4 Preventive interventions in vocational education and training

This chapter discusses different interventions within vocational education and training (VET) that aim at helping young people who are at risk of becoming NEET (not in education, employment, or training). In particular, the chapter presents examples of strategies in OECD countries that smoothen access to VET programmes, ensure successful programme completion through adequate support, and improve the effectiveness of VET teachers and trainers. In addition, the chapter looks at broader intervention areas to improve the awareness of VET pathways among students and their caretakers as well as the image they might have of VET and discusses how the industry can get more involved in VET development and provision. The last section of the chapter considers key policy lessons for Australia.

Vocational education and training (VET) can be an efficient way to improve labour market outcomes of young people. This is especially the case for students following an apprenticeship, since these include significant work-based learning that help young people develop labour market relevant skills (OECD, 2018[1]). VET programmes can also foster motivation and engagement with education and learning among students who prefer more practically oriented learning than the learning that generally occurs in academic programmes. VET programmes can allow learners to transition more easily into employment and find a learning context that suits their needs and expectations by ensuring that students are able to develop the right skills demanded by the labour market and by providing an environment that differs from academically oriented schools. Realising the benefits of VET requires that VET programmes, which often commence in upper secondary school, are known and are considered to be an attractive option to lower secondary school students and their parents.

After briefly presenting the Australian upper secondary VET system and the challenges it faces, this chapter discusses NEET prevention strategies that have been implemented in OECD countries aimed at making the transition into vocational programmes smoother by providing vocational preparatory programmes, making VET programmes more accessible, ensuring that students successfully complete their programmes by providing them with the additional support they need, and by supporting VET teachers and trainers. In addition, this chapter looks at broader intervention areas to make VET pathways known to students and improve the image they might have of VET. Finally, the chapter discusses different ways in which a range of stakeholders, in particular businesses, can be more involved in VET development and provision. The engagement of employers is crucial to increase the quality of VET and ensure that the skills taught in vocational programmes are labour market relevant.

4.1. Background: Upper secondary VET in Australia

4.1.1. Upper secondary VET varies across and within states and territories in terms of form, content, and quality

Education in Australia is compulsory between the ages of six and 16 (year 1 to year 9 or 10) (Australian Government: Study Australia, 2023[2]), yet almost all students do 12 years of schooling, which is longer than in many other OECD countries. As significant differences exist between jurisdictions (the Australian States and Territories), schools and individual students, one cannot speak of a single education and training system. Unlike in many other OECD countries, there is no separate vocational pathway in upper secondary schools. Rather, students put together individualised programmes by choosing their classes that can be both general or vocational. Ideally, this option enables them to discover their interests and strengths while broadening their set of skills and allowing them to make a more informed decision of whether they want to continue with post-secondary VET, enrol in a higher education programme, or directly enter the labour market after graduating from secondary school (Department of Education, Skills and Employment Australia, 2020[3]; OECD, 2020[4]).

Upper secondary VET is delivered in partnership with registered training organisations (RTOs). It usually takes place at schools that also act as qualified RTOs or at external RTOs. Students interested in taking part in VET in Australia can either participate in VET courses in their eleventh and twelfth years of school or opt for a school-based apprenticeship, a school-based traineeship, or a certificate course. In 2021, around 8% of students who credited their upper secondary VET studies to their Senior Secondary Certificate of Education (SSCE) were apprentices or trainees (20 505 apprentices or trainees out of 251 235 students pursuing some form of upper secondary VET within their senior secondary school education) (NCVER, 2022[5]).[1] School-based apprenticeships and traineeships as well as certificate courses include a component of paid employment and, at best, allow students to graduate from secondary school with a certificated VET qualification (in addition to their SSCE), while in other instances, they will have made important progress towards one. In case students do not obtain the full qualification, the VET

regulatory framework stipulates that they should receive an attainment statement for the successfully completed units of competence (Australasian Curriculum, Assessment and Certification Authorities, 2020[6]; Australian Skills Quality Authority, n.d.[7]; Department of Education, Skills and Employment Australia, 2020[3]).

Vocational qualifications at all levels (including upper secondary VET) are subject to the national regulatory framework and are regulated by the Australian Skills Quality Authority (ASQA). Some states, like Victoria or Western Australia, for instance, have their own regulatory bodies. Yet, secondary education, which includes school-based vocational programmes, and funding of upper secondary VET are regulated at the state and territorial levels, while it is up to the schools to integrate VET in their curricula. The Australasian Curriculum, Assessment and Certification Authorities (ACACA) are in charge of senior secondary education certificates, including the recognition of upper secondary VET achievements. However, each State and Territory has its own legislation that defines its ACACA agency's responsibilities, which explains upper secondary VET quality differences across States and Territories. Moreover, while some schools are able to provide an extensive and high-quality VET offer, others struggle to do so because of timetable conflicts, limited resources, or the lack of an established school-industry network, for instance (Australasian Curriculum, Assessment and Certification Authorities, 2020[6]; Department of Education, Skills and Employment Australia, 2020[3]).

At the same time, employers often do not have sufficient information on upper secondary VET and do not have enough time to supervise apprentices and trainees. Moreover, students' young age and the limited time they can spend at the workplace constitute additional barriers. Due to inconsistency of VET quality across schools, some employers doubt the efficiency of upper secondary VET, especially regarding the industry experience of students. Therefore, they are sometimes reluctant to employ recent secondary school graduates and question whether vocational qualifications obtained in secondary schools can be recognised as equal to post-secondary VET qualifications despite all VET qualifications having to meet the same VET Quality Framework standards (Australasian Curriculum, Assessment and Certification Authorities, 2020[6]; Department of Education, Skills and Employment Australia, 2020[3]).

In comparison to higher education, VET is still seen as a less prestigious pathway. Instead of being perceived as an equally valid choice, VET is often considered to be an alternative for students who are less academically oriented and struggle with more traditional subjects. Moreover, many people have only limited knowledge of the breadth and variety of VET and are not fully aware that VET entails more than trades training. In 2020, a panel reviewed senior secondary pathways in Australia and revealed that many students find it challenging to understand and navigate VET that is provided at the upper secondary level as they consider it to be incoherent and not well integrated into the school curriculum (Department of Education, Skills and Employment Australia, 2020[3]).

4.1.2. Supporting students at risk of leaving school early

Legislation at the state and territorial levels allows students – under specific circumstances – to leave school following their tenth year to transition into secure employment or further studies. Though the approved reasons for students to do so vary by state and territory, they usually encompass the student's participation in school- and employer-based apprenticeships and traineeships, tertiary education programmes, vocational programmes at RTOs, or full-time employment. Alternatively, students can also finish their eleventh and twelfth school years in a non-school setting while still obtaining a secondary school diploma. They can do so at technical and further education colleges (including at TAFE colleges), yet will often have to pay upfront costs, which they would not need to pay if they decided to finish secondary school in a traditional school setting. Switching to a secondary school specialised in VET, such as technical colleges, trade training centres, or schools offering the Australian Government's Pathways in Technology (P-TECH) Program, or enrolling in a Flexi School like the one in Toowoomba (discussed below), are other

alternatives for students struggling with or not interested in completing traditional upper secondary school (Department of Education, Skills and Employment Australia, 2020[3]).

While State and Territory Governments are developing or have already implemented measures aimed at improving the quality of upper secondary VET, national government agencies have conducted several studies on how to best support early school leavers or students at a high risk of dropping out of school. For instance, an expert panel convened by the Australian Education Council in 2020 reviewed senior secondary pathways into work, further education, and training and developed 20 recommendations. The recommendations are aimed at helping senior secondary students better understand the different pathways and make a more informed decision about which pathways are most appropriate, considering their interests and strengths. The panel paid specific interest to the struggles that disadvantaged students face (Department of Education, Skills and Employment Australia, 2020[3]). Moreover, the government has been working on a National VET for Secondary Students Strategy to support improvements to the quality and relevance of VET provided at upper secondary schools. Through consultations with different key stakeholders, including industry representatives, employers, RTOs, schools, and students, it wants to make sure that the strategy aligns with their respective expectations and needs (Australian Government, n.d.[8]).

Several secondary schools across Australia focus on VET and work closely with industry, with some schools specifically aiming at helping students with low levels of academic achievement and engagement. The Australian Government supported the establishment of partnerships between schools and industry to improve upper secondary VET quality and previously invested in the above-mentioned P-TECH Program pilot. Through effective school-industry collaboration, tailored and trade-focussed curricula are developed that enable students to integrate VET in their Senior Secondary Certificate of Education. As of 2021, 16 schools in Australia offer a P-TECH Program, providing a total of 11 pathways[2] and involving 16 college partners and 40 industry partners (P-TECH, 2021[9]). A first-phase independent evaluation of the P-TECH pilot was conducted in 2018/19. The stakeholder interviews and surveys revealed significant benefits for students, schools, industry partners, and tertiary education partners.[3] While the pilot appeared successful in its starting phase, it remains to be seen how sustainable the P-TECH Program is beyond the Australian Government's seed funding. The programme's sustainability will be the focus of the second-phase evaluation (Social Compass, 2019[10]).

