



VET IN SCHOOLS AND PATHWAYS FOR SCHOOL-LEAVERS INTO THE RESOURCES SECTOR

DISCUSSION PAPER

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INTRODUCTION

The WA resources sector employs more than 135,000 individuals and supporting over 10,600 businesses in the local economy¹. Over the last 12 months the sector has been increasingly challenged by labour market tightening and restricted mobility as a function of the global pandemic. With a local constrained employment market, an imperative to further connect the talent pipeline from local school leavers and young adults into resources sector careers has been identified by industry.

This discussion paper seeks to clarify the role of existing VET in School programs for the resources sector and surmise entry-level pathways for school-leavers into the industry. Additionally, it seeks to unpack and clarify some of the logic and opportunity within the youth labour market, focusing on the identification of barriers and proposing opportunities and recommendations for the sector to further support continuity of the talent pipeline.

¹ <https://www.cmewa.com.au/wp-content/uploads/2021/07/Western-Australia.pdf>

VET IN SCHOOLS

Overview

VET delivery in secondary schools is a valuable opportunity for students to experience the 'world of work' and undertake practical learning whilst completing a nationally recognised qualification. For many school students, VET in Schools is a foundational step from an academic learning environment to workforce participation, allows students to test careers paths and vocations, and forges a connection with their local industry.

Several courses are delivered over a broad range of programs including those in pre-apprenticeships, business, health and safety, engineering, logistics, warehousing, hospitality, and environment². Specifically for the resources sector, the VET in School delivery register notes most of relevant qualifications are unsuitable for school-based delivery due to safety hazards, the type of equipment used, and complex delivery requirements of highly technical content³. Consequently, most students undertake broader programs (Certificate III in Business)² which could hold relevance for resources sector occupations.

Historically speaking, VET in Schools uptake has varied in recent years. Most notably, an additional pathway was introduced (General Pathway) in 2020 which enabled students to complete General courses to qualify for their secondary school completion certificate (locally known as WACE) rather than ATAR or VET programs⁴. Broadly, this has led to a decrease in VET in Schools participation, however it should be recognised this change has been met with mixed reviews from school representatives, and participation in many courses remains capped due to high demand. Whilst a portion of schools staff comment solely on the resulting reduction in program numbers as consequence of the third WACE attainment pathway, others comment the changes have led to a product delivered with greater value for the learner, particularly in a regional context where program choice may be limited. Furthermore, it is worth noting some VET in Schools programs can be expensive for the student dependent on the delivery model (fee for service or 'under profile'), and the introduction of a general pathway may help balance cost for the learner and their family.

VET in Schools is delivered in a number of models within Western Australia, including at TAFEs, through private RTO facilities, and through Trade Training Centers supported by Federal Grants. In the latter, the Federal program has invested approximately \$1.4 billion into the Trade Training Center initiative, funding the construction of 375 Trade Training Centers and 136 Trade Skills Centers within Australia⁵. Schools involved in the Trade Training Center consortiums praise the centers and their impact on the local industry, with few reporting issues with placing students with employers for work placement. However, it has been noted some facilities are aging (grants received in approximately 2010), and an update in equipment is likely required. Industry largely supports the trade training center model; however, some small businesses comment it can be difficult to access VET students when they are isolated to trade training center programs and facilities therein.

² [SCSA - Table 5.12 - VET Achievements Full and Partial Qualifications for all students at all schools in 2020](#)

³ [DTWD - VET in Schools Register July 2022](#)

⁴ [Media statements - Schooling reforms to give every student an opportunity for a better future](#)

⁵ [DESE - trade training centres in schools' program annual progress reports](#)

What is working well in VET in Schools?

Pre-apprenticeships

Pre-apprenticeships are offered by most schools with Trade Training Centre access and indentured VET in Schools programs. Pre-apprenticeships were universally highly valued by both industry and schools with benefits including providing base skills, supporting work readiness, and acting as screening tools for aptitude and interest in trade pathways. Specifically, when asked questions relating to post-school candidate employability, completion of a pre-apprenticeship program was highly regarded by industry.

The common pre-apprenticeship programs offered of the relevance to the resources sector are listed in Table 1 below. Delivery is completed by both TAFE Colleges and private RTOs, with Trade Training Centers usually offering pre-apprenticeship programs. Pre-apprenticeship programs are highly popular within the student cohort and participation in these courses can be highly competitive. Student demand for the most popular courses (e.g., Certificate II in Electrotechnology Career Start)⁶ often outstrip the places available and these challenges are discussed further in the “*Barriers to VET in Schools engagement*” section of this paper.

