Vocational Education and Training and the Development of Safe Workers

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Abstract

Vocational Education and Training (VET) plays a significant role in the development of work ready individuals and a significant component of a work readiness is the ability to undertake work in a safe manner. This discussion paper aims to outline the various roles played by stakeholders in the VET sector in shaping the development of "safe workers" and increasing the effectiveness of training provided by the VET sector, particularly related to licenced outcome training. The discussion investigates methods to manage and integrate stakeholder expectations and requirements across the various contributors to the training and assessment processes. Current practices are noted and considered with an identification of potential gaps, particularly in stakeholder communication and knowledge, including the dissemination of relevant information. Issues related to the complexity created where the training and assessment practices are regulated by multiple regulators are highlighted as a primary focus of the study. The paper concludes by proposing establishment of an independent group of technical experts across the range of applicable regulations requirements to provide authoritative support to the VET sector.

Keywords

Vocational, Education, Training, Health, Safety, Occupational Health and Safety, Safety Regulation, Technical Training, High Risk Work, Stakeholder Management

1. Introduction

This paper firstly establishes the clear need for effective training and assessment related to health and safety in the VET sector and follows with an examination of current delivery practices. This examination leads to a discussion of the potential barriers to system effectiveness and concludes with a range of recom-

mendations aimed at not only increasing training and assessment effectiveness in this area, but also reducing the number of workplace injuries and fatalities. As such, this paper embraces the Australian Work Health and Safety Strategy 2012-2022 (Safe Work Australia, 2018b) notion that effective work health and safety training should occur at school, during vocational and higher education, at the time of induction, and in the workplace.

2. Method

This study employed an interpretive approach which is based on a qualitative research paradigm utilising a critical approach as the aim is to provide a grounding for change rather than developing a means of control and prediction that occurs with empirical research. The interpretive approach is one in which the researcher uses their skills to understand the subjective worlds of others and the critical approach aims to improve the quality of human life through social action, as noted by Connole (in Smith et al., 1990). This is a similar notion as advocated by Eisner (1985: p 154) in his discussion on the use of qualitative forms of evaluation for improving educational practice. It outlines the role of the researcher using this methodology as:

"The critic's task is neither to use the work as a stimulus for psychological projection, nor is it to be the subject of judicial pronouncements. The function of the critic is to illuminate, to enable others to experience what they have missed".

Qualitative research methodology, therefore, allows inquirers to emphasis the importance of context in understanding and the historical conditions within which events and situations occur (Eisner, 1985). Moreover, as argued by Eisner (1985), qualitative methods occur such that pieces of an event or situation cannot be understood apart from the whole in which they participate. Alvermann and Mallozzi (2010) suggest that researchers using an interpretive approach aim to uncover meaning toward a better understanding of the issues involved.

The method, then, allows the study to subjectively, whilst maintaining credibility and validity, provide new interpretations of current knowledge and beliefs thus initiating improved practice. For this to occur, the researcher commenced by laying a foundation through literature of published research related to current practices in training and assessment of health and safety components, whether integrated or explicit, utilised in the VET sector in preparing participants for job readiness, noting that some units of competence have been designed to explicitly and discreetly address health and safety where other units include health and safety. As an example, an explicit unit is TLIF1001 Follow work health and safety procedures, whereby the focus of the unit is "skills and knowledge required to follow and apply work health and safety (WHS)/occupational health and safety (OHS) procedures when carrying out work activities in compliance with the relevant WHS/OHS regulations and procedures" (Australian Government, 2020a). On the other hand, a unit such as TLIA1001 Secure cargo, integrates health and

safety requirements as the focus is on "skills and knowledge required to secure cargo in accordance with procedures and regulatory requirements as part of work activities within the transport and logistics industry" (Australian Government, 2020b) rather than specifically health and safety. Health and safety requirements are integrated into the activity of securing cargo.

The literature review was then interpreted by the researcher and discussed in terms of the findings presented here with an aim to persuade and enlighten readers through rhetorical argument.

The interpretive research approach as presented by Eisner (1985: p 182) suggests that:

"Educational criticism typically takes the form of a written document whose aim is to help others see, understand, and appreciate the quality of educational practice and its consequences".

Eisner (1985) also informs that the written document produced as a result of a research activity has three aspects, namely, descriptive, interpretive, and dealing with the task of making value judgements about the educational merits of what was described and interpreted. The first of these aspects is addressed within this research by presenting direct quotations and referencing work writers in relevant areas by means of literature review. The use of literature review allows formation of a propositional description of the characteristics of the situation about which the criticism is written. The following aspect, that of interpretation, is one in which educational critics account for the interactions they perceive in educational situations (Eisner, 1985). In order to facilitate this aspect, the paper attempts to make links between presented theory and the activities currently practiced, again, as derived from relevant literature. The third aspect of educational criticism presented by Eisner (1985) is related to discerning the educational value of the perception of the events which are addressed by applying a methodology suitable to the research and accepted within the norm of educational research.

The method utilised allows the study to apply a qualitative paradigm to a social situation, which cannot be delineated into simple variables that can be manipulated. As such, the method focuses on providing a ground for change rather than a means of control and prediction and the role of the interpretive research in this study is to describe a social situation through convincing argument based on an interpretation of other researcher's expositions. These expositions are used to outline health and safety knowledge and skills, and their application in the workplace, as a fundamental tenement of work readiness.

