year since 2008, Queensland has also had the highest participation rates, which since that time have tended to stabilise at around the 50% mark, while Western Australia has had the next highest rates each year in the last five years. In 2017, Tasmania, followed by Queensland, had the highest proportions of apprentices and trainees among their students in VET for secondary school programs.

More males than females participate in these programs, with greater proportions of males undertaking certificate II programs; in contrast greater proportions of females are found in the certificate III qualifications. The top 20 certificate III qualifications for females (in which they outnumber males) and for males (in which they outnumber females) are in those areas that have been traditionally dominated by their respective genders: the services sectors for females, and the trade, technology and sports and recreation sectors for males.

While secondary school VET students in the 15 to 19 years age group are more likely to undertake certificate I and II qualifications (mainly certificate II qualifications), post-school VET students in the 15 to 19 years age group are more likely to undertake certificate III and higher qualifications. During the last few years, however, we have seen an increase in the uptake of certificate III qualifications by secondary school VET students. The most common qualifications in 2006 were the Certificate II in Business, followed by the Certificate II in Hospitality Operations and Certificate II in Retail Operations. The Certificate II in Hospitality was the most popular in 2017 followed by the Certificate II in Business and then the Certificate II Kitchen Operations. In 2006, the Certificate II in Information Technology had

the third highest numbers of students but in 2017 it was the Certificate II in Kitchen Operations with the third highest number of students.

The increased uptake of certificate III qualifications by secondary school VET students noticed in recent years may signal the intention of state curriculum authorities to concentrate on higher-level skill qualifications for the completion of secondary school certificates. That said, another possible reason may be that schools are seeking to ensure that students enter the workforce with some higher-level skills, making them more marketable to employers. Whatever these reasons, we cannot discount the fact that students may choose a program because they are attracted to the course itself.

What is important to note, too, is that VET programs undertaken by secondary school students can also be servicing employment growth occupations, including in the personal services and community services areas; for example, the fourth most common qualification was the Certificate III in Sport and Recreation; other popular qualifications at this level were the Certificate III in Fitness, Certificate III in Childhood Education and Care, and Certificate III in Information and Digital Media Technology.

In addition, certificate III programs are focused on a wide range of technical programs, contradicting some views that secondary school VET programs are mostly holding bays for the non-academically able or interested. That students are undertaking programs at certificate III level in areas such as health assistance services, health support services, allied health, information, digital media technology, live production and services, screen and media, music industry, sport and recreation, and electrotechnology underscores the fact that VET programs for secondary school students are also providing these students with skills relevant to changing labour market requirements.

Opportunities for developing non-technical skills

The importance of understanding how secondary school VET and post-school VET programs equip students with the non-technical skills required to participate in an ever-changing world of work and to move in and out of a variety of different pathways has been well documented. Also noted is the extent to which non-technical skills are particularly sought by employers. The question is therefore: do VET programs for secondary school students enable them to acquire these important non-technical skills so necessary for life and the world of work? Our content analysis focused on the competencies and skills and knowledge to be developed within and across qualification levels in Australian training packages, with the findings demonstrating evidence of opportunities for students to develop most of these non-technical skills.

Areas for further investigation

While this study represents the first in a suite of studies on the value of VET programs for secondary schools, the findings themselves suggest a range of activities to further develop some of the issues raised by this investigation.

- *Issues of definition*: in investigating how training packages deal with the development of non-technical skills, we were challenged on occasions by issues of definition. Although non-technical skills were clearly defined in some areas, this did not always apply more generally, which prompted us to develop a reference guide to assist in the identification

of these skills (see the accompanying support document available at <https://www.ncver.edu.au>). While we were able to draw out many examples of such skills, the conversion of this information into quantitative data was also problematic. Working out a more streamlined process might be useful for future research, specifically, investigating the development of terminology that can be shared across the sector might be useful.

- *Investigation of other roles for VET programs in secondary schools*: from a policy perspective, an investigation of the other non-labour market functions performed by secondary school VET programs in overall school operations would be useful; these include providing alternative pathways for students who may be at risk of dropping out of school altogether or those for whom the current general pathways are proving difficult.

- *Higher VET participation in some states*: there is also a case for investigating why certain states have higher participation rates for their VET for secondary schools studies and school-based apprenticeships and traineeships. Successful administration arrangements and practices in other jurisdictions have the potential to inform policy and processes in this area.

- *Trajectories of students in secondary schools who undertake VET but move into university programs*: understanding the connections between the VET qualifications undertaken at school and those pursued at university may provide insights into how school VET programs benefit or impact on a student's choice of university study. Information gleaned from this could also prove useful in promotional campaigns for VET aimed at students and their parents, whereby the skills and experiences gained in secondary school VET are shown as useful by students bound for academic pathways. On a more practical note this information could be used to understand what motivated these students to participate in VET. A further area of interest might be a detailed exploration of the National VET in Schools Collection to identify and better understand the actual VET qualifications taken up by students who move into university.