Pre-apprenticeships provide base skills, support work readiness, and act as screening tools for aptitude and interest in trade pathways



Table 1 – School-based pre-apprenticeship programs delivered which are of relevance to the resources sector, including qualification enrolments of all students from all schools in 2020.

CODE	QUALIFICATION ⁷	ENROLEMENTS ^{8*}
AUR20920	Certificate II in Automotive Body Repair Technology	14
AUR20416	Certificate II in Automotive Electrical Technology	19
AUR20520	Certificate II in Automotive Servicing Technology	394
52824WA	Certificate II in Building and Construction (Pathway – Trades)	652
UEE22020	Certificate II in Electrotechnology (Career Start)	499
MEM20105	Certificate II in Engineering	326
SIT20416	Certificate II in Kitchen Operations	375

*Enrolment data includes Institutional Based or other delivery options if available

⁶ RITC interview data – training providers

⁷ [DTWD - VET in Schools Register July 2022](#)

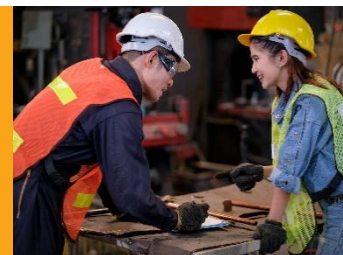
⁸ [SCSA - Table 5.12 - VET Achievements Full and Partial Qualifications for all students at all schools in 2020](#)

Block learning was the preferred model by industry for work placement completion in pre-apprenticeship programs. Primarily this is due to block learning enabling continuity in workplace training and reportedly better supporting work preparedness (e.g., transport routine, work hours, packing lunch etc.). Implementation of block learning for placements is entirely dependent on the school involved and success varied with each. From a school's perspective, timetabling flexibility may be required to accommodate block learning. In the most successful cases, this was largely navigated by aligning placements with school breaks (noting this can be a barrier for students with other break commitments). For industry representatives, employers observed that schools in single day placement only timetabling arrangements (not block learning) often only released students on Thursday or Fridays. This limited availability is restrictive for industry as it may not necessarily suit the business needs of every operation or training organisation, nor provide the best learning opportunities dependent on production and staff scheduling.

School-based Traineeships in regional areas

School-based Traineeships are in place in a number of regional resources companies including, one in the Pilbara, and at least two in the Southwest. The specific arrangement of these programs varies, with at least two currently being in pilot phase. Their success and viability are largely attributed to the commitment and collaboration of all stakeholders involved, alongside close proximity between industry and the local student cohort.

The success of school-based traineeships is attributed to both the collaboration of stakeholders and proximity of schools to local industry



Similarly, the Kwinana Industries Council Education Programs were unilaterally reported as a best practice model for VET in Schools, and school-based learner engagement. The success of these programs is again attributed to both the resourcing of a dedicated and motivated third party able to coordinate school and industry activity, alongside the proximity of industry to the local school community. This model is further discussed as a 'Case Study' on page 4 of this document, being consistently identified as a model of best practice by industry.

School-based Traineeship programs of relevance to the resources sector which are registered for delivery within WA include, Automotive Tyre Servicing, Building and Construction (including paraprofessional pathways), Business and Administration, Data and Voice Communications, Electronics, Maritime Operations, Hospitality, Laundry Services, Process Plant Operations, Polymer Processing, Laboratory Skills, Telecommunications Technology, Rail Infrastructure, and Stevedoring⁹. However, it is worthy to note not all listed School-based Traineeship programs are available for delivery. Program delivery is dependent on the partnership between the school, training provider and employer.

⁹ [DTWD - VET in Schools Register July 2022](#)

Case Study – Kwinana Industries Council Education Programs

The Kwinana Industrial Area is the home to many large industrial companies and are responsible for the employment of around 30,000 workers, direct and indirect. Two thirds of these live within 15 kms of their workplace, consequently the communities surrounding the industrial area are deeply connected to industry^a.

The Kwinana Industries Council (KIC) is a member-based industry association which represents the Kwinana Industrial Area and run a number of educational programs intended to create pathways for the students in the region's high schools to enter the industrial workforce. These education programs have been extraordinarily successful, growing organically with time to now include 17 schools and a throughput of approximately 200 students each year, and achieving consistently positive outcomes for the students and the industry partners involved^b.

The individual programs are quite varied targeting both VET in Schools through pre-apprenticeship programs and University bound students with iPROJECT courses, adding to the diversity of content and appeal to industry stakeholders.

The success of the KIC Education model is primarily attributed to the involvement of the KIC as a facilitating partner, these facilitating responsibilities include^b:

- Management of funds for the programs
- Acts as a partnership broker between schools and industry
- Coordinate the broader involvement of all stakeholders (including students and parents)
- Facilitate regular meetings with school principals and VET coordinators
- Coordinate work placement and mentoring support
- Organise events and activities, such as the Conference Day at program completion

Attempted replication of the education model must include organizational commitment for sustainability. The passion and purpose of the program need to extend beyond an individual program 'champion' if the program is intended to be run long-term.