3. Discussion

3.1. Training Framework and Regulation

In Australia, the Vocational Education and Training (VET) sector delivers workplace-specific skills and knowledge and covers a wide range of careers and industries, including trade and office work, retail, hospitality and technology.

VET training providers deliver programs to those joining the workforce for the first time, re-joining the workforce after a break, upgrading skills in their chosen field and moving into a different career. The system provides many options for training, including taking place in classrooms, workplaces and online, and allowing individual units or full qualifications to be undertaken. Health and safety are key components within the programs delivered by the sector, particularly given that competent application of work specific skills and knowledge includes applying them in a safe manner.

Within the VET sector, health and safety training and assessment are regulated by the Australian Skills Quality Authority (ASQA) and other authorities such as state and territory health and safety regulators and Safe Work Australia. ASQA manages the registration of VET and English language course providers who wish to offer courses to overseas students studying in Australia. Training providers who only offer courses in Victoria or Western Australia, and who do not intend to enroll overseas students, can register with their relevant state regulator instead.

ASQA regulates training providers against the VET Quality Framework and has no jurisdiction over regulatory requirements of other authorities (Australian Skills Quality Authority, 2019a). Similarly, other authorities such as state and territory health and safety regulators or Work Safe Australia do not have the authority to mandate requirements for delivery of nationally recognised training. However, these authorities may refuse to recognise qualifications or statements of attainment which have been issued by providers that do not meet their standards. Providers that come under the jurisdiction of multiple industry regulators may need to comply with multiple requirements.

The Victorian Registration and Qualifications Authority (VRQA) and the Western Australian Training Accreditation Council (WATAC) are the regulators in these states, for those RTOs not under ASQA regulation. VET regulators, national or state, register training organisations and monitor their performance against the RTO Standards (Standards for Registered Training Organisations, 2015).

The nationally recognised VET system is based on the use of training packages and accredited courses. Training packages define the skills and knowledge needed by learners to perform a job by specifying units of competency, qualification packaging requirements and assessment guidelines. They do not specify how to train learners. Skills Service Organisations (SSOs) develop training packages to meet the training needs of an industry or a group of industries and ASQA ensures that training providers are ready to deliver, or are delivering, training and assessment that meets training package requirements (Australian Skills Quality Authority, 2020b). SSOs develop the training packages and certify them through extensive research and consultation with industry stakeholders, which can include health and safety regulators, industry or professional associations, unions and Registered Training Organisations (RTOs). The Australian

Government and state and territory governments then endorse the training packages, approving them for use throughout Australia. In some cases, such as licenced outcome units of competency, these are regulated by multiple regulators who each ensure that the training and assessment conducted by RTOs meets both training package requirements and specific legislative requirements.

In the current framework, RTOs are required to meet the requirements of multiple regulators which may cause confusion and potentially conflict of objectives, as imposed by the various regulators. Smith et al. (2017), cited in Griffin (2017) found that RTOs act as "navigators" of the VET system, helping employers to identify their needs and the possible ways of meeting them. In doing so, RTOs are required to decipher the particular requirements of a range of stakeholders that prescribe their practices.

3.2. Work Related Injuries and Fatalities

Safe Work Australia produces several reports that provide information on the circumstances of work-related deaths in Australia (Safe Work Australia, 2019a).

The work-related traumatic injury fatalities data provides statistics about people who die each year from injuries caused by work-related activity. It includes fatalities that result from an injury sustained in the course of a work activity (worker fatality) and as a result of someone else's work activity (bystander fatality).

As at 21 November, 2019, there have been 144 Australian workers killed at work in 2019. In 2018, 144 Australian workers were fatally injured while working, compared with 189 workers in 2017.

The number of worker deaths listed in Table 1 below, ranked in descending order, and then on alphabetical order for industries with no fatalities, is based mainly on initial media reports and is a preliminary estimate of the number of people killed while working. Once the appropriate authority has investigated the death, more accurate information becomes available from which Safe Work Australia updates details of the incident. Updated information is used to publish Safe Work Australia's annual Work-related Traumatic Injury Fatalities report which includes finalised work-related fatalities from 2003 onwards.

Safe Work Australia (2019b) further breaks down these numbers with grouping by age, industry, occupation and state/territory.

As an example, Safe Work Australia (2019b), tabulate: (Table 2)

Safe Work Australia (2019b) outlines workers aged between 45 - 54 years old have accounted for the highest number (820) of fatalities in the past 16 years and further note that in 2018:

- 35% (51) of workers killed were employed as machinery operators and drivers
- 25% (36) of workers killed were labourers
- 19% (27) of workers killed were technicians and trades workers
- 11% (16) of workers killed were mangers.

This indicates a significant need for health and safety training as a focus in machinery operation, such as heavy vehicle, mobile plant and agricultural equipment. This is further supported by the number of fatalities by industry (Safe Work Australia, 2019c): (Table 3).

Showing the main industry areas where fatalities occur as Agriculture, Forestry & Fishing and Transport, Postal and Warehousing.