- *Non-linear pathways taken by VET students in secondary schools*: tracking the multidimensional pathways of students as they move in and out of education, training and work to understand connections between the VET qualifications they take in schools and their post-school destinations could prove informative.

Next steps

This study will support two further stages.

- In the first of these phases, the employment and further training destinations in 2016 of students in secondary school who undertook VET studies in 2011 will be tracked. This phase will make use of a dataset which links 2011 data from the National VET in Schools Collection with 2016 data from the ABS Census for Population and Housing.

- In the second phase, we will explore the feasibility of assessing the effectiveness of VET programs delivered to secondary school students by means of a comparison of their outcomes to an equivalent group of students who did not do such programs.

References

ABS (Australian Bureau of Statistics) 2006—17, *Australian schools*, cat.no.4221.0, ABS, Canberra, viewed March 2019, <http://www.abs.gov.au/ausstats/abs@.nsf/cat/4221.0>

——2014, *Outcomes from vocational education and training in schools, experimental estimates, Australia, 2006—2011*, cat.no.4260.0, ABS, Canberra, viewed December 2016, <http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/4260.0Main+Features32006-2011>.

——2011, Socio-Economic Indexes for Areas, SEIFA), viewed October 3, 2018, <http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/22CEDA8038AF7A0DCA257B3B00116E34/$File/2033.0.55.001%20seifa%202011%20technical%20paper.pdf>

——2015, *Microdata: outcomes from vocational education and training in schools*, *Australia, 2006—2011*, cat.no.4260.0.55.001, ABS, Canberra, viewed December 2016, http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4260.0.55.001Main+Features12006-2011?OpenDocument>.

Australasian Curriculum, Assessment and Certification Authorities 2017, *ACACA report: VET in senior secondary certificates of education*, NSW Education Standards Authority, Sydney.

Australian Curriculum, Assessment and Reporting Authority 2015, 'Australian curriculum general capabilities', viewed March 2019, <https://www.australiancurriculum.edu.au/f-10-curriculum/general-capabilities/>.

——2015, 'Australian curriculum F-10 work studies unit', viewed March 2019, <https://www.australiancurriculum.edu.au/f-10-curriculum/work-studies/>.

Australian Department of Education and Training 2017, *Training product reform: what is the case for change?*, Department of Education and Training, Canberra.

Australian Department of Education, Science and Training, Australian Chamber of Commerce and Industry & Business Council of Australia 2002, *Employability skills for the future*, Department of Education, Science and Training, Canberra.

Clarke, K 2013a, 'Building foundations for occupations or one-way tickets to low skilled jobs? How effective is VET in Schools?', paper presented at the *16th Australian Vocational Education and Training Research Association Conference*, Melbourne.

——2013b, *Entry to vocations: strengthening VET in Schools*, National Vocational Education and Training Research Program research report, NCVER, Adelaide.

——2014, *Entry to vocations: building the foundations of successful transitions*, NCVER, Adelaide, viewed January 2015, <https://www.ncver.edu.au/research-and-statistics/publications/all-publications/entry-to-vocations-building-the-foundations-for-successful-transitions>

——2015, 'Tinkering around the edges, but ignoring the huge cracks: a discussion of VET in Schools for young Australians', in L O'Connor & M Ackehurst (eds), *23rd National Vocational Education and Training Research Conference 'No Frills': refereed papers*, NCVER, Adelaide.

Clarke, K & Polesel, J 2013, 'Strong on retention, weak on outcomes: the impact of vocational education and training in schools', *Discourse: studies in the cultural politics of education*, vol.34, no.2, pp.259—73.

Clarke, K & Volkoff, V 2012, *Entry to vocations: current policy trends, barriers and facilitators of quality in VET in Schools*, National Vocational Education and Training Research Program working paper, NCVER, Adelaide.

CHC — Community Services (release 3.0), viewed March 2018, <https://training.gov.au/Training/Details/CHC>, <https://training.gov.au/TrainingComponentFiles/CHC/CHC_R3.0.pdf>.

COAG (Council of Australian Governments) Education Council 2014, *Preparing secondary students for work: a framework for vocational learning and VET delivered to secondary students*, Education Council, Melbourne, viewed September 2019, <https://docs.education.gov.au/system/files/doc/other/preparing_secondary_students_for_work_2014.pdf>.

CPC08 — Construction, Plumbing and Services Training Package (release 9.4), viewed March 2018, <https://training.gov.au/Training/Details/CPC08>, <https://training.gov.au/TrainingComponentFiles/CPC08/CPC08_R9.4.pdf>.