^a <https://kic.org.au/education/>

^b RITC interview data - 2021

VET in Schools as an alternate entry pathway to university

The utilization of VET as an alternate pathway into university is steadily gaining more recognition. In WA partnerships exist between some schools and universities, linking VET in Schools programs to Undergraduate programs and broadening student destinations on graduation. VET has a valuable role to play in skills development and the practical learning pathway is of benefit to students with university aspirations. These programs and partnerships not only provide a credit of university entry and support student choice in tertiary study selection.

This cross-sectoral approach has helped support VET in Schools program enrolments and improve parent perceptions of the value of VET. However, most of these pathways are relatively new. As they become more established, the collation of student destination data into VET or University programs would be useful to further ascertain value and effectiveness.

Barriers to VET in Schools engagement

As a heavy industry, the unique and remote operating environment of the resources sector serves as a barrier to VET in Schools participation and school student placement more broadly. Legislative requirements around age, supervision and safety are primary barriers to engaging youth in resources workplace arrangements, alongside access to mentoring resources and candidate work readiness.

Each barrier will be further unpacked below.

Student age

Currently on Western Australian mine sites a person under the age of 16 years is unable to carry out work in any open cut workings or in an underground mine; and a person under the age of 18 years unable to carry out work in an underground mine unless the person is over the age of 16 years and is an apprentice or trainee under direct supervision in relation to the work¹⁰. Primarily this precludes mine site access for students in a work capacity (under 16 years), and most companies will not allow persons under the age of 18 years on site, unless they are employed in an apprentice / trainee arrangement. Any student site orientation programs which have been completed by companies (FMG and Thiess hosted a small group local school students in a work readiness program) are under a visitor rather than an employment / training relationship.

Businesses with workshop capacity have reported success in hosting work placement students for short durations (like pre-apprenticeships) and will often house new apprentices in a foundational learning program for 6-12 months. This workshop environment (commonly metro-based) provides enables these businesses to safely recruit and skills apprentices of younger ages in a well-controlled environment, provided candidates meet other selection criteria. Importantly, whilst successfully hosting school-aged learners, businesses note other limitations such as supervision needs.

Location of industry and schools

One of the key factors for VET in Schools program success is the composition and density of the immediate locality, as work placement students are often (not always) from the local catchment.

In metropolitan areas, students have greater transportation access and school choice (dependent on home environment), which enables the local industry to draw from a greater pool of candidates. Regional areas are however limited by the size of their local school community and industry, and the impact of this fixed pool of industry and students varies. For instance, Yara Pilbara Fertilizers report entry to their regional school-based pilot VET program (Case Study 2 – School-based Traineeship) was highly competitive amongst school students and the organisation lacked the available places to cater for demand, whereas stakeholders in Kalgoorlie have noted access to students in VET programs can be competitive amongst industry due to the small number of schools in the township.

Some remote operators in the resources sector do not have any schools within an acceptable range for the hosting of work placements students without also providing accommodation. Whilst this

¹⁰ Refer to Mines Safety Industry Regulations (1995) r. 10.4, National Mine Safety Framework DI 9.38 and 9.39.

is possible, the barriers surrounding age and purpose of visit remain, alongside ensuring pastoral care for young people living away from home. The Girls in Mining camp run by Curtin University and

previous FMG work readiness program, are positive examples of bringing youth onto site, however this is in a careers / workplace awareness context as visitors rather than workplace learning.

Supervision

Another universal barrier reported by industry is operating lean and a lack of available staff to adequately supervise school-based learners. Companies which have work placement students report they are at capacity, not only from a number's perspective, but also the suitability of existing workers to act as mentors for young people. Training providers have also reported training workshop places are at or nearing capacity, largely due to the incentivizing (and associated increased uptake) of apprentices with COVID stimulus measures. One TAFE College reports access to floor space and internal trainers, alongside more work placement spaces, are the primary barriers to increasing enrolment caps and meeting student demand. The growth of existing VET in Schools programs will be impacted by appropriate workplace supervisory and training facility capacity.

Industry have broadly reported a work readiness gap exists between the Certificate II and Certificate III qualification levels



Work readiness

The orientation of a student from a school-based learning environment to a workplace requires the learning and attainment of a number of soft skills, collectively termed 'work readiness'. When industry stakeholders are asked to further define this term, maturity, situational awareness, work hardening (e.g., daily work routine and task expectation setting), safety preparedness, cultural alignment, resilience, and finance management are common traits. Additionally, an ability to communicate in an industry setting (with colleagues of varying ages, cultural backgrounds, and seniority) and life skills (success setting and asking questions) are reported. This skills base is complex and often formed with years of experience in a workplace, which is difficult for a young person to achieve. However, due to the high-risk nature of operating in heavy industries attainment is crucial to ensure worker safety, health, and well-being. Consequently, industry have broadly reported a work readiness gap between the Certificate II and Certificate III qualifications.