In order to support students who struggle with traditional pathways, schools like the Toowoomba Flexi School in Queensland employ intensive case management. This involves organising learning around small and flexible classes and ensuring that educational opportunities are adapted to the individual students, alongside career advice. Furthermore, the school collaborates with the students' parents, caretakers, as well as community groups to support its students in their post-school transitions. The school's staff members regularly exchange with parents to hear about their and their children's experiences with the Flexi School (Toowoomba Flexi School, 2022[11]).

Other schools focus on helping one specific group of disadvantaged students, such as the Canberra College in the Australian Capital Territory, which provides an alternative education programme for students who are pregnant or already a parent. Their CCCares (Canberra College Cares) programme allows students to take up to five years to obtain a Senior Secondary Certificate of Education (SSCE) or gain vocational qualifications. In addition to developing personalised learning plans for each student, the programme supports students in finding apprenticeships, traineeships, and work placements. Moreover, the programme organises transport to and from the school for its students and their children and provides childcare onsite. Students finishing school, finding employment, developing life skills that help them with housing and bills, and feeling that they can contribute to their community are some of the positive outcomes that point towards the programme's success (Canberra College, n.d.[12]).

As outlined in Chapter 1, young First Nations peoples are still more likely to be at risk of becoming NEET compared to non-First Nations peoples in Australia. Reasons for this include, amongst others, the higher

likelihood of living in remote areas, living in poverty, or suffering from poor mental health while being exposed to social and cultural exclusion and discrimination (AIHW, 2018[13]; National Indigenous Australians Agency, 2022[14]). For these reasons, both First Nations peoples and non-First Nations peoples students, teachers, and trainers are strongly encouraged to undertake a cultural competency training to ensure that VET institutions are culturally safe for their First Nations peoples students (who represented at least 5% of students who credited their upper secondary VET studies to their SSCE in 2021, compared to non-First Nations peoples students whose share was 77% and students whose First Nations peoples status is not known (18%) (NCVER, 2022[5]) but also their First Nations peoples teachers and trainers. The Centre for Cultural Competence Australia (CCCA) offers courses that aim at teaching its participants to better understand First Nations peoples cultures, which, in turn, should enable them to provide better services and programmes for First Nations peoples and create an improved working culture. Several First Nations peoples stakeholders (an First Nations peoples Advisory Panel, the First Nations peoples Directorate at TAFE, and the First Nations peoples Directorate at the Department of Education and Training) were involved in the two-year-long development period of the course curricula, which are updated annually. In order to increase learning outcomes, the courses are delivered online, which allows participants to follow the training at their own pace and in a non-confrontational environment. By doing so, participants feel more prepared for face-to-face training as they are provided with the necessary confidence, context, and knowledge (Centre for Cultural Competence Australia, n.d.[15]).

According to the CCCA's website, more than 750 client organisations and more than 50 000 employees have completed their cultural competence training (Centre for Cultural Competence Australia, n.d.[15]). The learning outcomes have been rated highly successful with 90% of course completers considering the overall course content as good or excellent, 99% stating that their learning needs were met, and 96% indicating that the course was relevant to their professional role. Moreover, on average, learners reported a 48% increase in overall knowledge of First Nations peoples, a 54% increase in knowledge of policies affecting First Nations peoples, a 44% increase in their understanding of current First Nations peoples affairs, a 52% increase in the knowledge of the effects of these policies, and a 20% increase in their confidence when it comes to engaging and working with First Nations peoples (Centre for Cultural Competence Australia, n.d.[16]).

4.2. Vocational preparatory programmes

Considering the cost-benefit balance of hiring an apprentice or trainee in a work-based setting, employers can be reluctant when it comes to taking on young people who may struggle with learning on the job. For this reason, it is crucial that employers are confident that these young people have obtained the necessary skills that they can further develop into productive skills during their vocational training with the employers. While financial incentives made available to employers represent a short-term solution for struggling youth to remain in the system, mechanisms that enhance these young people's knowledge and skills tend to be more effective, as those who did not receive such support might not be ready to complete an apprenticeship or traineeship (Kis, 2016[17]; Kuczera, 2017[18]).

Preparatory programmes, such as pre-apprenticeships or pre-vocational programmes, can support the successful integration of young people into education and employment by helping them secure an apprenticeship placement. Preparatory programmes can help young people build their literacy and numeracy skills, identify an occupation that fits their interests and skills, and be and feel ready to engage and learn in a real work environment, thus improving their chances of securing an apprenticeship placement. Moreover, having followed a preparatory programme, apprentices will start with higher productivity and make progress quicker than if they had not pursued such a programme, making them attractive to potential employers (Kis, 2016[17]; OECD, 2018[1]).

Preparatory programmes usually focus on developing three sets of skills: i) general skills, ii) vocational skills, and iii) soft skills. General skills include literacy and numeracy instruction and, in some cases, foreign language courses. Whereas in some programmes the development of vocational skills means that young people acquire skills related to an occupation or industry, other programmes provide career exploration opportunities in which participants get to discover different occupations and industries. If the preparatory programme offers work-based learning or work experience, these young people get the chance to try a trade before committing to an apprenticeship. In addition, those pursuing a preparatory programme learn how to find, secure, and successfully complete an apprenticeship. These skills typically encompass job search, CV writing, and interview skills but also timekeeping, teamwork, and resilience skills (Kis, 2016[17]; OECD, 2018[1]).

There exist many programmes across OECD countries that serve as a bridge to work-based learning (see Box 4.1). Usually, they have been implemented with specific policy goals like reducing upper secondary school dropout rates or reducing youth unemployment rates (Erixon Arreman and Dovemark, 2017[19]; Landert and Eberli, 2015[20]).

Box 4.1. Preparatory programmes: Country examples

Austria: Supra-company training (*Überbetriebliche Ausbildung*, ÜBA)

In Austria, young people who were unable to secure or complete an upper secondary apprenticeship can pursue supra-company apprenticeship training (*Überbetriebliche Ausbildung*, ÜBA). Unlike in in-company apprenticeships, in ÜBAs, the training contracts are concluded with a training institution and not with a company. Students attend theoretical lessons at a vocational school and practical lessons at co-operating companies or the training institution. While the goal is to switch to an in-company apprenticeship during ÜBA, students unable to do so can also complete a supra-company training programme and receive an ÜBA qualification that is legally considered equal to an in-company apprenticeship qualification. Moreover, students who are struggling or have special needs may extend the ÜBA period or receive a partial training qualification (oesterreich.gv.at, 2022[21]).

In 2020/21, 11 447 young people pursued ÜBA, which is more than in the previous year (10 842 in 2019/20) but less than in the year before (12 531 in 2018/19) (Dornmayr, 2021[22]). The long-term decline of 15-year-olds pursuing an apprenticeship as well as the rising number of available apprenticeship placements explain the decrease in supra-company training participants from 2018/19 to 2019/20. In contrast, the increase of ÜBA participants from 2019/20 to 2020/21 resulted from a reduction of available apprenticeship placements due to the SARS-CoV-2 outbreak (Dornmayr, 2021[22]).

An ÜBA evaluation study conducted in 2011 found that approximately one-third of ÜBA participants switch to an in-company apprenticeship within six months after leaving ÜBA (Bergmann et al., 2011[23]). In 2016 and 2017, a partial report on the background analysis of company-based apprenticeship promotion effectiveness as well as an evaluation of Austria's Public Employment Service's (*Arbeitsmarktservice*, AMS) apprenticeship promotion analysed the medium- and long-term success of ÜBA. 55% of ÜBA graduates who completed the programme in the period from 2008 to 2014 were employed, whereas 22% were unemployed and 8% were in an AMS qualification measure (Dornmayr, Litschel and Löffler, 2017[24]; Dornmayr et al., 2016[25]).

Germany: Preparatory traineeships (*Einstiegsqualifizierung*, EQ)

Germany's preparatory traineeships (*Einstiegsqualifizierung*, EQ) target young people who do not find an apprenticeship by the end of their lower secondary education. The EQ is a long-term work placement that typically lasts between six and 12 months. In EQs, participants are introduced to the basics of a

recognised training occupation at a company while simultaneously attending theoretical classes at a vocational school. Ideally, the company keeps EQ participants as apprentices following the completion of the preparatory traineeship. While EQ does not replace an apprenticeship qualification, it broadens the participants' social and professional networks. Moreover, it enables them to file an application for a shorter apprenticeship duration (Bundesagentur für Arbeit, n.d.[26]).