FSK — Foundation Skills Training Package (Release 1.1), viewed March 2018, <https://training.gov.au/Training/Details/FSK> <https://training.gov.au/TrainingComponentFiles/FSK/FSK_R1.1.pdf>.

ICT — Information and Communications Technology (Release 3.1), viewed March 2018, <https://training.gov.au/Training/Details/ICT>, <https://training.gov.au/TrainingComponentFiles/ICT/ICT_R3.1.pdf>.

Johns, S, Kilpatrick, S, Loechel, B & Prescott, L 2004, *Pathways from rural schools: does school VET make a difference?,* NCVER, Adelaide, viewed January 2018, <http://www.ncver.edu.au/publications/1437.html>.

Lamb, S, Long, M & Malley, J 1998, *Vocational education and training in Australia: an analysis of participation and outcomes using longitudinal survey data*, ACER research monograph no.55, ACER, Melbourne.

MCEETYA (Ministerial Council on Education, Employment, Training and Youth Affairs) 1999, *The Adelaide declaration on national goals for schooling in the twenty-first century*, Melbourne, viewed March 2019, <http://www.scseec.edu.au/archive/Publications/Publications-archive/The-Adelaide-Declaration.aspx>.

——2001, *New framework for vocational education in schools: a comprehensive guide about pathways for young Australians in transition*, viewed August 2018, <http://www.educationcouncil.edu.au/site/DefaultSite/filesystem/documents/Reports%20and%20publications/Publications/Vocational%20Ed/New%20framework%20for%20vocational%20ed%20in%20schools-Policy%20directions.pdf>.

——2005, 'National data on participation in VET in Schools Programs and school-based new apprenticeships for the 2004 school year', MCEETYA, Melbourne.

——2008, *Melbourne declaration on educational goals for young Australians,* Melbourne, viewed 15 March 2019, <http://www.curriculum.edu.au/verve/_resources/National_Declaration_on_the_Educational_Goals_for_Young_Australians.pdf>.

MEM05 — Metal and Engineering Training Package (release 11.1), viewed March 2018, <https://training.gov.au/Training/Details/MEM05>, <https://training.gov.au/TrainingComponentFiles/MEM05/MEM05_R11.1.pdf>.

Misko, J, Korbel, P & Blomberg, D 2017, *VET in School students: characteristic and post-school employment and training experience*, NCVER, Adelaide.

NCVER (National Centre for Vocational Education Research) 2017, *Australian vocational education and training statistics: VET in Schools 2016*, NCVER, Adelaide.

O'Connell, M & Torii, K 2016, *Vocational learning in schools: an international comparison*, Committee for Economic Development of Australia, Melbourne.

Shah, C, Long, M, Perkins, K & Brown, J 2015, *Role of lower-level qualifications in Australia's vocational education and training system*, CEET, Melbourne.

SIT — Tourism, Travel and Hospitality Training Package (release 1.2), viewed March 2018, <https://training.gov.au/Training/Details/SIT>, <https://training.gov.au/TrainingComponentFiles/SIT/SIT_R1.2.pdf>.

Smith, E, Smith, A, Hampson, I & Junor, A 2015, 'How closely do Australian training package qualifications reflect the skills in occupations? An empirical investigation of seven qualifications', *International journal of training research*, vol.13, no.1, pp.49—63.

Southren, M 2015, 'Working with a competency-based training package: a contextual investigation from the perspective of a group of TAFE teachers', *International journal of training research*, vol.13, no.3, pp.194—213.

Tehan, D 2018, 'Updating Australia's education agenda', media release by Hon. Dan Tehan, Minister for Education, viewed March 2019, <https://ministers.education.gov.au/tehan/updating-australias-education-agenda>.

Wheelahan, L 2008, 'Can learning outcomes be divorced from processes of learning? Or why training packages make very bad curriculum', paper presented at the 11th Australian Vocational Education and Training Research Association Conference, Sydney.

Appendix A: About the national collections

National VET in Schools Collection

Information on the uptake of VET programs by secondary school students is provided by the NCVER National VET in Schools Collection. This collection provides data on secondary school students who undertake vocational education in schools, which includes practical workplace skills and nationally recognised VET qualifications, mainly at certificate I, II and III levels, in addition to the senior secondary certificate of education. Students may also commence a part-time apprenticeship or traineeship while they are undertaking their senior secondary certificate of education. The data are collected via the senior secondary assessment boards in each state or territory (known as the board of studies) and reported through state training authorities or directly through the boards of studies to NCVER.

Standardised data files are submitted to NCVER by 31 March each year. Records are submitted for individual students who have participated and contain data on demographics, schooling and prior education, and cultural and language attributes. Records are submitted for enrolments for each unit of competency or module enrolment for a student during the collection period. Individual records contain data on the delivery location for the client, module or unit of competency, start and end date, mode of delivery, outcome, and the number of hours of delivery for students in VET in Schools programs.