In response to this 'work readiness' gap industry has implemented a number of initiatives over many years, often incorporated into diversity and indigenous engagement programs, such as the Newmont Australia on industry preparedness program. In this program learners undergo workplace leaning on site and experience varied operational roles. The program serves as a pathway for indigenous women into ancillary and driver operation roles. Similarly, schools employ various work placement induction programs, to equip students with the intent to deliver underpinning knowledge and set students expectations regarding what is required to enter a work environment and operate safely. The Department of Education, Skills and Employment also offer 'transition to work' programs.

Site readiness

Site readiness is an extension of work readiness and has been identified a supplementary barrier to site access for school-based learners, and those at school leaving age more broadly. Site readiness is critically important to ensure worker safety on site and is unlikely to be achieved in a school-based learner. Those of school-leaving age are evaluated on a case-by-case basis, and this is further discussed in the “*School leaver pathways*” section of this paper.

Site readiness encompasses the transition from a standard working environment to operating on a resources sector site. Within this definition workers needs to adapt to hardened working conditions including, following strict procedures, long working hours (successive 12-hour shifts), night shift, living away from home, working in isolation from other team members, hot and dusty conditions, working in remote environments with restricted digital connectivity, taking charge of your physical health (e.g., nutrition, hydration, injury management) and mental health awareness.

When asking industry stakeholders what site readiness and industry preparedness looked like responses included:

- Prior work experience (preferably in heavy industries)
- Knowledge of what to expect on site (e.g., hours and conditions)
- Relevant tickets and licenses
- Ability to follow procedures and complete procedural paperwork
- Manual handling skills and awareness (e.g., importance of stretching before work)
- Knowledge of the importance of hydration and nutrition
- Appropriate mobile phone use
- Drug and alcohol awareness
- Individual alignment with business culture and values

To support new workers, adapt to camp / site life, some companies with the capacity will offer a workshop to site transition plan. This transition plan may include assigning shorter rosters for the first few swings (7 days on), having day shift only for a limited time, and providing ‘wrap-around’ site support such as designated mentors. One contractor noted the flexibility to transition workers to site can be impacted by client requirements and resources therein.

Mentoring resources

Whilst school students are on the ‘work readiness’ learning curve it is important the training received, and expectation of workplace performance are aligned. Industry collectively reports a toolkit of mentoring resources which supported their workforce to better understand, effectively communicate with, and train school-based learners is required. The Chamber of Commerce and Industry WA do offer Mentoring Services and some educative programs; however, these are primarily for businesses with workers employed under a training contract (apprentices or trainees). Companies heavily invested in this space have been developing their own resources, however demand remains for a mentoring toolkit for supervisors of school-based learners in heavy industries.

Cost

VET in Schools is accessible under two funding models, a 'fee for service' arrangement with the local TAFE or private RTO, or 'under profile' which is subsidized by the State Government.

For State Government subsidised courses, the Department of Training and Workforce Development (DTWD) provides a fixed amount of funding for delivery of VET to secondary students that is aligned to the workforce development needs of the State (i.e., 'under profile' courses)¹¹. Courses able to be offered 'under profile' are listed on the DTWD VET in Schools funded list¹², and RTOs able to deliver these courses include TAFE Colleges and private RTOs contracted to the Department. The amount of funding provided varies and can be up to 100% of the student course cost, and access to funded places is highly competitive. One TAFE College noted student candidates are selected based on previous academic performance, being in a VET WACE pathway, work experience in industry, and subject to an interview panel which includes industry representatives. Policy constraints exist to try to support placement equity, for example, an enrolled school student cannot undertake two funded courses concurrently and specified Aboriginal funding places exist to support Indigenous participation⁶. However, demand is outstripping supply for funded places. One TAFE College estimates 50% of applicants are successful in securing a funded place in the most popular programs, and these are heavily subscribed (e.g., pre-apprenticeships).