Safe Work Australia (2019d) statistics related to workplace injuries highlight injury and musculoskeletal disorders led to 90% of serious claims in 2014-2015, with the most common traumatic joint/ligament and muscle/tendon injuries (almost 45%). The following identifies the number and nature of workplace injuries over that period: (Table 4)

Table 1. Preliminary worker deaths by industry of workplace, Year-to-date 2019 (November 2019).

Industry of workplace	Preliminary worker deaths year-to-date, 21 November 2018	Preliminary worker deaths year-to-date, 21 November 2019
Transport, postal & warehousing	40	54
Agriculture, forestry & fishing	32	30
Construction	25	21
Mining	9	8
Electricity, gas, water & waste services	3	6
Manufacturing	9	6
Public administration & safety	4	6
Other services	0	5
Arts & recreation services	1	3
Wholesale trade	2	2
Professional, scientific & technical services	0	2
Administrative & support services	1	1
Health care & social assistance	1	0
Retail trade	1	0
Rental, hiring & real estate services	1	0
Accommodation & food services	0	0
Education & training	0	0
Financial & insurance services	0	0
Information media & telecommunications	0	0
Total worker deaths	129	144

Table 2. Worker fatalities: number by age group, 2014 to 2018.

Age group	2014	2015	2016	2017	2018	5 year total (2014-2018)
Under 25	22	17	16	16	19	90
25 - 34	33	39	33	32	24	161
35 - 44	28	28	24	33	25	138
45 - 54	45	50	39	36	27	197
55 - 64	38	42	48	48	31	207
65 & over	31	36	26	24	18	135
Total	197	212	186	189	144	928

Table 3. Worker fatalities: number of fatalities and fatality rate by industry of employer, 2018.

Industry of employer	Number of fatalities	Fatality rate (fatalities per 100,000 workers)
Agriculture, forestry & fishing	37	11.2
Transport, postal & warehousing	38	5.9
Mining	9	3.7
Construction	24	2.0
Electricity, gas, water & waste services	3	2.0
Manufacturing	13	1.4
Wholesale trade	3	0.8
Rental, hiring & real estate services	2	0.9
Information media & telecommunications	2	0.9
Arts & recreation services	2	0.8
Administrative & support services	3	0.7
Other services	2	0.4
Public administration & safety	3	0.4
Accommodation & food services	1	0.1
Education & training	1	0.1
Health care & social assistance	1	0.1
Retail trade	0	0.0
Professional, scientific & technical services	0	0.0
Financial & insurance services	0	0.0
Total	144	1.1

Table 4. Number and percentage of serious claims by nature of injury or disease and sex, 2014-15.

Nature of injury or disease	Number of serious claims			Percentage of serious claims		
	Male	Female	Total	Male	Female	Total
Injury and musculoskeletal disorders						
Traumatic joint/ligament and muscle/tendon injury	29,510	17,490	47,005	42.9%	45.4%	43.8%
Musculoskeletal and connective tissue diseases	10,280	6885	17,170	14.9%	17.9%	16.0%
Wounds, lacerations, amputations and internal organ damage	12,010	3995	16,005	17.4%	10.4%	14.9%
Fractures	7335	3375	10,710	10.7%	8.8%	10.0%
Other injuries	1975	1005	2980	2.9%	2.6%	2.8%
Burn	1085	585	1670	1.6%	1.5%	1.6%
Intra cranial injuries	385	305	690	0.6%	0.8%	0.6%
Injury to nerves and spinal cord	105	40	150	0.2%	0.1%	0.1%
Total: Injury and musculoskeletal disorders	62,880	33,790	96,670	91.3%	87.7%	90.0%
Diseases						
Mental disorders	2520	3605	6130	3.7%	9.4%	5.7%
Digestive system diseases	2160	140	2300	3.1%	0.4%	2.1%
Nervous system and sense organ diseases	600	515	1110	0.9%	1.3%	1.0%
Skin and subcutaneous tissue diseases	305	125	430	0.4%	0.3%	0.4%
Other claims	185	105	290	0.3%	0.3%	0.3%
Infectious and parasitic diseases	170	120	290	0.2%	0.3%	0.3%
Respiratory system diseases	65	145	210	0.1%	0.4%	0.2%
Circulatory system diseases	65	30	95	0.1%	0.1%	0.1%
Other diseases	40	40	80	0.1%	0.1%	0.1%
Neoplasms (cancer)	35	5	35	0.0%	0.0%	0.0%
Total: Diseases	5955	4725	10,685	8.7%	12.3%	10.0%
Total: *Serious claims*	68,385	38,515	107,355	100%	100%	100%

The fatality and injury statistics, as noted by Safe Work Australia (2018a), identify priority industries have high numbers and rates of fatalities and/or injuries, or are by their nature hazardous:

1) Agriculture
2) Road transport
3) Manufacturing
4) Construction
5) Accommodation and food services

6) Public administration and safety, and

7) Health care and social assistance.

Industries such as Manufacturing, Accommodation and food services, Health care and social assistance and Public administration and safety have low fatality rates but are included as priority industries due to high non-fatal injury rates (Safe Work Australia, 2018a).