Records are submitted for each qualification or course associated with enrolment activity and completed qualifications during the collection period. Records contain data on the level and field of education, expected occupation outcome and national accreditation status of the qualification. Records are also submitted for each module or unit of competency associated with enrolment activity. Individual records contain data on field of education and hours. Records are submitted for training organisations that deliver vocational education and training to school students. Individual records contain data on location and the registered training organisation trading name and national code. Locations associated with the delivery of enrolment activity are also provided.

National VET Provider Collection, including total VET activity

The National VET Provider Collection collects data on VET activity to a nationally agreed standard and delivered by Australian training providers. It provides information on the number of training providers, students, program enrolments, subject enrolments, hours of delivery, program completions and source of funding.

The collection, which dates back to 1994, has historically reported on *government-funded VET*, which is broadly defined as Commonwealth and state/territory government-funded training delivered by TAFE institutes and other government providers, community education and other registered providers. This is collected and reported quarterly.

In 2014, the scope of the collection was expanded to include *total VET activity (TVA)*. TVA refers to all domestic and overseas VET activity delivered by all types of Australian training providers and reports on students who undertook government-subsidised training and those who undertook training on a fee-for-service basis. This is collected and reported annually.

Data are collected either directly from registered training organisations or via state training authorities.

Appendix B: Most popular qualifications at certificate III and certificate II levels for males and females

Table B1 Most popular certificate III qualifications[1] where females outnumber males and males outnumber females, by name of qualification

Top 20 certificate III qualifications where females outnumber males	Top 20 certificate III qualifications where males outnumber females
CHC30113 – Certificate III in Early Childhood Education and Care	SIS30115 – Certificate III in Sport and Recreation SIS30513 – Certificate III in Sport and Recreation
BSB30115 – Certificate III in Business	ICT30115 – Certificate III in Information, Digital Media and Technology
SIR30216 – Certificate III in Retail	CPC32413 – Certificate III in Plumbing
SIT30616 – Certificate III in Hospitality SIT30713 – Certificate III in Hospitality	SIS30315 – Certificate III in Fitness SIS30313 – Certificate III in Fitness
HLT33115 – Certificate III in Health Services Assistance	CUA30915 – Certificate III in Music Industry
CHC32015 – Certificate III in Community Services	CUA 3105 Certificate III in Screen and Media
SHB30115 – Certificate III in Beauty Services	UEE30811 – Certificate III in Electro-technology (electrician)
HLT33015 – Certificate III in Allied Health Assistance	CPC30211 – Certificate III in Carpentry CPC32011 – Certificate III in Carpentry and Joinery
CHC33015 – Certificate III in Individual Support	MEM30305 – Certificate III in Engineering – Fabrication Trade
CUA31115 – Certificate III in Visual Arts	AHC30110 – Certificate III in Agriculture AHC30116 – Certificate III in Agriculture
SIR30212 – Certificate III in Retail Operations	MEM30505 – Certificate III in Engineering – Technical
SIT30116 – Certificate III in Tourism SIT30112 – Certificate III in Tourism	MEM30205 – Certificate III in Engineering – Mechanical Trade
SHB30215 – Certificate III in Make-Up	SIT30816 – Certificate III in Commercial Cookery
SIT30516 – Certificate III in Events SIT30612 – Certificate III in Events	MSF31113 – Certificate III in Cabinet Making
BSB30415 – Certificate III in Business Administration	MSA30208 – Certificate III in Manufacturing Technology
CUA30715 – Certificate III in Design Fundamentals	AVI30316 – Certificate III in Aviation (Remote Pilot – Visual Line of Sight)
SHB30416 – Certificate III in Hairdressing	PUA31312 – Certificate III in Public Safety (Aquatic Search and Rescue)

CHC30213 – Certificate III in Education Support	FNS30315 – Certificate III in Accounts Administration
ACM30110 – Certificate III in Animal Studies	CPP30211 – Certificate III in Property Services (Agency)
MSL30116 – Certificate III in Laboratory Skills	AUR30612 – Certificate III in Light Vehicle Mechanical Technology

Note: 1 where the number of students in the course was 100 or more.
Source: National VET in Schools Collection, 2017.

- Outside the top 20 qualifications for females where they outnumbered males: CUA30113 − Certificate III in Dance; FDF30710 − Certificate III in Retail Baking (Combined)

- Outside the top 20 for males where they outnumbered females: AMP30815 − Certificate III in Meat Processing (Retail Butcher); AUR31116 − Certificate III in Heavy Commercial Vehicle Mechanical Technology; and CPC32612 − Certificate III in Roof Plumbing.