Due to the competitive nature of funded VET in Schools places, many courses (and in some cases all courses from partner RTOs), are completed in a fee for service arrangement. Whilst providing flexibility and program diversity (deliver programs outside of the DTWD funded list) the costs of these programs can be substantial, particularly for trade occupations related relevant to the resources sector. For instance, in the most recent Bunbury Regional Trade Training Centre course catalogue¹³ the Certificate II in Engineering Pathways course cost is \$2300, the Certificate II in Automotive Electrical Technology \$3250, and the Certificate II in Electrotechnology (career start) is \$3900. Comparably, a Certificate III in Education Support is costed at \$1070, Certificate IV in Preparation for Health and Nursing is \$2400, and the Certificate II in Building and Construction (Pathway – Trades) which includes pre-apprenticeships in Brick and Block Laying, Carpentry and Joinery, and Painting and Decorating, are offered at no cost, with places fully funded through the Construction Training Fund (funding subsidies provided by the CTF are negotiated with individual RTOs based on a finite number of places).

Student accessibility to funded course places is important not only from an equity perspective, but also in a 'taster' or career awareness perspective. Families may be reluctant to support student participation in courses with expensive fees, particularly if student interest is modest or vocational outcomes are unclear. Of note, whilst improving access to funded places supports student equity and is important, barriers regarding the total number of course places remain (e.g., lean supervisor and training floor capacity).

¹¹ <https://www.dtwd.wa.gov.au/sites/default/files/uploads/dtwd-vetss-funding-policy-v2-1jan2019.pdf>

¹² <https://www.dtwd.wa.gov.au/sites/default/files/uploads/dtwd-vetss-fundedlist-2021-v1.2.pdf>

¹³ <https://www.maneasc.wa.edu.au/wp-content/uploads/2021/06/BRTTC-2022-Prospectus.pdf>

Career awareness

Universally there was acknowledgement schools largely lack the resources to effectively market the diverse careers available in the resources sector, other heavy industries, and some specific VET qualifications or programs. In general, a lack of awareness permeates about resources businesses outside of trade vocations, but specifically around non-operational sector vocations (e.g., hospitality, environment, procurement, contracts, warehousing, logistics). Opportunities throughout the value chain of a mine life cycle (e.g., exploration, commission and construction, operations, and maintenance, decommission, and restoration) also have little public visibility.

In the current school system students complete subject choice in Year 10 for Years 11 and 12 VET programs. Industry have links with schools and provide career day talks for Year 9 and 10 age groups to help bridge this gap. Additionally, over 60 individual programs run through schools and industry partnerships exist in WA, supported by resources sector career and learning events such as the Resources Technology Showcase, “Get into Resources” held at NM TAFE, and school tours held at the Roy Hill Roc-Ed learning facility. Despite these extensive programs, commentary on resources career destinations and pathway invisibility remains, and a broader system approach may be of value.

Career opportunities throughout the resources sector supply chain and the entirety of a project life cycle have little public visibility



Program administration

Key barriers to program diversity and continuity within the school sector are viable class sizes. School consortiums and the establishment of Trade Training Centers have been helped introduce stability for some programs as students are able to collectively be gathered from several different institutions. However, some lack of program choice exists, particularly in regional settings. Distance education and online learning are benefiting the diversity of courses able to be offered to students with some business programs being solely run online through TAFE colleges. The engagement of a third-party organisation as an intermediary has been identified as a successful strategy to navigate community dynamics and further accommodate variable program sizes.

Schools have reported teaching staff when acting as VET trainers can be a barrier for program continuity. To elaborate, compliance regulations require a schoolteacher who is training VET students to have their Certificate IV in Training and Assessment, have completed the relevant qualification or units of competency they are instructing, and maintain industry currency. Some schools who have had fully trained and qualified teacher's instructing VET programs have lost program continuity when that teacher has resigned. Schools have reported that the upskilling new teachers to continue programs can be impacted by the teachers understanding about the VET sector and willingness to participate in training (including the need to obtain the Certificate IV in Training and Assessment). The paperwork burden is also reported as extensive when compared to basic classroom learning and the need to maintain industry currency infeasible. As such, a reticence to engage has been described.

VET in Schools program continuity has been reported as better served when an RTO is assuming training responsibility, however challenges with regional TAFE lecturer retention have been noted.

Parent perspective

Parent barriers to participation can be upfront and tangible. Commonly these include course costs and an inability to transport students to work placement opportunities due to work or other commitments. Additionally, parent or guardian obligations to secure work placement have been reported as a barrier to participation, particularly as this be either unachievable (don't have the community connectivity or knowledge on how to do this) or may restrict course selection to those occupations held in the industries of family members or close friends. Support mechanisms to help parents in sourcing work placement opportunities for their children should be further identified and analysed.

Furthermore, a lack of VET system awareness has been reported as a barrier for parents in their encouragement of students to undertake VET in Schools. For instance, stakeholders have reported parents who have never dealt with the VET sector before or have not previously considered its value, lack the knowledge of how to navigate the system and the subsequent opportunities it may bring. Similarly, some education stakeholders report parents are opening to the value of pathway options outside of the ATAR and University entry, however the advertisement of VET as an alternate entry pathway to university has been important to facilitate deeper engagement with VET in Schools programs. Parent induction and information evenings about the VET sector, and its potential in broadening students' options, rather than locking them into a VET destination, have been important.