The five year average fatality rates for Agriculture (13.8 fatalities per 100,000 workers), Road Transport (13.5 fatalities per 100,000 workers) and Construction (2.9 fatalities per 100,000 workers) sit well above the rates for the remaining priority industries, as well as the fatality rate across all industries (1.5 fatalities per 100,000 workers). Given that these three industries have the highest rates of fatality, they can be seen as the highest risk occupational areas and will be the focus of this discussion. Safe Work Australia (2018a) recognises the large share of fatalities in the Agriculture, Road transport and Construction industries is not due to industry size, but due to disproportionately high fatality rates for these industries. The three identified areas are also those that are generally subject to multiple regulation and include high risk licencing or heavy vehicle licencing managed by state and territory regulators.

Over the period from 2014 to 2018, there were 179 worker fatalities in the Road transport industry, which accounts for 19 per cent of all worker fatalities over the period. The vast majority (169 fatalities; 94 per cent) occurred in the Road freight transport sub-division, with 10 fatalities in the Road passenger transport industry.

The majority of fatalities in the Road transport industry over the five years to 2018 were due to vehicle collisions—130 in the Road freight transport industry and seven in the Road passenger transport industry. Being hit by moving objects caused a further 14 fatalities in the Road freight transport industry.

This is confirmed by Worksafe Victoria (2019), who outline:

Of the 23 workplace fatalities last year [2018] -

- Seven were workers aged between 15 and 25, up from zero in the previous year.
- 21 occurred in regional Victoria and seven in metropolitan Melbourne.
- A 12-year-old boy run over by a tractor towing a spreading attachment on a farm near Leitchville was the youngest.
- The oldest was a 77-year-old man run over by a trailer at a property at Ouyen.
- Nine occurred in construction and eight on farms.
- Nine involved machine and mobile plant, including cranes, excavators, tractors, spreaders and trucks and three involved trench incidents, including two collapses.
- All but two were male.

The number of injuries and fatalities outlined above indicate a great potential for improvement to reduce the occurrences.

Safe Work Australia compiles the Work-related Traumatic Injury Fatalities data set. The data set provides national statistics on all workers and bystanders fatally injured at work (Safe Work Australia, 2020f). This data highlights the mechanisms most likely to cause injury and/or fatality in Australian workplaces, with vehicle collision to be the most likely, followed by being hit by moving objects. Safe Work Australia (2020f) outlines that in the context of this data, vehicle collisions include fatalities that occurred as a direct result of a vehicle crash. Vehicles include not only road vehicles such as cars and trucks, but also machines such as aircraft, boats, loaders, tractors and quad bikes. Other noted primary mechanisms include falls from a height, being hit by falling objects, being trapped between stationary and moving objects and being trapped by moving machinery. These types of accidents and incidents, in many cases, could be avoided by means of knowledge and skill application in the use of job safety analyses including training and competency for each task, identification specific hazard identification and risk assessments, duty of care obligations and legislation requirements.

3.3. Employer Obligations for Health and Safety Training

In Australia work health and safety is regulated by states and territories rather than by the Commonwealth of Australia. The Commonwealth regulates health and safety for its own employees. Each jurisdiction has its own regulatory body and model Work Health and Safety (WHS) laws have been implemented in the Australian Capital Territory, New South Wales, the Northern Territory, Queensland, South Australia, Tasmania and the Commonwealth. These have not been implemented in Victoria and Western Australia. Each State and Territory has a principal health and safety Act which sets out requirements for ensuring that workplaces are safe and healthy, commonly either Occupational Health and Safety Act (OHS) or Work Health and Safety Act.

Health and safety obligations of employers include a wide range of requirements to help ensure a safe work site. These include providing necessary health and safety instruction, supervision and training, ensuring all staff understand their roles and responsibilities, providing necessary protective gear and equipment, consulting with staff regarding decisions that impact workplace safety, maintaining a register of all workplace injuries and offering return to work programs for injured workers.

Creating a safe work environment is a legal requirement based on the legislative instruments in place (Australian Government, 2020c). There is also legal requirement to provide training in workplace health and safety, in order to assist in achieving the duty of care for the health, safety and welfare of employees (Australian Business and Consultation Solutions, 2019). This is contained in the principal WHS/OHS Act in each state of Australia and includes:

- undertake induction and workplace safety training for new workers
- train workers for the specific tasks they will have to perform

- commit to appropriate supervision of workers
- support regular refresher training.

There are also specific safety training requirements, which are prescribed in specific regulation provisions. These can include, but not limited to, first aid training, safety committee training where organisations have one, safety representative training where one is utilised, high risk plant operation training such as is covered by mandatory licencing, construction induction training, manual handling training, confined space entry training and hazardous substances training where workers handle chemicals in the workplace. Aside from these specific training requirements, there may be other aspects which employers will need to train their employees on, such as emergency evacuation procedures, using machine guarding, operation of machinery and tools, general safety induction, workstation ergonomic training, chemical awareness, risk assessments, and incident investigation.