According to an evaluation study published in 2012, more than 40% of EQ participants could stay as an apprentice at the company at which they completed the EQ. Almost 70% of all EQ participants found an apprenticeship within half a year following the completion of the traineeship, while only 10% were unemployed during this period[4] (Popp et al., 2012[27]). Three factors have been identified that contribute to EQ's success (Cedefop, 2022[28]). First, the low-cost "trial period" for employers allows them to see whether these young people could become potential apprentices and, therefore, increases the likeliness of them offering EQ participants to stay at their companies. Second, collaboration with industry and trade chambers guarantees the promotion of EQ among companies and, thus, a wider provision of EQ placements. Third, EQ closely collaborates with other support programmes to ensure that at-risk participants receive additional support if needed (Cedefop, 2022[28]).

Switzerland: Vocational preparation year at a "career choice school" (*Berufswahlschule*, BWS)

In Switzerland, lower secondary school graduates who find themselves without an apprenticeship can opt for a "tenth school year" (*zehntes Schuljahr*) – a vocational preparation year – at a "career choice school" (*Berufswahlschule*, BWS). These kinds of schools deepen students' literacy and numeracy skills and offer targeted career guidance to help students, who are unsure about the profession they would like to choose, find an apprenticeship that corresponds to their interests and skills (ausbildung-weiterbildung.ch - Das Schweizer Bildungsportal, n.d.[29]; berufsberatung.ch, 2022[30]).

There are usually four types of vocational preparation years – one that is school-based, one that is practical, one that is work-based, and one that is integration-oriented. In the school-based, practical, and integration-oriented vocational preparation years, students spend five days per week at school and complete a short internship (*Schnupperpraktikum*). The practical training component makes up 20-40% of the school-based and integration-oriented vocational preparation years and 40-60% of the practical vocational preparation year. In the integration-oriented vocational preparation year, students also focus on developing their local language skills (German, French, or Italian, depending on the canton) and get more accustomed to Swiss culture, the professional world, and society. In the work-based vocational preparation year, students usually spend one to two days per week at school and three to four days per week at a company (Kanton Zürich, 2022[31]).

During the two school years of 2021/22 and 2022/23, the canton of Zurich is running a pilot project aimed at integrating special needs students. The "vocational preparation year plus" (*Berufsvorbereitungsjahr plus*, BVJplus) supports the individuals' development processes, particularly concerning their personal, professional, and social skills. The programme co-ordinates different support measures and provides career choice and apprenticeship search coaching. The students gain insights into the world of work and can choose an occupational profile, which determines their programme's share of school- and work-based learning (Kanton Zürich, 2022[31]).

According to a 2021 online survey commissioned by the Swiss State Secretariat for Education, Research and Innovation (SERI), 9% of 14-16 year-olds who were about to graduate from lower secondary school decided to pursue a tenth school year – a number that has been stable over the past years. Almost half of them chose a school-based vocational preparation year. The most frequently mentioned reason students enrolled in a tenth school year was that they were unable to find a suitable apprenticeship. However, compared to previous years, this reason has been cited less and less (28% in 2021, 37% in 2020, 43% in 2019, and 60% in 2018). Around one fifth answered that they wanted to get better grades, catch up on missed school material, or improve their local language skills (German,

French, or Italian). While the share of students who want to find an apprenticeship after completing the tenth school year has declined (from 69% in 2020 to 47% in 2021), the share of students who want to pursue a general upper secondary education, which will grant them access to higher education studies, has increased (from 11% in 2020 to 32% in 2021) (gfs.bern, 2021[32]).

Successful preparatory programmes often share a set of key characteristics that usually include labour market relevance, engagement of social partners, work-based learning, strengthening of general skills, and provision of career guidance (Jeon, 2019[33]). Generally, the programmes are developed in labour market shortage areas to smoothen participants' transition into the labour market. Moreover, employers, professional organisations, and trade unions are often involved in the programme's design and implementation to make sure that it corresponds to skills demand. Work-based learning helps young people connect to employers and get a better idea of the occupation (Jeon, 2019[33]).

As preparatory programmes tend to be expensive, it is crucial to evaluate different programmes to identify the ones that are efficient. However, multiple challenges occur when wanting to obtain solid evaluation evidence. For instance, average evaluation results of preparatory programmes within a country or region might not accurately represent the quality of individual programmes due to significant differences in terms of content, duration, funding, and delivery mode between the programmes. Moreover, measuring the transition rate into an apprenticeship as well as the apprenticeship completion rate is difficult as one has to compare these indicators with indicators about struggling youth that did not participate in a preparatory programme. However, given that young people pursuing such programmes tend to be more disadvantaged and have weaker general skills, apprenticeship dropout rates might reflect either these obstacles, inefficient preparatory programmes, or a combination of the two. Another evaluation challenge concerns alternative pathways following the preparatory programme completion. While participants can choose to pursue an apprenticeship, another education or training programme, or enter the labour market, the success of a pre-apprenticeship is measured by whether the participants start an apprenticeship or not, meaning that other pathways are deemed a "negative" outcome. Therefore, one should compare the costs and benefits of preparatory programmes with those of alternative scenarios (like a higher chance of relying on unemployment benefits), which, however, are difficult to estimate (Kis, 2016[17]; OECD, 2018[1]).

4.3. Increasing the accessibility of VET programmes

Another way to prevent young people from becoming NEET is by making VET programmes more accessible. Providing more flexible modes of VET, such as different programme durations and intensities that suit a wider range of potential VET students, can thus lower entry barriers and promote engagement with training. Examples of barriers that potential apprentices and trainees can face are associated with distance and the accessibility of training for those living in or based in regional and remote Australia. Moreover, as many apprenticeship placements are filled through informal contacts or networks, students who lack a social network tend to have more difficulties in securing an apprenticeship position or may be reluctant to take up positions outside their networks. In addition, some employers' hesitation in taking on disadvantaged students as well as students' hesitation in taking up positions outside the range of positions they see adults in their communities being engaged in, not only reduce the attractiveness for struggling students of pursuing a VET programme but also discourage young people from even applying for an apprenticeship position (Bergseng, Degler and Lüthi, 2019[34]; Jeon, 2019[33]).

4.3.1. Addressing struggling learners' and employers' needs by tailoring VET programmes

Offering tailored VET programmes can serve the need of both learners as well as employers, thus reducing the rate of young people who are NEET by promoting their short- and medium-term engagement in

education and training and their long-term labour market integration. Creating opportunities to tailor experiences can improve the alignment between young people's study experience with their needs and expectations but also improve the programmes' cost-benefit balance by increasing the fit with employers' business objectives. Adapting programmes to learners' needs can be done through the provision of different programme durations and intensities, different time arrangements, hybrid or online training modules, part-time programmes, or by offering additional courses for students to catch up on basic skills, for instance (Jeon, 2019[33]; Kis, 2016[17]).

Several OECD countries, such as Austria (see Box 4.2), Sweden, and Switzerland, provide tailored VET programmes. In Switzerland, apprentices can opt for a two-year-long vocational programme leading to a Federal Certificate of Vocational Education and Training (*Eidgenössisches Berufsattest*, EBA), which is designed for lower-performing students and in which they receive publicly-funded coaching and remedial courses (Staatssekretariat für Bildung, Forschung und Innovation, n.d.[35]), while, in Sweden, young people can obtain a partial qualification through vocational packages (*yrkespaket*), which allows them to combine different courses (that can be both school- and work-based), delivered at different educational levels (Kuczera and Jeon, 2019[36]).

Box 4.2. Case study: Austria's special VET arrangements for disadvantaged youth

Austria offers special vocational training programmes to disadvantaged students, including those who have not finished lower secondary school. These upper secondary vocational programmes are designed to help young people with learning difficulties. Typically, learners have poor educational outcomes and do not need to have finished lower secondary school to participate in this kind of programme. Young people who want to follow a vocational programme according to § 8b BAG have to visit a counselling centre of the Public Employment Service (*Arbeitsmarktservice*, AMS), where the AMS checks their eligibility. Once approved, learners are offered support during their on-the-job training and at school and are allowed to extend the programme duration by a year or, in some instances, two years. If the apprentices wish, they can also choose to obtain a partial qualification.

Vocational training assistants, which are commissioned by the AMS or the Social Ministry Service, constitute an essential element of vocational programmes according to § 8b BAG. They continuously support the apprentices and training companies in socio-pedagogical, psychological, and didactic aspects. In addition, they conduct the final examinations together with the respective occupational field experts (Unternehmensservice Portal, 2022[37]).