The perspective of parents was assessed at a high level in this report with stakeholders providing commentary during broader consultations. A more fulsome analysis of both the perspective of parents about the opportunities and value, alongside barriers to VET in Schools participation is worth investigation.



Opportunities for VET in Schools

Resources sector 'taster' program

The development of a fulsome resources sector program has been raised as an opportunity. Mimicking the success of the 'try a trade' program in place through the Construction Training Fund, the proposed program could focus on a specific set of vocations within the resources sector with VET pathways for entry.

An objective of this program is to increase student exposure to diverse resources vocations and bridge some career awareness gaps. Industry consultation would be necessary to deliver current content, and some form of industry participation preferred (e.g., workplace / office hosting, career coaching). The scope of any fulsome program and if an underpinning qualification of relevance should be attained, require further thought and discussion.

A metro-based program with a rotational experience through multiple arms of the business (community, environment, administrative / human resources) in an office environment was also suggested.

Resources sector micro-credential

The development of a micro credential or skill set which provides resources sector specific context has been raised as an opportunity. The intent would be to supplement any existing pre-apprenticeship or VET in Schools courses (hospitality, business, health and safety, leadership, and management) with elective units which provide resources sector content.

This micro-credential supplementation is currently in place through Gilmore College and SM TAFE with the addition of an autonomous micro-credential into existing specialised VET programs. Whether a holistic overview of resources sector content could be covered in micro credential is subject to further discussion, a nuanced micro-credential may hold more value.

Implement a fully funded VET in Schools program for the resources sector

Access to equitable funding not only supports workforce diversity and inclusion, particularly amongst vulnerable population groups, but also early career starters looking at a 'try before you buy' learning model and student study choice.

For the resources sector this could include developing a funded program / micro credential for broader resources vocations (as above) or supporting participation in VET in Schools programs related to the construction of resources sector projects through the Construction Training Fund (CTF). The latter may include the expansion of the Certificate II in Building and Construction Pathways scope, or a similar Resources Sector Construction Pathways program for a set number of places. The inclusion of metals and engineering trades, or other qualifications related to the construction of resources sector projects may be worth investigating, in collaboration with the CTF.

SCHOOL-LEAVER PATHWAYS

Entry points to the resources sector

Outside of formalised training programs (such as Apprenticeship, Traineeships and Graduate Programs) pathways into the resources sector are often multi-layered and non-linear. This section of the report attempts to clarify existing entry pathways into the resources sector and unpack their accessibility for those of school-leaving age (17.5-18 years of age), and youth (18-25 years) more broadly.

Employment-based progression

The opaquest pathway into the resources sector for education and career professionals advising young people is the employment-based progression pathway. Within this pathway a young person will leave school and obtain unskilled or low-skilled employment, before moving into the resources sector and site operations.

What are the entry-level employment pathways for the resources sector?

When industry stakeholders servicing the sector were asked about entry level positions in their organisations or the contractors servicing their operations, these included:

- General Labourer
- Riggers and Doggers
- Trades Assistant
- Pit Technicians
- Administrative roles
- Surveying Assistant
- Field Technical Assistant
- Drilling Assistant / Offsider
- Camp Utilities roles including hospitality and cleaners
- Some Machine Operator roles
- Some Process Operator roles

Unskilled or low skilled positions requiring minimal prior work experience are often outsourced by the primary producers to employment agencies specialising in labour hire or contractors / sub-contractors servicing the sector. Acceptance in these entry-level positions can lead to training opportunities with the national system, and progression into an apprenticeship or traineeship pathway, dependent on performance.

Similarly, to apprentices and traineeships, when industry was asked what makes a candidate stand-out, common traits such as, the completion of a pre-apprenticeship program, holding the necessary licenses and tickets, and prior labouring experience, emerged. A referral process was also commonly used during recruitment.

Pathway accessibility for school-leavers

The primary barriers for young people accessing these roles are age and maturity related. Specifically for age, young people are at school-leaving age from 17.5 years. Primarily, this excludes them from a number of entry-level positions, particularly those requiring licenses (Heavy Rigid need to hold a Class C driver's license for at least 2 years), tickets (Rigging Certification has an 18-year minimum age requirement and dogging as a pre-requisite) or site access (18 years as discussed, unless employed as an apprentice or trainee). The pathway for many these students therefore is to undertake employment outside of the resources sector (e.g., warehousing, hospitality, retail, workshop assistant) and then transition back to a resources career when candidates meet the age requirement (and gain some requisite work experience). Whilst the added age and work experience is critical for industry to maintain safety standards, the challenge is ensuring preferred candidates transition back towards resources careers. This is particularly acute when pathways are opaque, and parents or influential adults may be more actively encouraging school-leavers to select a more definitive career path.