Table B2 Most popular certificate II programs[1] for males where they outnumbered females, by industry area

Industry area	Qualifications
Building and Construction	CPC20211 – Certificate II in Construction Pathways CPC20112 – Certificate II in Construction 52443WA – Certificate II in Building and Construction (Pathway – trades) 52700WA – Certificate II in Plumbing 52824WA – Certificate II in Building and Construction (Pathway – trades) 22304VIC – Certificate II in Plumbing (Pre-apprenticeship)
Engineering	MEM20413 – Certificate II in Engineering Pathways MEM20105 – Certificate II in Engineering 22209VIC – Certificate II in Engineering Studies
Work Preparation Pathways	FSK20113 – Certificate II in Skills for Work and Vocational Pathways
Information and Communications Technology	ICT20115 – Certificate II in Information, Digital Media and Technology 22289VIC – Certificate II in Integrated Technologies
Sport and Recreation	SIS20115 – Certificate II in Sport and Recreation SIS20313 – Certificate II in Sport and Recreation SIS20412 – Certificate II in Sport Career Oriented Participation SIS20513 – Certificate II in Sport Coaching SIS20213 – Certificate II in Outdoor Recreation
Automotive	AUR20716 – Certificate II in Automotive Vocational Preparation AUR20712 – Certificate II in Automotive Vocational Preparation AUR21216 – Certificate II in Automotive Underbody Technology AUR20516 – Certificate II in Automotive Servicing Technology 22015VIC – Certificate II in Automotive Studies (Pre-vocational)
Electrotechnology	UEE22011 – Certificate II in Electrotechnology (Career Start) 22261VIC – Certificate II in Electrotechnology Studies (Pre-vocational)
Agriculture and Horticulture	AHC20116 – Certificate II in Agriculture AHC20110 – Certificate II in Agriculture AHC20416 – Certificate II in Horticulture
Furniture Manufacturing	MSF20516 – Certificate II in Furniture Making Pathways MSF20313 – Certificate II in Furniture Making
Creative Industries	CUA20215 – Certificate II in Creative Industries
Music Industry	CUA20615 – Certificate II in Music Industry
Resources and Infrastructure	RII20115 – Certificate II in Resources and Infrastructure Work Preparation
Logistics	TLI21616 – Certificate II in Warehousing Operations TLI21815 – Certificate II in Logistics
Public Safety	PUA20713 – Certificate II in Public Safety (Firefighting Operations)

Note: 1 In qualifications or combination of same qualifications with a total of 100 students and over.

Appendix C: Uptake and participation across states and territories

Table C1   Number of students in VET programs for secondary school students by states and territories, 2006–17

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
New South Wales	52 339	53 469	54 927	55 069	60 601	64 360	61 803	60 774	61 220	54 096	52 571	50 167
Victoria	38 100	40 595	43 354	44 410	46 537	48 347	49 839	49 283	50 504	51 484	50 963	50 439
Queensland	42 173	43 131	78 352	86 090	80 988	87 285	89 938	91 133	83 242	94 242	81 292	84 158
South Australia	12 854	11 850	12 477	11 901	12 079	12 293	12 158	12 596	12 786	13 045	13 386	11 375
Western Australia	17 150	16 295	21 593	23 448	24 756	25 552	24 865	24 911	27 313	33 442	35 764	36 782
Tasmania	2 665	2 839	3 197	2 198	2 578	5 686	7 347	5 125	6 149	4 848	3 158	3 380
Northern Territory	1 841	2 209	2 031	2 275	2 084	1 894	1 764	1 699	2 387	2 341	2 810	2 684
Australian Capital Territory	4 535	4 406	4 024	4 084	4 198	3 963	4 894	4 798	3 553	3 603	3 335	3 159
Total	**171 657**	**174 794**	**219 955**	**229 475**	**233 821**	**249 380**	**252 608**	**250 319**	**247 154**	**257 101**	**243 279**	**242 144**

Source: National VET in Schools Collection 2006–17; ABS (2006–17).

Table C2   Number of secondary school students (in Years 10, 11 and 12) by states and territories, 2006–17

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
New South Wales	218 370	219 092	220 533	222 125	228 481	231 770	232 555	234 280	236 151	237 442	238 077	236 875
Victoria	176 002	177 971	180 828	183 345	186 186	186 064	186 629	187 749	190 073	192 832	195 294	196 835
Queensland	150 020	154 353	156 448	161 440	165 639	166 556	168 098	170 677	172 514	175 929	175 969	159 323
South Australia	57 266	58 374	58 751	60 616	62 169	61 769	62 054	61 543	61 793	62 297	62 159	61 262
Western Australia	76 023	75 792	77 519	80 596	81 553	820 63	7 1536	73 660	75 410	83 473	83 219	83 806
Tasmania	1 8016	17 843	17 882	18 262	19 109	19 573	1 9465	1 7697	17 724	17 446	17 318	17 061
Northern Territory	6 918	6 874	6 651	6 501	6 585	6 800	6 687	6 825	6 942	6 833	6 929	7 197
Australian Capital Territory	13 987	139 43	13 900	1 4013	1 4343	14 310	14 503	14 538	14 803	14 986	15 103	15 074
Total	**716 602**	**724 242**	**732 512**	**746 898**	**764 065**	**768 905**	**761 527**	**766 969**	**775 410**	**791 238**	**794 068**	**777 433**