At the end of December 2020, 7.7% of all apprentices in Austria were pursuing a vocational programme according to § 8b BAG. Out of these 8 314 apprentices, 83% were opting for an apprenticeship period extension (6.4% of all apprentices in Austria), while 17% were completing a partial qualification (1.3% of all apprentices in Austria) (Dornmayr, 2021[22]). As vocational programmes according to § 8b BAG are designed for young people in disadvantaged situations, they are less likely to be completed than mainstream vocational programmes. However, considering that disadvantaged learners might not have been able to complete a mainstream vocational programme, them completing a vocational programme according to § 8b BAG should be seen as a success. Approximately two-thirds – 63% of apprentices choosing an apprenticeship period extension programme and 70% of apprentices going for a partial qualification – of disadvantaged learners from 2010 to 2017 completed their training. Moreover, 51% of those opting for an apprenticeship period extension successfully passed the national apprenticeship-leave exam one would obtain following the completion of a mainstream vocational programme (*Lehrabschlussprüfung*, LAP), while 54% of those choosing a partial qualification successfully passed their final examination (Dornmayr, 2021[22]).

An evaluation study on vocational programmes according to § 8b BAG conducted in 2012 (Dornmayr, 2012[38]) as well as more recent background analysis studies on the effectiveness of company-based apprenticeship promotion (Dornmayr, 2016[39]) and AMS apprenticeship promotion (Dornmayr, Litschel and Löffler, 2017[24]) find that vocational programmes according to § 8b BAG lead to improved labour market integration of disadvantaged students. Programme graduates are considerably more likely to be employed in both the short- and long-term than programme drop-outs. Moreover, the studies revealed that those who have completed their vocational programme according to § 8b BAG at a company tend to be significantly better integrated than those who completed it at a training institution even five years after graduating from the programme (Dornmayr, 2021[22]).

Notes: The reason why the drop-out rates for partial qualifications are lower than for apprenticeship period extension programmes is the much shorter duration of the partial qualification programmes.

4.3.2. Enhancing networks can help reduce VET entry barriers

As some employers might be hesitant to take on young people in disadvantaged situations (which can include lower socio-economic or migrant backgrounds, learning difficulties, or care responsibilities) as apprentices, and as these young people might perceive and even expect hiring discrimination against them, it is crucial to build mutual trust between employers and potential apprentices. By establishing direct contact between young people and employers through measures such as transitional programmes (including pre-apprenticeships), internships, class visits by employers, or VET fairs, for instance, initial prejudices can be reduced. Direct contact with employers gives young people a chance to showcase that they are ready and motivated to complete an apprenticeship while helping them understand the employers' expectations of them as potential apprentices. Increasing familiarity is especially important for smaller firms, which provide a large share of apprenticeship placements, as they might be more concerned about potential risks and high costs of hiring young people with a higher risk of underperforming or dropping out (Jeon, 2019[33]).

Training company networks provide additional help in reducing VET entry barriers by creating more available apprenticeship placements, supporting training companies in delivering VET, and shifting or dividing the responsibility over the apprentices, which takes off the pressure and can reduce employers' initial doubts over hiring young people in disadvantaged situations. For instance, in Norway, many firms benefit from institutional support provided by training offices (*opplæringskontor*). Training offices aim at increasing available apprenticeship placements by recruiting and supervising training companies and training prospective apprentice supervisors. In addition, they deal with administrative tasks, such as apprenticeship contracts that they sign on behalf of the companies, and often organise the theoretical part of training (Norwegian Centre for International Cooperation in Education (SIU), 2016[40]). In Switzerland, the creation of training networks (*Lehrbetriebsverbünde*) allows for the collaboration of firms that are highly specialised yet might not fulfil all criteria to be eligible as a stand-alone training company or might not have the resources to take care of administrational matters. By working together, firms can offer more apprenticeship places, while apprentices can discover and rotate between diverse professional and learning environments (berufsbildung.ch, 2015[41]).

4.4. Supporting students as well as vocational teachers and trainers

It is important to provide support to both students as well as vocational teachers and trainers to successfully prevent at-risk students from dropping out of a VET programme and becoming NEET. As young people with lower academic proficiency might lack relevant hard or soft skills or might be slower in developing these skills, they likely need to participate in remedial courses, get more instruction time, or receive

personalised training assistance, all of which can be costly for employers (Kis, 2016[17]; OECD, 2018[1]). Moreover, socio-economic instability may further prevent apprentices from investing the necessary time and effort to complete a vocational programme, particularly when unemployment is low and the labour market is tight providing opportunities for unskilled labour. For young people who are struggling to financially support themselves or their family, finding a low-skilled position might be more attractive in the short run as they would earn more as an unskilled worker than they would as an apprentice, potentially leading to leaving or not even starting the programme and not fulfilling their potential (Jeon, 2019[33]; Kis, 2016[17]).

Considering all the struggles that disadvantaged young people face, they are more likely to drop out of a vocational programme than the average apprentice. Employers who invested time and resources in finding and training the apprentice are left with the initial costs that will not be compensated through future productive work. Therefore, it is crucial to not only provide support to struggling apprentices through coaching or mentoring, for instance, but also help vocational teachers and trainers by enhancing their capacities to offer apprenticeships to young people in disadvantaged situations through an additional teacher or trainer training or external support on conflict mediation, for example (OECD, 2018[1]).

4.4.1. Supporting students at school and at the workplace

In order to support students with learning difficulties, schools can help these students complete their coursework and pass exams by providing remedial after-school classes and/or offering more flexible conditions, such as giving them more time, adapting the curriculum difficulty, or conducting more exams on less material instead of asking them to pass large end-of-semester exams whose results count for most if not all of the semester's end grades. In addition, the availability of mentors or coaches can help struggling students with planning and completing their coursework. Moreover, mentors or coaches can provide advice and support to disadvantaged students in solving everyday problems and act as mediators if issues between the apprentices and their employers or schools arise (Jeon, 2019[33]; OECD, 2018[1]).

Germany has developed several initiatives to support young people at risk of becoming NEET, many of which focus on helping them begin and complete their apprenticeship. One of them – supported by the Federal Ministry of Education and Research – is aimed at preventing apprenticeship drop-outs (*Verhinderung von Ausbildungsabbrüchen*, VerA) by bringing struggling apprentices and experienced senior experts together. These senior experts are volunteers who are familiar with the concerns young apprentices might have and can help them on an individual basis. They support apprentices at risk of dropping out by helping them with their personal development, self-organisation skills, social competencies, and motivation to learn. Apprentices and even training companies and vocational schools can contact the Senior Expert Service that launched VerA to receive free guidance. Moreover, VerA's senior experts also support apprentices who have already dropped out by helping them figure out what to do next or find a new training position if they desire to do so (Bundesministerium für Bildung und Forschung, 2022[42]). Because of its 1:1 principle – meaning that each struggling apprentice gets appointed one senior expert – the VerA initiative is considered highly successful, with 75% of apprentices at risk of dropping out being able to finish their apprenticeship (VerA, n.d.[43]).

4.4.2. Supporting vocational teachers and trainers

An important factor for students to succeed is their sense of belonging within a school or workplace. It is, therefore, crucial for vocational teachers and trainers to create an inclusive learning environment in which everyone feels accepted for who they are and in which disadvantaged students are not faced with discriminatory preconceptions coming from teachers, employers, or fellow students. Introducing simple measures, such as buddy schemes, mentor programmes, or student counselling, is associated with improved learning outcomes for struggling students (Jeon, 2019[33]; OECD, 2018[1]).

Preparing vocational teachers and trainers to recognise students' diverse learning needs and to be able to provide struggling students with the necessary support throughout the programme should be included in their initial teacher and trainer training and in further education programmes. Moreover, if teachers and trainers encounter difficulties with their apprentices, they should be able to ask for advice and exchange their experiences and struggles with other teachers and trainers through established networks or fora. Close collaboration with external organisations that specialise in supporting young people in disadvantaged situations might also help them better understand their apprentices' point of view and resolve conflict situations (Jeon, 2019[33]; OECD, 2018[1]).

For instance, Germany's public employment service supports training companies and apprentices by commissioning a training provider to implement assisted training (*Assistierte Ausbildung*, AsA) at the firm through a training facilitator serving as a permanent contact person for both apprentices and training companies before and throughout the programme duration. AsA supports apprentices and companies in various ways. Learners can benefit from remedial classes and receive personal guidance to develop their knowledge and skills and improve their relationships with their employers. Training companies are supported in their search for fitting applicants as well as in the administration, organisation, and implementation processes of the training (e.g. drawing up in-company training plans, providing information on and helping apply target group specific training methods, or supporting the implementation of individual training sessions). Moreover, in case of apprentice-employer conflicts, AsA provides socio-pedagogical support to mediate between the two parties (Bundesagentur für Arbeit, 2022[44]; Bundesagentur für Arbeit, 2021[45]).