Holding the required driver's license can also be barrier for school-leavers / youth more broadly. Due to the nature of resources operations and the mobile equipment on-site (alongside remoteness), it is preferred and, in some cases necessary, for all employees to hold a C Class Unrestricted driver's license (i.e., be licensed to drive a manual vehicle). This requirement largely exists in conflict with school-leavers and the early youth talent pool (particularly in metropolitan areas) with anecdotal evidence indicating most students leave school with an automatic driver's license only. Most businesses are progressing hiring policies to meet the new market standard and supporting employees through driving programs as necessary. However, a preference for candidates to hold a manual driver's license persists.

Employment-based pathways into the resources sector are often multi-layered and non-linear



As mentioned previously in the work readiness and site readiness chapters of this paper, situational awareness and the knowledge and experience to work safely (including mental health and emotional awareness) is another barrier to employing young people in the above roles, alongside disconnecting from digital services whilst on shift, and task expectation management. A final safety and cultural alignment barrier worth noting can be a lack of knowledge of injury prevention and management (importance of stretching before work and responding to physical hurt). These factors are not always barriers for youth employment and are assessed on a case-by-case basis.

Another factor worth considering is method of recruitment as referral was reported as a common mechanism to identify preferred candidates. Whilst of value to combat some of the challenges in employing school-leavers and youth during their formative years, this method can disadvantage young people who have not yet developed a dense network of professional contacts, and who are attempting to break into industry. Alternative recruitment criteria or methodology could be considered for youth candidates.

Lastly, for young people there is a disconnect in some resources sector entry-level positions and requisite skill level. Effectively, this means whilst the position may be entry-level to the organisation, it is not necessarily unskilled or even low skilled. Hence a tendency to recruit mature candidates with a demonstrated ability to learn and prior workplace experience, may once again permeate recruitment. For instance, discussion with one company regarding entry-level process operator roles identified an operator needs to be able to perform complex tasks (when compared to your general labourer), strictly follow processes, understand the commodities (basic metallurgy and chemical interactions – reportedly industrial chemistry is learning gap at school), and have an overview of global business operations (freight). Structured training programs have often been developed with the intention to adequately train an operator with no industry foundation through a standardised framework, however as roles are skilled, candidates are often recruited from similar industries with aligned skill / underpinning knowledge requirements. For example, Bakers have been successfully retrained due to their capacity to follow recipes, understand mixing properties, operate ovens, and manage shift work hours. Again, young people remaining competitive in the pool of candidates is challenged.

Apprenticeships and Traineeships

Formalised Apprenticeship and Traineeship programs are offered by several resources sector companies (particularly amongst tier one producers) and some contractors. Furthermore, smaller contractors and project business owners with fabrication workshops in regional or metro areas may employ apprentices and trainees. Of note, formalised traineeship programs are often a mechanism to recruit underrepresented community cohorts within the resources sector workforce (excluding youth employment).

Apprenticeship and Traineeship placements can be highly competitive with any employer, but particularly amongst the tier one producers who report receiving thousands of applications for each annual intake (can be less than 50 places). For young people (particularly school-leavers who are not yet 18 years of age) it can be challenging to stand-out in this dense pool of high-quality candidates, particularly amongst career transitionary and other work hardened candidates. Additionally, industry have duty of care obligations and the prospect of successfully navigating the simultaneous transition of school-leavers to work and camp life has been reported as a barrier by industry, with one company noting the question “will this person be safe on site?” permeates all recruitment. Consequently, industry stakeholders confirm apprentice places are largely (not always) awarded to mature-aged candidates (19 – 25 years of age or higher). A small number of positions may go to regional school-leaver candidates; however, these candidates are usually known to the organisation and have access to long-standing pastoral care on site (e.g., a family member or close friend).

What is apparent when speaking with industry and community representatives is that while there is more than one way to get into an apprenticeship or traineeship, the non-linear pathway is poorly understood. When assessing candidates for apprenticeships employers report attractive candidates typically hold a pre-apprenticeship in the relevant trade, often a relevant work history (this can range from general labouring, to working in hardware retail, to warehousing roles), and cultural value alignment with the organisation. One employer noted, for candidates who were unsuccessful at securing a place at school leaving age, the pathway to an apprenticeship involves requisite work experience in the 3-5 years post-school, and a demonstrated ability to commit to training. Working as a Trade Assistant is reported by industry as particularly advantageous, due to the opportunities for exposure to different trades and site life, leaving prospective learners informed about their chosen vocation.