Workplace health and safety training can include formal, non-formal and informal training. Misko (2008: p. 10) defines and discusses these terms, identifying formal training as referring to "learning in courses or programs leading to nationally and internationally recognised qualifications". Non-formal learning, on the other hand, refers to learning in structured programs designed to develop skills and knowledge required by workplaces, communities and individuals and that do not lead to nationally or internationally accredited formal qualifications. Informal learning, Misko advises, refers to "learning that is acquired through everyday work and life". Safe Work Australia (1996) outlines that there are basically four types of health and safety training courses available:

- licence or certificate courses
- accredited and approved courses
- short courses
- vocational and professional courses

Most health and safety training is provided by:

- employer organisations
- unions
- the health and safety organisation in the State or Territory or the Commonwealth sector
- TAFE colleges and universities
- private occupational health and safety consultants/trainers

There are a broad range of training options accessible to employers within the assortment of formal, non-formal and informal training available. As an example, employers can send their staff to the above listed organisations for training, training providers can provide workplace training and employers can also deliver training internally, or in-house. Given the diverse range of training programs and providers, there may be significant differences in the quality of training with variation consistency between those providing the training. Australian Skills Quality Authority (2020a) provides that:

"In a competency-based training environment, which is centred on demonstrated competence against industry-defined standards of performance rather than strict course durations, students aren't required to study for a specified number of weeks or months. Competency-based training is the concept that individuals learn at different rates as well as through different modes and different environments and that the skills and knowledge that a student has acquired previously are able to be formally recognised".

Many training programs are described as competency based. In a competency based training (CBT) program, people gain the skills and knowledge that they need to be able to perform their work. CBT programs are based on what people at work are expected to do and the standard of performance expected in the workplace (Commonwealth of Australia, 1996).

The VET system is based on a competency based model and promotes national consistency in standards, delivery and assessment. Competency specifications for nationally recognised programs are maintained in training.gov.au. Training.gov.au is the National Register on VET in Australia and is the authoritative source of Nationally Recognised Training (NRT) consisting of Training Packages, Qualifications, Units of competency, Accredited courses and Skill sets (Department of Employment, Skills, Small and Family Business, 2019).

In a competency based system, given the training delivery in different environments and to different cohorts, and that the training provider determines the program duration, there is variation from one provider's delivery to another. Likewise, there is a degree of variation created by training providers trying to interpret the requirements of various regulators and ways to implement these requirements. Training providers will integrate these factors into their training strategies in different ways, particularly when accounting for individual state or territory regulator requirements. As an example, the Strategic Industry Audit of Units of Competency that lead to High Risk Work Licences conducted by the Training Accreditation Council in 2016, found that the duration of training for High Risk Work Licence units varied between 15 and 40 hours amongst training providers delivering these units in Western Australia (Training Accreditation Council, 2016). They also found that 70% of RTOs were non-compliant with one or more of the standards audited, with a key finding stating (Training Accreditation Council, 2016: p. 9):

"The variability in the levels of compliance with the standards results in inconsistency in the quality of HRWL training outcomes and confirms industry concern about the lack of consistency in competencies of employees who have undertaken HRWL training".

3.4. High Risk Work Licencing

There are a range of high risk plant operated in the workplace that require focus. A high risk work licence allows individuals to work with certain high risk and plant equipment such as forklifts, cranes, scaffolding, rigging and pressure

equipment (Worksafe Victoria, 2020). High risk work licences are required for a number of high risk work operations including scaffolding, rigging, crane operations, elevating work platform, forklift, reach stacker, boiler operation, and steam turbine operation (Safe Work Australia, 2019e).

In order to operate these nominated plant, new applicants or those wishing to apply for an additional class to their licence, will need to complete training via an RTO, meeting the requirements of the associated unit of competence, and then pass the licence assessment using a mandatory National Assessment Instrument.

As an example, for an individual to be able to operate a slewing mobile crane with a Maximum Rated Capacity (MRC) up to 60 tonnes, the individual would need to firstly complete the unit "TLILIC0013 Licence to operate a slewing mobile crane (up to 60 tonnes)" and once deemed competent, satisfactorily complete the "Licence to operate a slewing mobile crane (up to 60 tonnes)" National Assessment Instrument. This arrangement profiles the dual regulation as regulated by both ASQA and state and territory health and safety regulators, as training and assessment provided by the RTO need to meet the requirements of both the unit of competency and the licence.

Safe Work Australia (2019e) outlines that operating cranes is complex and dangerous and workers must have the necessary skills and capabilities to do it safely. Every year there are injuries and deaths from work involving cranes:

- Between 2003–15 47 workers were killed in incidents involving cranes.
- On average there are around 240 serious injury claims every year.
- The most common causes of injuries are muscular stress while handling objects (21%), being hit by moving objects (16%), falls from a height (11%), being trapped between stationary and moving objects (8%) and being hit by falling objects (7%).
- The most common types of injuries are trauma to joints, ligaments muscles and tendons (41%), wounds, lacerations, amputations and internal organ damage (27%) and fractures (19%).
- The most common occupations involving crane incidents are machine and stationary plant drivers (29%), automotive engineering and trades workers (19%) and construction and mining labourers (12%).