Source: Australian schools (ABS 2017)

Table C3   Training participation rates for secondary school students in VET as a proportion of the number of students in Years 10, 11 and 12, by states and territories, 2006–17

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
New South Wales	24.0	24.4	24.9	24.8	26.5	27.8	26.6	25.9	25.9	22.8	22.1	21.2
Victoria	21.6	22.8	24.0	24.2	25.0	26.0	26.7	26.2	26.6	26.7	26.1	25.6
Queensland	28.1	27.9	50.1	53.3	48.9	52.4	53.5	53.4	48.3	53.6	46.2	52.8
South Australia	22.4	20.3	21.2	19.6	19.4	19.9	19.6	20.5	20.7	20.9	21.5	18.6
Western Australia	22.6	21.5	27.9	29.1	30.4	31.1	34.8	33.8	36.2	40.1	43.0	43.9
Tasmania	14.8	15.9	17.9	12.0	13.5	29.1	37.7	29.0	34.7	27.8	18.2	19.8
Northern Territory	26.6	32.1	30.5	35.0	31.6	27.9	26.4	24.9	34.4	34.3	40.6	37.3
Australian Capital Territory	32.4	31.6	28.9	29.1	29.3	27.7	33.7	33.0	24.0	24.0	22.1	21.0
Total	**24.0**	**24.1**	**30.0**	**30.7**	**30.6**	**32.4**	**33.2**	**32.6**	**31.9**	**32.5**	**30.6**	**31.1**

Note: These rates are based on the numbers in table C1 and C2.

Source: National VET in Schools Collection 2006–17; ABS (2006–17).

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Appendix D: Most popular qualifications across domains

Table D1   Top three frequently used qualifications by number of VET secondary students by industry domain, 2017

Domain	Highest number	Second Highest number	Third highest number
Agriculture, horticulture, conservation, land and turf management, racing, animal studies	*Cert. II Agriculture N=3038*	*Cert. II Animal Studies N=1995*	*Cert. II Rural Operations N=1662*
Automotive	*Cert. II Automotive Vocational Preparation, N=3556*	*Cert. II Automotive Servicing and Technology, N=907*	*Cert. I Automotive Vocational Preparation, N=440*
Arts, culture, and design	*Cert. II Visual Arts N=2801*	*Cert. II Creative Industries, N=1754*	*Cert. III Visual Arts N=1283*
Beauty, nails and hairdressing	*Cert. II Salon Assistant N=1794*	*Cert. III in Beauty Services, N=1328*	*Cert. II in Retail Cosmetics N=1317*
Business management and financial services	*Cert. II Business N=13190*	*Cert. III Business N=8101*	*Diploma of Business N=2885*
Community services and children's services	*Cert. III in Early Childhood Education and Care N=5156*	*Cert. III Community Services N=2118*	*Cert. I in Active Volunteering N=2025*
Construction and plumbing	*Cert. II Construction Pathways N=8495*	*Cert. I Construction N=3080*	*Cert. III Carpentry N=909*
Electro-technology	*Cert. II Electro-technology (career start) N=2974*	*Cert. III Electro-technology (electrician) N=408*	*Cert. II Electronics N=94*
Engineering and aero skills	*Cert. II Engineering Pathways N=5074*	*Cert. I Engineering N=1513*	*Cert. II Engineering N=392*
Foundation skills	*Cert. II Skills for work and Vocational Pathways N=7018*	*Cert. I Access to Vocational Pathways N=461*	*Cert. I Skills for Vocational Pathways N=367*
Furnishing, furniture making, upholstery, interior decorating	*Cert. II Furniture Making Pathways N=1087*	*Cert. I Furnishing N=817*	*Cert. II Furniture Making N=640*
Health	*Cert. III in Health Assistance Services, N=2213*	*Cert. III in Allied Health assistance, N=1470*	*Cert. II in Health Support Services, N=1192*
Hospitality	*Cert. II Hospitality N=14 684*	*Cert. II Kitchen Operations, N=11561*	*Cert. III Hospitality N=3571*
Tourism	*Cert. II Tourism N=2024*	*Cert III Tourism N=1346*	*Cert. I Tourism N=49*
Information and communications technology	*Cert. III Information, Digital Media and Technology – N=5377*	*Cert. II Information, Digital Media and Technology N=5164*	*Cert. I Information, Digital Media and Technology N=4483*
Live production theatre and events and dance	*Cert. III Live Production and Services N=2936*	*Cert. II in Dance N= 837*	*Cert. III Dance N=169*
Music	*Cert. III Music Industry N=2959*	*Cert. II in Music Industry N=1406*	*Cert. IV Music Industry N=146*
Retail	*Cert. II Retail Services N=3171*	*Cert. III Retail N=3046*	*Cert. III Retail Operations N=1244*
Screen and media	*Cert. III Screen and Media N=2996*	*Cert. III in Media N=89*	*Cert. IV Screen and Media N=82*
Sport, fitness and recreation	*Cert. III in Sport and Recreation N=9855*	*Cert. III in Fitness N=7504*	*Cert. II Sport and Recreation N=5569*