An accompanying study on assisted training in Germany, published in 2018, analysed interviews conducted with more than 100 people in late 2017. It found that 57% of interviewees, which included employees of job centres and agencies, training service providers, AsA participants, and companies, considered AsA to successfully achieve content-related goals. One-third thought that the goals were partially achieved, while around ten percent only saw a low degree of goal achievement, mainly due to strategic reasons or lack of AsA awareness. The most cited reasons for the perceived success of the programme were apprentices' successful programme starts as well as the stabilisation of their performance and motivation, leading to lower apprenticeship drop-out rates. Training companies appreciated the reliable socio-educational support they received and stated that their apprentices' performance improved and that they managed to successfully pass their examinations. While four in five respondents indicated that they would like AsA to continue, about half of these respondents with a positive attitude towards its continuation nonetheless wanted it to become more flexible and to have less of a content overlap with other measures, such as the vocational preparation training measure (*berufsvorbereitende Bildungsmaßnahme*, BvB) or assistance during training (*ausbildungsbegleitende Hilfen*, abH), for instance (Conrads, Freiling and Ulrich, 2018[46]).

4.5. Making VET a well-known and attractive alternative to general education

4.5.1. Lack of information and resulting misconceptions explain young people's opinion on VET

In some countries, VET systems still suffer from being looked down upon or not receiving adequate attention. While poor VET quality or the lack of progression opportunities may explain the reputation of VET in some countries, in most cases, students' preference for general education over VET is due to a limited understanding of what VET entails and misconceptions of what opportunities it provides (Jeon, 2019[33]; OECD, 2018[1]). Considering the ever-growing number of available education and training opportunities, it is not surprising that young people often feel overwhelmed and do not have sufficient or accurate information about how to navigate less prominent pathways than general upper secondary education. Young people, and in particular early school leavers, often consider the overall VET system,

including its associated costs and benefits, the range of work-based and school-based learning, qualification opportunities, as well as subsidy and entitlement regimes, complicated and confusing (Dommers et al., 2017[47]).

In 2017, the European Centre for Development of Vocational Training (Cedefop) published the results of an opinion survey involving more than 35 000 interviewees (aged 15 and over) to analyse how VET is viewed across countries of the European Union (EU). The study revealed that VET and its opportunities are generally poorly understood. Despite the diversity of VET programmes and jobs they lead to, 70% of survey respondents associated VET only with manual work (Cedefop, 2017[48]). Furthermore, those who followed a general education programme considered VET to have a poor reputation compared to general education, even though only half of them indicated having received information on VET prior to opting for general education. In contrast to these opinions of the general population, nine out of ten VET graduates were satisfied with the work skills they had gained during their apprenticeship (Cedefop, 2017[48]).

Students are not always aware that apprenticeships cover many different fields, including the public sector, information and communication technology, or banking. They are often also not informed about progression opportunities through diverse routes that can lead to business ownership, management positions, or university studies, for instance (OECD, 2018[1]).

4.5.2. The same goes for parents and other caretakers

Gender, socio-economic factors, and identity characteristics can influence young people's career aspirations. For instance, PISA data shows that regardless of academic abilities or proficiency levels, students coming from a higher socio-economic status family are more likely to be interested in working as a professional. In contrast, students from a lower socio-economic status family are more likely to express interest in a technician career (Musset and Mýtna Kureková, 2018[49]). If adults that students look up to or are easily influenced by, such as parents or other caretakers, do not recognise the value of VET, students might be less inclined to even consider VET as a potential pathway. Sometimes the VET system is too complex for parents or other caretakers to understand compared to the general education system. This might be especially true if they have another first language spoken than the country's official language or if there is no sufficient or easy-to-find information on VET. For students with a migrant background, poor VET quality in their country of origin might lead to family members being more sceptical of having their young relatives choose a vocational programme (Jeon, 2019[33]). 2018 PISA data showed that students with a migrant background tend to have higher yet less realistic career aspirations than their native-born peers (OECD, 2018[50]).

4.5.3. Easily accessible and understandable information is crucial, yet it might not be enough

For all of these reasons, it is important to ensure that not only students but also their parents or other caretakers can easily access information about VET, that this information is accurate and easy to understand, and that students and their caretakers are aware of the diversity of available VET programmes as well as the benefits and future opportunities that they provide. Moreover, to overcome negative misconceptions that some might attach to VET, it is crucial to promote VET as an equal pathway to general education that can be suitable for anyone, not just students who are performing less well academically.

Raising awareness of VET as an attractive alternative to general education should start at an early stage of children's education to ensure that young people can form an objective and informed opinion of different education and training pathways. For adolescents, this awareness-raising and information provision is particularly pertinent: With the transition to upper secondary education, most of them and their caretakers are – for the first time in the educational trajectory of the young person – faced with taking major decisions about the content of their academic timetable. While most educational systems, including the Australian

one, provide plenty of options for flexibility, these decisions can nonetheless influence the further educational and later career trajectory of young people.

In addition to information provision, career education and guidance should also include interactive elements, such as career events, job shadowing, or work placements, to give students a better idea of the different paths they can go for. Furthermore, in order to ensure that information also reaches students who might be less likely to participate in such activities if not mandatory, it is important to proactively and systematically provide guidance to all students, especially disadvantaged students, through case management systems, for instance. Chapter 3 of this report explains the importance of and provides an overview of the main characteristics of effective career education and guidance, especially for students at risk of dropping out and becoming NEET.

The simple availability of information on VET might not be enough for young people to understand the benefits and opportunities that VET provides. For this reason, additional awareness-raising campaigns, like the annual European Vocational Skills Week, or high-profile skills competitions, such as the *WorldSkills*, are likely to help improve students' and parents' or other caretakers' perceptions of VET (see Box 4.3).

Box 4.3. Example of VET awareness-raising campaigns: The European Vocational Skills Week

The European Vocational Skills Week is an initiative launched in 2016 by the European Commission (EC) within the framework of the New Skills Agenda for Europe. Through activities and events across Europe, local, regional, and national organisations and other VET partners present what VET has to offer, while VET stakeholders across and beyond Europe exchange ideas and good practices. The week is aimed at demonstrating the benefits and opportunities of VET to young people, their caretakers, and employers. In 2022, the European Vocational Skills Week focused on the role of VET in the green transition, involved more than 1 000 events (e.g. competitions, conferences, employers' days, exhibitions, fairs, information campaigns, interviews or magazine articles, online meetings, open door events, press conferences, seminars, webinars, workshops, etc.) in over 30 countries, and reached more than 850 000 people (European Commission, 2022[51]). Moreover, to recognise and celebrate organisations', schools', and other VET stakeholders' best practices, VET Excellence Awards are given out each year. Participants can apply for the awards and are pre-selected by a jury of independent members. In order to reach out to and actively involve citizens, winners are determined through online voting (European Agency for Special Needs and Inclusive Education, n.d.[52]).

A study conducted from October 2019 to July 2020 analysed the achievements and impacts of the European Vocational Skills Week by assessing its relevance, coherence, effectiveness, efficiency, and EU-added value. It found that the initiative's activities helped increase stakeholders' awareness and improve the image they had of VET. Most interviewed stakeholders highly valued the pan-European events as international networking opportunities, while organisers of the local, regional, and national events were satisfied with the reported engagement levels of the primary target audience (e.g. learners, parents, teachers, employers, and education and training providers). In order to meet the needs of the different target audiences, a large variety of activities were organised. However, due to the number of diverse events, there appeared to be a disconnect between pan-European and local, regional, and national events. Therefore, the study recommended an increase in the internal coherence of activities and the engagement of national co-ordinators in doing so. Stakeholders had a positive perception of the effectiveness and efficiency of the Skills Week. They considered the different events, the VET Excellence Awards, and the European communication campaigns effective in changing the target audiences' perception of VET and in increasing their motivation to take action (Javorka et al., 2020[53]).

VET4EU2 (an umbrella under which four European associations of VET providers and two associations for academic and professional higher education work together) is currently conducting a survey to analyse the visibility of the European Vocational Skills Week 2022 and to what degree organisations within and outside VET4EU2 wish to be involved and why (VET4EU2, 2022[54]).

4.6. Strengthening school-industry partnerships

In many countries, there is a lack of interaction between schools offering VET courses and industry. Even in countries with well-established apprenticeship systems, employers might not actively co-operate with VET schools. For instance, in Germany's Bremen (one of its federal states), 93% of companies indicated in an employer survey that they did not or that they only rarely co-ordinated with their apprentices' VET schools (Gessler, 2017[55]). To apprentices' disadvantage, a weak collaboration between school and industry might lead to a discrepancy between the theories taught in school and practice at work. This is in line with a survey conducted within the EU Partnership-Project on Work-based Learning and Teaching (2016[56]), according to which students often mentioned that they wished for a better alignment of learning at school and the workplace.