These statistics highlight the high risk nature of plant operation and demonstrate need for licencing in their operation and use. They also highlight the need for effective training to reduce the incidence of injury and fatality. RTOs are responsible for the provision of the training. High risk work licencing is managed by state and territory health and safety regulators. Workers undertake licence testing using mandatory National Assessment Instruments that are produced and maintained by Safe Work Australia. Training for high risk work (HRW) licences is undertaken by RTOs and assessment for HRW licences is undertaken by accredited assessors approved by health and safety regulators. The system is designed in a way such that learners complete the unit of competency prior to undertaking licence testing and the delivery of the unit of competency must

meet the requirements of the training regulator, whether this be ASQA, VRQA or TAC, and the state or territory health and safety regulator.

The training and assessment standards for high risk work are defined by corresponding units of competence that have been developed by respective SSOs. As outlined by Workcover Queensland (2019), the RTO is responsible for issuing a statement of attainment. This requires an accredited assessor to undertake an assessment, using the mandatory assessment instrument.

Once the assessor advises the RTO that the person has satisfactorily completed the required assessment tools, the standard RTO quality procedures are used to confirm overall competency. Assessors are accredited under the WHS Regulation to undertake the assessments for the purposes of ensuring a person is competent to be issued with a licence. Both the RTO and accredited assessor have a responsibility to ensure that training and assessment occurs in accordance with their regulatory duties in applying the Standards for Registered Training Organisations 2015 and health and safety legislation. In Western Australia, for example, because registered High Risk Work Licence Assessors are registered to perform a legislative function, they are deemed to be public officers and must operate within the limits of the Public Service code of conduct and code of ethics (Training Accreditation Council, 2016).

Each stakeholder to the training and assessment process related to high risk licencing must remain informed of the others' process and ensure there are no gaps so that every trainee assessed as competent receives their licence from the health and safety regulator and a valid certification from the RTO.

The Strategic Industry Audit of Units of Competency that lead to High Risk Work Licences (Training Accreditation Council, 2016) noted that in many cases assessment practices, including assessment against the unit of competency and use of the mandated National Assessment Instruments, were not meeting requirements of the Standards for RTOs and legislative requirements underpinned by the Occupational Safety and Health Regulations 1996. Some of these non-compliances stemmed from confusion generated by multiple regulator requirements, such as assessments were not being conducted in accordance with the training package or unit of competency by training to the requirements of the National Assessment Instrument but not addressing the unit requirements, amending the National Assessment Instrument in violation of the guidelines for the administration of this assessment and incorrect use of the mandatory assessment tool.

3.5. Heavy Vehicle Licencing

A heavy vehicle licence is required to drive any heavy vehicle on a public road, with a heavy vehicle being defined by the in the Heavy Vehicle National Law (HVNL) as a vehicle that has a gross vehicle mass (GVM) or aggregate trailer mass (ATM) of more than 4.5 tonnes (National Heavy Vehicle Regulator, 2020a). Examples of such vehicles include semi-trailers, B-double freight trucks,

road trains, passenger buses, vehicle carriers, livestock and other agricultural vehicles. They can also include mobile cranes and other special purpose vehicles. The National Heavy Vehicle Regulator (NHVR) is the sole administrator of the heavy vehicle national law in Australia and is Australia's regulator for all heavy vehicles. The NHVR plays a role in licencing and training in that the vehicles and practices utilised must conform with the Heavy Vehicle National Law. Australian Capital Territory, New South Wales, Queensland, South Australia, Tasmania and Victoria passed a law that either adopts or duplicates the HVNL as a law of that State or Territory. Although the HVNL has not commenced in Western Australia or the Northern Territory at this time, the HVNL applies equally to vehicles from those jurisdictions when they cross into one of the states or territories where the HVNL applies. In some cases, drivers may also need to comply with certain aspects of the HVNL before they cross the border such as work diary requirements (National Heavy Vehicle Regulator, 2020b). Trainers and Assessors, despite delivering and assessing against nationally recognised units of competency, need to account for their state variation of the application of the HVNL.

Heavy vehicle licensing and procedures (e.g. training, tests and endorsements) are still administered by state and territory road authorities. There is significant variation between the states/territories as to how the licence testing is applied. As examples:

- In NSW, the primary way to obtain a heavy vehicle licence is to complete Heavy Vehicle Competency Based Assessment (HVCBA) with an RTO. In areas where HVCBA is not available, you can take a heavy vehicle driving test with a Roads and Maritime testing officer.
- In Northern Territory, for licence classes Light Rigid (LR), Medium Rigid (MR) and Heavy Rigid (HR) applicants may be required to pass a theory test at an Motor Vehicle Registry (MVR) office or through an approved training provider and for licence classes Heavy Combination (HC) and Mutli Combination (MC) applicants must go to an approved training provider to complete your articulated training course. Included is your theory knowledge test.
- In Victoria, heavy vehicle licence assessments are conducted by VicRoads Accredited Providers.

Where jurisdictions have a training requirement as a precursor to assessment and licence issue, in the majority of cases, this training is an approved industry course delivered via the VET sector (Austroads, 2018). The Transport and Logistics Industry Reference Committee and supporting Skills Service Organisation (Australian Industry Standards) are responsible for developing the units of competency that underpin heavy vehicle driver training.