Note: The shaded qualifications are the most frequently undertaken in 2017.
We use N to denote the number of students undertaking this qualification
Source: National VET in Schools Collection, 2017.

Appendix E: Apprentices and trainees compared with non-apprentices and trainees in VET programs delivered to secondary school students

Table E1   Secondary school students in VET programs by apprenticeship/traineeship status, 2006, 2017

	2006			2017		
	Apprentice/ Trainee	Not apprentice/ trainee	Total	Apprentice/ Trainee	Not apprentice /trainee	Total
New South Wales	1 662	50 677	52 339	2 495	47 672	50 167
Victoria	5 500	32 600	38 100	3 014	47 425	50 439
Queensland	4 080	38 093	42 173	11 295	72 863	84 158
South Australia	598	12 256	12 854	1 024	10 351	11 375
Western Australia	763	16 387	17 150	1 283	35 499	36 782
Tasmania	126	2 539	2 665	532	2 848	3 380
Northern Territory	130	1 711	1 841	134	2 550	2 684
Australian Capital Territory	66	4 469	4 535	184	2 975	3 159
Total	**12 925**	**158 732**	**171 657**	**19 961**	**22 183**	**242 144**

Appendix F: Training packages by apprenticeship status, 2006, 2017

Table F1 Training packages by proportions of school-based apprentices and trainees, 2006

Training package qualifications	Apprentices and trainees		Non-apprentices and trainees		Total no. of students
	No.	%	No	%	No.
CUL – Library, Information and Cultural Services (CUL)	16	76.2	5	23.8	21
AMP – Australian Meat Processing (AMP, MTM)	65	74.7	22	25.3	87
SIR – Retail Services (SIR, WRP, WRR)	4312	50.7	4195	49.3	8507
TLI – Transport and Logistics (TDT, TLI)	63	42.6	85	57.4	148
FWP – Forest and Wood Products (FPI, FWP)	9	28.1	23	71.9	32
SFL – Floristry (SFL, WRF)	8	25.0	24	75.0	32
PMB – Plastics, Rubber and Cablemaking (PMB)	17	22.4	59	77.6	76
RGR – Racing Industry (RGR)	13	21.0	49	79.0	62
AUR – Automotive Industry Retail, Service and Repair (AUR)	665	19.4	2755	80.6	3420
ICP – Printing and Graphic Arts (ICP)	16	17.4	76	82.6	92
FDF – Food Processing Industry (FDF)	36	13.7	227	86.3	263
AHC – Agriculture, Horticulture and Conservation and Land Management (AGF, AGR, AHC, RTD, RTE, RTF, RUA, RUH)	640	12.7	4389	87.3	5029
MEA – Aeroskills (MEA)	13	11.2	103	88.8	116
SIB – Beauty (SIB, WRB)	161	8.6	1715	91.4	1876
SHB – Hairdressing and Beauty Services (SHB, SIH, WRH)	177	9.3	1734	90.7	1911
HLT – Health (HLT)	28	8.9	287	91.1	315
MEM – Metal and Engineering (MEM)	437	8.6	4640	91.4	5077
ACM – Animal Care and Management (ACM, RUV)	34	8.3	376	91.7	410
CPC – Construction, Plumbing & Services Integrated Framework (BCF, BCG, BCP, CPC)	430	7.2	5536	92.8	5966
UEE – Electrotechnology (UEE, UTE, UTL)	51	7.0	675	93.0	726
CHC – Community Services (CHC)	399	6.5	5703	93.5	6102
BSB – Business Services (BSA, BSB)	1762	6.1	27093	93.9	28855
FNS – Financial Services (FNB, FNS)	7	5.9	111	94.1	118
SIT – Tourism, Travel and Hospitality (SIT, THH, THT)	1847	5.4	32425	94.6	34272
MAR – Maritime (MAR, TDM)	9	5.2	165	94.8	174
CPP – Property Services (CPP, PRD, PRM, PRS)	27	5.1	506	94.9	533
SIS – Sport, Fitness and Recreation (SIS, SRC, SRF, SRO, SRS)	306	3.9	7507	96.1	7813
RII – Resources and Infrastructure (BCC, DRT, MNC, MNM, MNQ, RII)	6	4.4	130	95.6	136