Moreover, many employers that would be open to train apprentices might not be too familiar with the upper secondary VET system and, therefore, not even consider taking on an apprentice. In addition, due to the lack of companies' involvement in the VET system, they might not be aware of the benefits that come with training apprentices. Furthermore, in countries where vocational programmes are predominantly school-based, future employers of upper secondary VET graduates might be sceptical of the quality of upper secondary VET programmes and sometimes doubt that theoretical skills learned in school can actually be directly applied in a work setting (Australasian Curriculum, Assessment and Certification Authorities, 2020[6]; Department of Education, Skills and Employment Australia, 2020[3]; Jørgensen, 2015[57]).

Regulations are needed that ensure that all apprentices benefit from high-quality work-based learning. First, there should be established standards determining what skills apprentices should acquire during the programme. Second, employers should be able to deliver the training needed for apprentices to develop these skills. Employers should fulfil certain criteria before they register as a training company and, if needed, should receive administrative or mediation support via an established training company network or government entity. If unable to fulfil all criteria by themselves, they should be allowed to work together with other companies to still be able to at least partially train apprentices. Third, apprentices' skills need to be rigorously assessed at the end of their apprenticeship to verify whether they have acquired the skills described in the standards mentioned before.

As companies are able to identify and teach labour-market-relevant skills, their contribution to the development and implementation of VET programmes is highly valuable. There are different ways in which companies can get involved in upper secondary VET that may vary in length and intensity. Yet, all of them will likely contribute to an improved school-industry relationship and, therefore, result in apprenticeships of higher quality and higher labour market relevance. Some of the potential engagement areas include the introduction of company-based VET components, participation in the development of programme curricula, examinations, and certifications, the training of vocational teachers and trainers, and being consulted in the VET legislation decision-making (Euler, 2018[58]; Swiss Agency for Development and Cooperation, 2016[59]).

4.6.1. Work-based learning at companies

Work-based learning at both schools and companies is associated with positive outcomes (Musset, 2020[60]). The workplace, in particular, is considered an effective learning environment for young people to

develop soft transferable skills, such as communication skills, information management skills, problem-solving skills, time management skills, and respect for work values. In addition, regularly interacting with adults as their work colleagues can increase students' confidence and maturity (Lasonen, 2005[61]; Neyt et al., 2018[62]; Symonds and O'Sullivan, 2017[63]). Students who do not feel as engaged in school-based learning as they struggle academically or do not consider theory or workplace simulation as a learning experience that is valuable or useful in a real-world context might also feel more motivated to acquire their skills directly at a workplace (Aarkrog, 2005[64]; Musset, 2020[60]). Research suggests that on-the-job learning is often easier than putting theoretical knowledge acquired at school into practice (Aarkrog, 2005[64]; van Woerkom, Nijhof and Nieuwenhuis, 2002[65]). In the longer term, company-based learning seems to help both VET graduates and general education graduates transition into the labour market more smoothly compared to students who did not benefit from work-based learning (Arum and Way, 2004[66]; Eurostat, 2016[67]; Polidano and Tabasso, 2014[68]; Quintini, Martin and Martin, 2007[69]; Smith, Ferns and Russell, 2014[70]).

Companies can play different parts in providing work-based learning to apprentices. Their degree of involvement can range from i) providing glimpses into the world of work (e.g. allowing company visits, offering internships, or teaching specific skills through practice projects or lectures at schools); over ii) providing training modules students can participate in; to iii) being an actual contractual apprenticeship partner. In addition, work-based learning can also have different degrees of frequency and intensity, meaning that, in some cases, the focus lies on work processes, with learning being considered a by-product, while, in other cases, the emphasis is on the learning processes at or near the workplace taking place through direct supervision or coaching (Euler, 2018[58]; Gopaul, 2013[71]).

4.6.2. Company-based learning for vocational theory teachers and training programmes for in-company trainers

In most countries, prospective vocational theory teachers are required to follow initial teacher education training (ITET) at a higher education institution before teaching at a VET school. While this training prepares them well for teaching theories to vocational students, they often receive little practical industry training at a company. For this reason, they tend to lack specific and up-to-date industry knowledge, making it more difficult for students to link what they have learned at school to the world of work. In order to strengthen vocational theory teachers' understanding of the industry, companies could collaborate with ITET providers (either directly or through an umbrella organisation) to include a company-based practical experience component in prospective vocational theory teachers' ITET. Short work placements or company visits could also be incorporated into further education programmes for vocational theory teachers (Marobe, Chakroun and Holmes, 2015[72]; OECD, 2022[73]).

In Germany, for instance, the ITET of vocational theory teachers includes, on average, 52 weeks of practical work, of which typically 42 weeks take place at companies and 10 weeks at vocational schools. The organisation of this practical work training varies across federal states in terms of duration and programme timing (it could be during the Bachelor's or Master's programme or both). In addition to vocational theory teachers, German VET schools also have teachers of vocational practice who teach practical and technical subjects in practice offices, teaching kitchens, or training workshops. In contrast to vocational theory teachers, they do not complete their training at a higher education institution but have a vocational qualification (e.g. Master craftsperson or technician examination) and have to pursue a continuing training programme to obtain pedagogical skills (OECD, 2022[73]).

At the same time, in most countries, in-company trainers are not required to have completed a programme that prepares them for their role as apprentice instructors. This means that they might not have a clear idea of what skills to teach or how to relate these skills to the theories the apprentice learns at school. In addition, they might also not be too familiar with the pedagogical practices necessary to supervise young people. For this reason, (prospective) in-company trainers should be able to easily access pedagogical

training and learning material. They should also receive training on all relevant aspects of in-company training (from the beginning to completion of the apprenticeship). When training programmes are optional rather than mandatory, it is important to provide attractive incentives that encourage (prospective) in-company trainers to participate in such preparatory programmes by either granting them more responsibilities, upward mobility, or a higher salary when they take on and train apprentices (OECD, 2022[73]).

In Australia, where most vocational students also follow general education courses at a senior secondary school, it might be beneficial to encourage vocational theory and general education teachers who have vocational students in their classes to complete a company-based practical experience, ideally in the industry that their students are working in. Doing so, could allow teachers to improve their understanding of the industry and ensure that their teaching provides students with more context and connection between what they learn at work (at a real or simulated workplace) and what they learn at school.

The OECD (2022[73]) recently published a report describing and comparing the initial training and preparation of vocational teachers and in-company trainers across five OECD countries: Canada, Denmark, Germany, the Netherlands, and Norway. Table 4.1 provides an indicative summary of the VET teacher qualification requirements in these five countries as well as in Australia, while Table 4.2 describes a very broad overview of the qualification and training requirements for in-company trainers. It should be noted that the general requirements listed in the tables refer to the most common or standard requirements and that alternative requirements may exist. In order to have a more detailed description of the requirements, it is recommended to look into the case study chapters of the report (OECD, 2022[73]).

Table 4.1. Indicative summary of upper secondary VET teacher qualification requirements in six OECD countries

	General requirements			Alternatives
	Vocational/subject-related qualification	Pedagogical qualification	Relevant work experience	
Australia	A subject-related vocational qualification	A vocational teaching qualification (at post-secondary non-tertiary level)*	Multiple years of experience*	It is possible to teach under supervision without a vocational teaching qualification*
Canada	Specific requirements vary across provinces and territories			
Denmark	Typically, a journeyman's certificate or a Bachelor's degree in a relevant subject	Diploma in VET pedagogy	Multiple years of experience	
Germany	Vocational theory: two state examinations following a university teacher training at the Master's level and a preparatory service		University training at the Master's level includes a work placement	Side entrants have access to shortened and tailored training leading to a teaching qualification (varies across federal states)
The Netherlands	A bachelor- or master-level teaching qualification for a specific VET field			A specific side-entry pathway exists for individuals with work experience in the industry; they are required to obtain a pedagogical certificate within two years
Norway	A subject-related qualification (including vocational)	A teaching qualification (pedagogics and didactics) at the Bachelor's level	Teachers for vocational practice need a certain number of years of work experience	

* Unless an exemption from this requirement is required, typically in the case of an auspicing arrangement.
Source: OECD (2022[73]), *Preparing Vocational Teachers and Trainers: Case Studies on Entry Requirements and Initial Training*, https://doi.org/10.1787/c44f2715-en.