An opportunity has also been identified by industry to connect with universities (particularly engineering departments) and advertise apprenticeships pathways to students lost through natural attrition. Whilst all exiting students will not be suitable as apprenticeship candidates, the proposal suggests a bridging program from university into an apprenticeship pathway (or other VET pathway such as a Diploma) might be beneficial.

Graduate and vacation programs

Graduate and vacation programs provide another formalised entry point for the resources sector. These programs enable individuals to get robust exposure to resources operations and begin developing professional networks. Eligibility and entry are often reserved for current university students or recent graduates.

As this project focused on VET pathways these programs were not discussed in detail in stakeholder interviews and are mentioned in this report in the context of youth entry points. Further analysis of these programs and their role in the talent pipeline warrants investigation in a broader study.

Opportunities to better connect school-leaver pathways

Careers awareness and pathways visibility campaign

As noted, due to requisite age and skill requirements, pathways into the resources sector outside of direct program entry are complex and largely hidden from public view. Consequently, there is a disconnect between school-leavers and entry-level industry positions. The risk for the resources sector is preferred youth candidates are absorbed by other industries during this 'work readiness' period and cannot be attracted back, impacting the pipeline available to the resources sector. An opportunity to identify and highlight career pathways through the sector is apparent, this includes highlighting pathways to direct employment and an apprenticeship / traineeship.

Mechanisms to achieve this goal could include case studies and career video stories which emphasize not only the occupations individuals hold in the sector, but the employment and training pathway, or other repository information which could be passed on to schools, career advisors, and other stakeholders influencing student career choice. Other options could include utilising VET in Schools to clarify VET pathways for school-leavers and parents.

Bridging program from school to industry for Under 25s

To improve the connectivity of young people under 25 years old with the resources sector, an opportunity has been identified for a bridging program. This program could ensure continuity of training and sector engagement whilst transitioning to sector employment and developing their own personal identity. The length and scope of any program would need to be determined by industry, and a program like the Mining Ready Skill Set proposal could be considered. To effectively embed work and site readiness, the program could include sector value and cultural alignment, including safety values and appropriate workplace behaviours (e.g., ensuring your location is always known to supervisory staff).

CONCLUDING REMARKS

The barriers facing both industry and school-leavers in participating in VET in Schools and offering employment to school-leavers are multiple, complex, and substantial. Industry has duty of care to all employees within their workplaces and it is important that is appropriately managed.

High-level **conclusions** are as follows:

- There is a high demand for pre-apprenticeships, apprenticeships, and traineeships (usually oversubscribed), with these programs also being highly valued by industry.
- Industry participation in VET in Schools is variable due to the barriers outlined in this report. Regional areas and companies with off-site workshops are better placed to accommodate school-based learners and directly employ school-leavers.
- Industry is heavily involved in school partnerships and careers events, with at least 60 programs currently in place, however, careers awareness problems continue to be reported. Evidence suggests this may be less from a lack of resources, and more from knowledge gaps of what's available to both schools and industry, and any associated uptake.
- Successful school programs are often based on the actions and ambitions of an individual rather than an organisation. Staff turnover in all areas (industry, schools, training providers) can have negative consequences for program continuity and stakeholder engagement.
- When resources occupations are broken down into their requisite tasks by industry, the underlying competency requirements are high and often supported by years in the workforce. This impacts the potential to employ school-leavers, with consistent messaging from industry indicating school-leavers are largely not ready for site-based roles, and a broader site-readiness gap exists between the Certificate II and Certificate III qualifications.

Opportunities re-stated include:

1. Resources sector 'taster' program
2. Resources sector micro-credential
3. Implement a fully funded VET in Schools program for the resources sector
4. Careers awareness and pathways visibility campaign
5. Bridging program from school to industry for Under 25s

Recommendations

To support both industry and young people in furthering a sustainable talent pipeline between school leavers and industry **six recommendations** have been identified as below.

1	Develop a toolkit of mentoring resources to support industry hosting school-based learners	Targeting VET in Schools participation
2	Support CTF in expanding their Construction Futures Centre to include a resources sector experience	Targeting career awareness
3	Develop a centralised repository of existing learning and career resources which can be drawn upon by schools and industry	Targeting career awareness
4	Support the professional development of schoolteachers to better understand sector jobs and career pathways. May include forums hosted by RITC.	Targeting career awareness
5	Develop a bridging program from school to industry for Under 25s. May include a 'resources-ready skill set'.	Targeting site readiness
6	Develop a mentoring and leadership program for industry to support site readiness in new workers. Underpinning requirement to better understand generation gaps in motivations and behaviours.	Targeting site readiness

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