Austroads (2018), the peak organisation of Australasian road transport and traffic agencies, acknowledges that despite substantive efforts to achieve harmonisation, much of which has been successful and is to be acknowledged, there

remains considerable variation in jurisdictional practice with regard to heavy vehicle licensing. This includes variations in standard or "normal" licence progression arrangements, differing approaches to exceptions to the standard progression approaches, reliance, or not, on practical on road testing as the key mechanism for assessing competence, requirement for training as a pre-requisite to undertaking an assessment of competence and insourced versus outsourced assessment arrangements.

The lack of consistent state/territory approach to licence testing leads to a variation in the training and assessment delivered nationally. This is confirmed by the Senate Standing Committee on Rural and Regional Affairs and Transport (2016), when they note "… issue of concern from the incident on the M5 freeway was allegations that an RTO called 'ACT' in Tweed Heads, New South Wales had certified at least 111 drivers as competent to drive heavy vehicles without testing them for the necessary skills. This included the driver of the vehicle on the M5 freeway who had his Queensland drivers licence upgraded to a heavy rigid drivers licence on the basis of his certificate of competency from ACT". This highlights the confusion that can arise where a training provider navigates their way through multiple regulator requirements and the fact that these vary from one state/territory to another on the basis that the licencing requirements differ.

Nationally recognised units of competency, such as TLILIC2016 Licence to drive a heavy rigid vehicle, outline the competency based requirements for a person undertaking the licence, however, state/territory systems and/or licence testing may not align to the units specifying the standard.

Austroads (2018) identify that ASQA auditors are unlikely to have any subject matter expertise in the training provided by the RTOs they review and that ASQA is wholly reliant on the approved training course specifying what is required to be delivered. This is based on the unit of competency requirements. Austroads (2018) continues to identify that ASQA does not look beyond what is documented to "intent" nor do they assess whether an approved training course is "fit for purpose".

ASQA assesses whether an RTO's training and assessment strategies are consistent with the requirements of the training product. They do not specifically check for compliance with other regulation, including transport regulation, although they will endeavour to make relevant regulators aware of any evident breaches so they may address them. This creates a situation where compliance requirements of one regulator's requirements may remain unchecked. Likewise, a single regulator is unable to determine full compliance of a training product's utilisation as they may not be fully aware of all the stakeholder requirements.

3.6. Quality of Training and Assessment

Bowmen and McKenna (2016: p. 19) outline that "the purpose of developing national frameworks for VET products has been to ensure consistent training out-

comes, so that individuals and enterprises do not face barriers in undertaking or benefiting from training when moving between jurisdictions, qualifications or jobs". This as a cornerstone of the Australian VET system, is not the current situation where there are a range of state/territory regulator requirements applied to a range of units of competency. Consistency in training outcomes to a required standard may be perceived as an attribute of quality and a lack of consistency in a training system may be seen to impact the overall quality of the services provided by that system.

Griffin (2017) notes that quality is as much subjectively in the "eye of the beholder" as it is objectively assessed through hard data, measures and surveys. Griffin considers the perspectives of five key stakeholder groups: learners, employers/industry, providers, government and regulators. For each of these groups, Griffin (2017) considers: what is important in regards to the VET system; what constitutes and promotes a good-quality VET system; and what are the enablers and barriers to having a system that meets their expectations. Griffin goes on to identify that quality is context- and purpose-specific and means different things to the five stakeholder groups and outlines that for students it is obtaining skills to get a job, or a better job; for employers it is staff with workplace skills; for providers it is optimal outcomes for all clients, along with provider reputation and viability; and for regulators it is all providers meeting and exceeding national standards. The common ground for all, including for governments and funders, is that learners are provided with the skills they are training for.

From this perspective, the quality of health and safety training and assessment in the VET sector is measured to different criteria dependent on the stakeholder. Griffin (2017) confirms that these multiple perspectives on quality operate at differing levels—at the training program, at employment outcomes and at higher systemic levels. The various benchmarks applied by the range of stakeholders make it very difficult for all stakeholders to ensure that the learners are provided with the skills they are training for. Industry employing new graduates cannot be sure of the quality of training received as it is often not clear which stakeholder's requirements received priority.

An example of this disparity is the strategic review undertaken by ASQA into the training and assessment of the Construction Industry Induction Card. ASQA initiated this review in November 2012 in response to persistent stakeholder concerns about the quality of training in the unit of competency "CPCCOHS1001A Work safely in the construction industry", also known as the "White Card" (Australian Skills Quality Authority, 2019b). This is a mandatory entry-level unit for people seeking to work on construction sites in Australia. The review was initiated based on concerns raised by industry indicating that people issued White Cards may not actually have achieved the introductory knowledge and skills to work safely on construction sites. In this review, ASQA sought the views of stakeholders including employers, unions, state and territory health and safety regulators and RTOs.

The review found that Industry has lost confidence in White Card's value to assure workplace safety assurance for new entrants to the construction industry. They also found the majority of training providers audited were not compliant with the standard relating to assessment practices and that there is great variety in state requirements for work health and safety regulation. ASQA concluded that a more consistent national approach to work health and safety regulation in terms of General Construction Induction training was required. This observation can be applied to many programs currently delivered in the VET system including those priority areas where significant injuries and fatalities are noted, such as agriculture and transport. This notion is consistent with the findings of the "Strategic Industry Audit of Units of Competency that lead to High Risk Work Licences" conducted by the Training Accreditation Council, as discussed earlier.