Table 4.2. Qualification and training requirements for in-company trainers in five OECD countries

Germany (Regulated through an examination)	Denmark, the Netherlands, and Norway (With vocational qualification or company requirements)	Canada (With vocational qualification or provincial approval)
At least one qualified trainer is required in a training company, which means that the trainer has to pass the trainer aptitude examination (assessing vocational and pedagogical skills)	No specific pedagogical qualification or training requirement is defined	No specific pedagogical qualification or training requirement is defined, but, usually, a person with a trade certificate and years of experience can train apprentices; yet this varies across provinces
Skilled workers can also train and support apprentices (no training or qualification requirement)	Trainers are usually vocationally qualified skilled workers with years of experience	Some provinces approve "designated trainers", i.e. experienced workers without a trade certification who are allowed to supervise, train, and mentor apprentices
Existing training courses for trainers are not mandatory	Companies are accredited based on the availability of well-prepared trainers in Denmark and the Netherlands	
	To be approved, companies in Norway should have a qualified training supervisor (who typically has a trade certificate, Master craftsperson certificate, relevant higher education, or usually six or more years of work experience) and skilled workers with a vocational qualification and work experience	

Source: OECD (2022[73]), *Preparing Vocational Teachers and Trainers: Case Studies on Entry Requirements and Initial Training*, https://doi.org/10.1787/c44f2715-en.

4.6.3. Including industry in curriculum development and VET examinations and qualifications

In countries where it is not too common for upper secondary students to pursue an apprenticeship or in which vocational programmes are predominantly school-based, employers can question the quality and efficiency of upper secondary VET programmes. In order to ensure that the skills students acquire in vocational programmes are not only labour market relevant but also recognised by employers, industry representatives should be involved when VET curricula and VET examinations and qualifications are at the development stage. Including the industry in the development of VET curricula, examinations, and qualifications will also help improve the reputation of VET, which, in turn, will incentivise more young people, particularly students at risk of becoming NEET, to consider VET as an attractive alternative to general or higher education.

Engaging the industry in VET curricula development can be done in various ways that differ in scope and duration. For example, industry representatives can take on consulting roles, directly suggest initiatives or proposals, or be granted a voting or even a veto right in decision making. They might also advise on qualification requirements, provide feedback on proposals, be consulted for agreement on the final curricula versions, or participate in curricula evaluations. However, to avoid conflicting interests when involving individual firms, representatives from umbrella organisations could be consulted to integrate a wide spectrum of businesses (Euler, 2018[58]).

Involving industry representatives in the development of VET examinations can also strengthen the credibility of VET qualifications. Vocational programmes often target a wide range of skills, some of which might be expensive or difficult to test objectively, such as specific practical or technical skills. As a result, these skills are not always appropriately assessed in end-of-course examinations of vocational programmes, leading to some employers doubting the credibility of VET qualifications. Establishing standards and procedures for skills assessment is one way to increase the perceived reliability of vocational qualifications. These standards and procedures should determine which skills are to be

assessed, how the assessment should be carried out, and who would conduct the assessment. The full range of skills taught in vocational programmes should be assessed – not only those that can be easily assessed through traditional written or oral examinations. Moreover, to ensure consistency, there should be mechanisms in place to regularly evaluate if assessments across different parts of the country are in line with established standards (OECD, 2018[1]).

Training companies can engage in different ways, such as developing examination tasks for the apprentices, being consulted on task proposals, partaking in task decision making, or being directly involved in examination evaluations. They might also help test a wider range of VET target skills by allowing learners to complete practical or technical exams at their company or by issuing reports or certificates that confirm the company's recognition of the apprentices' working skills. In order to ensure the credibility of the latter, the practical final examinations can be monitored by other company representatives who also train apprentices (Euler, 2018[58]). Box 4.4 discusses the role of professional organisations in upper secondary VET examinations and describes what qualification procedures in Switzerland entail.

Box 4.4. Upper secondary VET qualification procedures in Switzerland

In Switzerland, the federal government, the cantons, and the professional organisations closely collaborate in VET, which is particularly evident in the VET programme design and qualification procedures. While the State Secretariat for Education, Research and Innovation (SERI) regulates the core elements of VET programmes, which include the framework conditions of the qualification procedures (e.g. form, duration), the professional organisations decide on the structure of the qualification procedures, and the cantons enable the procedures' implementation (Fahmy, 2019[74]). Examination boards are elected by the cantonal secondary education and vocational training offices and comprise people from the world of work, representatives from professional associations, and vocational schoolteachers. Each canton has several examination boards, each of which is in charge of at least one profession and whose number of board members depends on the number of qualification examinations that will be conducted each year (Kanton Zürich, 2022[75]).

In order to ensure high-quality and comprehensible qualification procedures, the network partners, in collaboration with SERI, published an orientation guide with principles and recommendations (Eidgenössisches Departement für Wirtschaft, Bildung und Forschung, 2019[76]).

Typically, there are four qualification areas, each of which is concluded with an examination, which, in turn, can comprise several parts. The four qualification areas include i) a partial examination (*optional*; practical exam), ii) practical work (*mandatory*; oral exam: technical discussion related to the practical exam; practical exam), iii) vocational skills (*optional*; written exam and oral exam), and iv) general education (*mandatory*; written or oral exam, a final project including presentation, experience grade). In most VET programmes, general education is taught independently of practical or technical skills and is, therefore, tested separately. In order to avoid overlaps, general education examination experts and practical examination experts co-ordinate to ensure that they do not assess the same learning content twice (Eidgenössisches Departement für Wirtschaft, Bildung und Forschung, 2019[76]).

In the remaining qualification areas, written exams can include multiple choice questions, short answer tasks, tasks with extended answers, case studies, portfolios, or projects, whereas oral exams can take the form of structured conversations, technical discussions, role play, presentations, or forms of simulations. Practical work is either tested through pre-set practical work (*vorgegebene praktische Arbeit*, VPA) or individual practical work (*individuelle praktische Arbeit*, IPA). In the VPA, professional organisations define standardised tasks for all examination candidates in Switzerland. Usually, the examination is carried out centrally and assesses the apprentices' competencies as a whole. In contrast, the IPA tests practical skills in everyday working life at the training company or with customers

through a work assignment or service provision. The apprentice executes the assignment and presents the results to a team of experts. During the subsequent technical discussion, the apprentice then answers additional questions related to the task (Eidgenössisches Departement für Wirtschaft, Bildung und Forschung, 2019[76]).

Key policy lessons on vocational education and training

Vocational education and training (VET) can play a key role in ensuring reduced school dropout rates and facilitating the school-to-work transition. In particular for young people who prefer more practically oriented learning and who may have developed negative experiences with academically oriented educational environments, VET programmes can boost their motivation and engagement with education and learning. Through school-based and work-based learning, VET is also an efficient way to ensure that students are able to develop the set of skills that are demanded by the labour market and, thus, improve their labour market outcomes.

In Australia, unlike in many other OECD countries, there is no separate vocational pathway in upper secondary schools. Instead, students put together individualised programmes by choosing classes that can be both general or vocational. This option enables them to discover their interests and strengths while broadening their set of skills and allowing them to make a more informed decision of whether they want to continue with post-secondary VET, enrol in a higher education programme, or directly enter the labour market after graduating from secondary school. This setup can be a strength to the extent that individuals have accurate information about VET classes and that the reputation of VET classes is on a par with that of academically oriented classes. It can also promote access and availability. At the same time, it can be more challenging for VET teachers and trainers to develop the content and pedagogical knowledge that is unique to VET classes and to create strong connections with the industry.

Four key areas of improvement can ensure that VET programmes can help reduce the likelihood that young people will become NEET. These are: i) improving the reputation of and general knowledge people have about VET; ii) promoting industry involvement; iii) supporting vocational teachers and trainers; and iv) supporting young learners. The first two areas help improve the overall VET system and how it is perceived, making it an attractive alternative compared to higher or general education, while the latter areas are crucial to ensure that students have a good learning experience and receive the appropriate support they need.

VET reputation.

Provide easily accessible and understandable information on VET to counter misconceptions. The Australian VET system still suffers from being looked down upon or not receiving adequate attention. In many cases, students' preference for general education over VET is due to a limited understanding of what VET entails. It is therefore crucial that students, but also their parents or caretakers, can easily access information about VET; that this information is accurate and easy to understand; that they are aware of the diversity of available VET programmes as well as the benefits and future opportunities that they provide; and that the information available builds aspirations for students to undertake further studies. Raising awareness of VET as an attractive alternative to general education should start at an early stage of children's education to ensure that young people can form an objective and informed opinion of different education and training pathways and potentially make decisions on school and subject choices. In particular, VET awareness-raising campaigns and skills competitions are ways to make VET a well-known and attractive alternative to general education, as

the simple availability of information on VET might not be sufficient for young people to understand the benefits of VET.

Industry involvement.

Strengthen work-based learning opportunities in collaboration with the industry. Work-based learning at both schools and companies is associated with positive outcomes. The workplace in particular is considered an effective learning environment for young people to develop soft transferable skills, and on-the-job learning might be easier than putting into practice theoretical knowledge acquired at school. Companies can have different degrees of involvement in providing work-based learning to apprentices, ranging from: i) providing glimpses into the world of work (e.g. allowing company visits, offering internships, or teaching specific skills through practice projects or lectures at schools); to ii) providing training modules students can participate in; and iii) being an actual contractual apprenticeship partner. While work-based learning is an integral part of school-based apprenticeships in Australia, this is not necessarily the case for other school-based VET programmes. In some jurisdictions, like New South Wales or Western Australia, for instance, work-based learning is mandatory; however, in others, it is only optional, and, therefore, its implementation often varies between jurisdictions and even schools. Considering its associated positives outcomes, it is recommended to make work-based learning a mandatory, integral component for VET programmes.