SFI – Seafood Industry (SFI)	8	3.2	243	96.8	251
MSF – Furnishing (LMF, MSF)	94	2.8	3315	97.2	3409
ICT – Information and Communications Technology (ICA, ICT)	705	3.1	21818	96.9	22523
CUA – Creative Arts and Culture (CUA, CUE, CUV)	78	2.3	3264	97.7	3342
CUS – Music (CUS)	49	1.6	3057	98.4	3106
CUF – Screen and Media (CUF)	116	2.1	5385	97.9	5501

Note: Training packages that have less than five school-based apprentices are excluded from the table.
Source: National VET in Schools Collection, 2006.

Table F2   Training packages by proportions of school-based apprentices and trainees, 2017

Training package qualifications	Apprentices and trainees		Non-apprentices and trainees		Total number of students
	No.	%	No.	%	
AUM Automotive Industry Manufacturing (AUM)	7	100	0	0	7
AMP – Australian Meat Processing (AMP, MTM)	142	77.2	42	22.8	184
SFL – Floristry (SFL, WRF)	21	56.8	16	43.2	37
PSP – Public Services (PSP)	6	46.2	7	53.8	13
SIR – Retail Services (SIR, WRP, WRR)	3 246	41.9	4 494	58.1	7 740
RGR – Racing Industry (RGR)	23	37.7	38	62.3	61
TLI – Transport and Logistics (TDT, TLI)	340	34.7	641	65.3	981
FDF – Food Processing Industry (FDF)	142	22.0	502	78.0	644
ICP – Printing and Graphic Arts (ICP)	30	20.4	117	79.6	147
AUR – Automotive Industry Retail, Service and Repair (AUR)	865	14.3	5 197	85.7	6 062
CPP – Property Services (CPP, PRD, PRM, PRS)	27	13.1	179	86.9	206
CHC – Community Services (CHC)	1 775	13.3	11 586	86.7	13 361
AHC – Agriculture, Horticulture and Conservation and Land Management (AGF, AGR, AHC, RTD, RTE, RTF, RUA, RUH)	1 051	13.1	6 994	86.9	8 045
CUF – Screen and Media (CUF)	19	12.1	138	87.9	157
UEE – Electrotechnology (UEE, UTE, UTL)	414	11.1	3 302	88.9	3 716
CPC – Construction, Plumbing & Services Integrated Framework (BCF, BCG, BCP, CPC)	1 314	9.5	12 447	90.5	13 761
SHB – Hairdressing and Beauty Services (SHB, SIH, WRH)	579	9.4	5 576	90.6	6 155
BSB – Business Services (BSA, BSB)	2 500	9.0	25 403	91.0	27 903
SIT – Tourism, Travel and Hospitality (SIT, THH, THT)	3 018	8.3	33 392	91.7	36 410
SFI – Seafood Industry (SFI)	17	8.3	188	91.7	205
MEM – Metal and Engineering (MEM)	582	7.5	7 177	92.5	7 759
HLT – Health (HLT)	432	8.3	4 802	91.7	5 234
SIS – Sport, Fitness and Recreation (SIS, SRC, SRF, SRO, SRS)	1 777	6.0	28 036	94	29 813
MSF – Furnishing (LMF, MSF)	172	6.1	2 626	93.9	2 798
RII – Resources and Infrastructure (BCC, DRT, MNC, MNM, MNQ, RII)	34	5.0	649	95.0	683
ACM – Animal Care and Management (ACM, RUV)	112	4.8	2 240	95.2	2 352
MAR – Maritime (MAR, TDM)	6	4.7	123	95.3	129
MSA – Manufacturing (MCM, MSA)	17	4.4	372	95.6	389
ICT – Information and Communications Technology (ICA, ICT)	644	4.2	14 587	95.8	15 231
FNS – Financial Services (FNB, FNS)	31	2.7	1 127	97.3	1 158
CUA – Creative Arts and Culture (CUA, CUE, CUV)	284	1.5	18 662	98.5	18 946
PUA – Public Safety (PUA)	8	1.3	620	98.7	628
MSL – Laboratory Operations (MSL, PML)	14	1.1	1 249	98.9	1 263
FSK – Foundation Skills (FSK)	79	1.0	7 767	99.0	7 846

Note: Training Packages with less than five apprentices are excluded from the table.

Source: National VET in Schools Collection, 2017.