Involve the industry in the development of VET curricula, examinations, and qualifications. Australian employers can question the quality and relevance of upper secondary VET programmes and sometimes hesitate to recognise upper secondary VET qualifications and, therefore, hire upper secondary VET graduates. This could lead to poorer labour market outcomes among VET graduates, thus increasing the rate of young VET participants who are NEET because they do not find employment and potentially also lowering participation in education and training among students with little interest in academic programmes. To ensure that the skills students acquire in vocational programmes are not only labour market relevant but also recognised by employers, industry representatives should be involved when VET curricula, examinations, and qualifications are at the development stage. For instance, industry representatives can take on consulting roles, directly suggest initiatives or proposals, develop examination tasks, or participate in decision making. They might also help test a wider range of VET target skills by allowing learners to complete practical or technical exams at their company or by issuing reports or certificates that confirm the company's recognition of the apprentices' working skills. To ensure the credibility of the latter, the practical final examinations can be monitored by other company representatives who also train apprentices. Moreover, representatives from umbrella organisations could be consulted to integrate a wide spectrum of businesses. Including the industry in the development of VET curricula, examinations, and qualifications will also help improve the reputation of VET, which, in turn, will incentivise more young people, particularly students at risk of becoming NEET, to consider VET as an attractive alternative to general or higher education. Between November 2020 and April 2021, the Department of Employment and Workplace Relations consulted with stakeholders through surveys, online workshops, webinars, meetings, and responses to a discussion paper in order to understand how industry and employers can better engage with the VET system (Department of Employment and Workplace Relations, 2022[77]). Such efforts to bring industry to the table to understand how they view the programme and the effectiveness of current arrangements as well as where they see room for improvement in the system itself and in the collaboration between the government and industries is an important step in encouraging industry to participate in VET programs and to be more invested in the system.

Enhance networks to reduce barriers to apprenticeships. Some employers might be hesitant to offer apprenticeship positions to young people in disadvantaged situations, and some young people may, in turn, not consider positions outside the realm of the employment opportunities they recognise among adults in their communities. By establishing direct contact between young people and employers

through measures such as transitional programmes, internships, class visits by employers, or VET fairs, these initial hesitancies may be reduced. Direct contact with employers gives young people a chance to showcase that they are ready and motivated to complete an apprenticeship. Moreover, training company networks, as seen in Norway or Switzerland, provide additional help in reducing VET entry barriers by creating more available apprenticeship placements, supporting training companies in delivering VET, and shifting or dividing the responsibility over the apprentices. The Government-funded Australian Apprenticeship Support Network undertakes many of the above-mentioned activities. Therefore, it is recommended to continue or even increase funding to bolster and maybe even expand support for both learners and employers. Moreover, to strengthen partnerships between the different stakeholders, it is worth considering re-introducing new versions of programmes implemented in the past in Australia, like the School Business Community Partnership Brokers (2010-14) (see key policy lessons on education in Chapter 2).

Support provided to vocational teachers and trainers.

Support vocational teachers and trainers. An important factor for students to succeed is their sense of belonging within a school or workplace. It is, therefore, crucial for vocational teachers and trainers to create an inclusive and culturally safe learning environment. Preparing vocational teachers and trainers to recognise students' diverse learning needs and to provide struggling students with the necessary support throughout the programme should be included in their initial teacher and trainer training (ITET) and in further education programmes. Moreover, in the Australian context, teachers and trainers are encouraged to complete a cultural competency training to ensure a culturally safe learning environment within a VET institution for their First Nations peoples students but also teachers and trainers. Ensuring the learning environment at the institution is inclusive for students, teachers, and trainers and free from discrimination and racism is imperative for success, while acknowledging that teaching approaches may need to change based on the students' needs. Moreover, teachers and trainers should be able to ask for advice and exchange their experiences and struggles with other teachers and trainers through established networks or fora.

Provide company-based learning for vocational theory teachers and training programmes for in-company trainers. The more vocational theory teachers' industry knowledge is up to date, the easier it becomes for students to link what they have learned at school to the world of work. Therefore, to strengthen vocational theory teachers' understanding of the industry, companies could collaborate with initial teacher education and training (ITET) providers to include a company-based practical experience component in prospective vocational theory teachers' ITET. Short work placements or company visits could also be incorporated into further education programmes for vocational theory teachers. At the same time, (prospective) in-company trainers should be able to easily access pedagogical training and learning material. They should also receive training on all relevant aspects of in-company training. When training programmes are optional rather than mandatory, it is important to provide attractive incentives that encourage in-company trainers to participate in such preparatory programmes. In Australia, where most vocational students also follow general education courses at a senior secondary school, there might sometimes be a lack of connection between what they learn at work (at a real or simulated workplace) and what they learn at school. While, under Australia's Standards for Registered Training Organisations (2015), all trainers and assessors are required to ensure that the industry skills they are teaching, are up to date, it might be wise to invite vocational theory and general education teachers who have vocational students in their class to complete a company-based practical experience to improve their understanding of the industry.

Support provided to learners.

Provide vocational preparatory programmes. Not all students who would like to pursue a vocational programme are ready for it. For those who need more time to catch up on literacy and numeracy skills or decide on what occupation would fit their interests and skills, VET preparatory programmes, such as pre-vocational programmes or pre-apprenticeships, would help them secure a work placement (in case of an apprenticeship), start with higher productivity, make progress quicker, and rely less on additional support during the programme to cope with their initial weaknesses (e.g. literacy or numeracy skills). While vocational preparatory programmes, like pre-apprenticeships, exist in Australia, their definition and outcomes vary across jurisdictions and occupations. It is therefore recommended to decide on a nationally consistent definition of what pre-apprenticeships entail and ensure that all students can access high-quality preparatory programmes, regardless of the jurisdiction in which they live or the occupation they choose.

Tailor VET programmes. Some students might feel discouraged or do not even consider pursuing a vocational programme as they might struggle with learning or do not have enough time to put in the effort needed to complete a programme. Adapting programmes to learners' needs can help improve their study experience and increase their motivation. VET programmes can be tailored to different students by providing different programme durations and intensities, flexible time arrangements, hybrid or online training modules, part-time programmes, or additional courses for students to catch up on basic skills, for instance.

Support vulnerable students at school and at the workplace. Students in vulnerable or disadvantaged situations are more likely to drop out of a vocational programme than the average apprentice. To support students with learning difficulties, schools can provide remedial after-school classes or offer more flexible conditions. Mentors or coaches can help struggling students with planning and completing their coursework, provide support in solving or at least advising students in disadvantaged situations on everyday problems, and act as mediators if issues between the apprentices and their employers or schools arise. In Australia, like in countries with large migrant populations or First Nations peoples communities, an additional source of vulnerability comes from cultural diversity. Creating a culturally safe learning environment for young First Nations peoples students can entail ensuring that peers as well as teachers, trainers, and other personnel engaging with these young people take part in a cultural competency training.

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Notes

[1] Key notes about the data. The VET in Schools collection only captures students whose VET is credited to their Senior Secondary Certificate of Education – this is different to the number of students doing apprenticeships in other datasets. The dataset does not distinguish between apprenticeships and traineeships. The collection is released annually so 2021 is the latest data available.

[2] The following 11 pathways can be chosen at one or several of 16 secondary schools offering the P-TECH Program: Advanced Manufacturing, Aviation, Business, Computer Science, Cybersecurity, Digital Media and Technology, Food Science and Technology, Healthcare, Maritime-Based Careers, Mechanical Engineering, and Networking Technology.

[3] Outcomes for students: P-TECH has improved student understanding of the workplace; enhanced student engagement with STEM; encouraged student engagement with school and learning; the potential to enhance students' sense of belonging; broadened student perceptions and attitudes towards their career paths and future; improved students' self-esteem; improved students' workplace (soft) skills; improved students' technical skills; and improved access to resources for student learning.

Outcomes for schools: P-TECH has enhanced teacher engagement in schools; encouraged innovation in teaching; improved schools' engagement with the community; improved schools' reputations; improved parent and family engagement; and enhanced schools' understanding of the needs and opportunities of their region.

Outcomes for industry partners: P-TECH has enhanced job satisfaction for industry partner employees; the potential to enhance future workplace diversity; in some cases, resulted in recruitment from school to

industry; enhanced industry partners' profile within the community; and provided networking opportunities for industry partner employees.

[4] The other persons questioned indicated being in employment or following another training or education programme.