RTOs may focus on meeting the requirements of the health and safety regulator at the expense of the quality expectations imposed by ASQA, or meet both ASQA requirements and health and safety requirements and fail to meet industry expectations. Griffin (2017) postulates that measuring quality is deceptively difficult in that it does not simply involve interpretation of data and measures to produce widely available and understood market intelligence. Based on experience and perception, quality is also highly subjective and either drives or erodes reputation and overall trust, at all levels.

Sweeney (2017), cited in Griffin (2017), outlines that the VET information landscape is complicated and could be overwhelming, a context compounded by inconsistencies and questions over the credibility of sources. This confusion could arise from multiple stakeholder control within the VET sector and creates situation such as noted related to the delivery and assessment of White Card. Griffin (2017) states that it is reasonable to conclude that uncertainty about the quality of assessment, and a consequential lack of confidence that graduates have the skills for which they have been certified, is a barrier to employers being assured of work-ready graduates.

The disparity between the regulators in the VET sector, as applicable to heavy vehicle licencing and high risk work licencing for example, leads to a lack of holistic guidance to RTOs and ultimately industry and workers. Austroads (2018) recognise that dual regulation creates tension for outsourced providers and is increasingly moving away from the principal underpinnings of the National Heavy Vehicle Driver Competency Framework.

In 2008, transport ministers agreed that heavy vehicle reforms should deliver a consistent approach to assessment. Following on from the ministerial agreement, the National Heavy Vehicle Driver Competency Working Group (NHVDC Working Group) was established as a project team under the sponsorship of Austroads and 2009, the National Heavy Vehicle Driver Competency Framework was developed (Parliament of Australia, 2017). The framework aimed to: define eligibility criteria consistently across all Australian jurisdictions;

integrate the skills set for each class of heavy vehicle drivers' licence into the VET Transport and Logistics Industry Training Package; define roles of commercial service providers (including registered training organisations (RTOs)) administering final competency assessments as a matter of preference and licensing authorities administering final competency assessments only where administration by RTOs is not practical, such as in remote areas; and state and territory licensing authorities implementing the framework consistently, confining jurisdictional variations to back-office systems. This framework is not currently nationally applied and jurisdictional variation still applies. The Rural and Regional Affairs and Transport References Committee (Parliament of Australia, 2017) identified that the quality of heavy vehicle instructors and assessors in Australia varies greatly, with some lacking practical industry experience, due to inconsistent requirements jurisdictional variation. RTOs attempting to meet the requirements of a range of regulators can inadvertently create quality issues given that they are left to interpret the overlap and gaps in the requirements themselves.

Whilst research by Bahn and Barratt-Pugh (2012) finds that due to the variety of training providers, the multiple levels of skills taught and the different delivery modes, evaluating the impact of training on organisational safety cultures is complex and difficult, it is reasonable to note that inadequate training and assessment can have a negative health and safety impact.

3.7. Effectiveness of VET Sector Safety Training and Assessment

Hale, Borys and Adams (2013) highlight that where two or more agencies regulate the same activity of a company, those regulations may overlap and even conflict. Aagard (2011) postulates that overlapping jurisdictions need not cause problems if the overlap is explicitly managed by the two agencies. The agencies can resolve inconsistencies in regulations, systematize regulation and its implementation, and remove gaps both in rule making and in inspection practice by collaborating explicitly. Aagard identifies that the need for explicit collaboration in order for this to effectively address gaps and differences amongst regulators and stakeholders. Hale et al. (2013) explains that an explicit mandate to manage the boundaries can reduce conflict between agencies and notes that this is harder when there are larger numbers of rules. Hale et al. (2013) accordingly state "the regulator is as human as the regulated and will have difficulty processing large and complex sets of information about rules and regulated entities". The difficulty in managing the complex requirements of multiple regulators for an RTO can then lead to compromise in the quality of the training and assessment provided.

To decide whether a person is competent, Assessors need a set of criteria or benchmarks against which to assess candidate's competencies (Department of Training and Workforce Development, 2016). In the VET sector, national competency standards, the smallest of which is a unit of competency, are the usual

benchmarks against which a learner is assessed. Other benchmarks might include assessment criteria or evidence requirements from accredited courses, the requirements of international or Australian standards, and organisational benchmarks such as operating procedures, health and safety standards and product specifications. It can be difficult to navigate through all of these various, and sometimes conflicting, requirements.

In the context of heavy vehicle licence training and assessment, Austroads (2018) outline that a training based approach to heavy vehicle driver skill development is recommended as a preferred approach, with the VET sector the best placed to offer this service with a caveat that Licensing regulators need to develop an ongoing active relationship with the Transport and Logistics Skills Service Organisation to ensure that the training courses reflect regulators' requirements. The development of specific training to skill trainers and assessors in licensing competencies and requirements as well as a program of assessment moderation is also necessary. This notion by Austroads is reflective of the requirement for collaborative approaches by stakeholders in order to develop an effective system of safety training in this regard.

The VET sector, and in turn, it's work ready graduates, would greatly benefit from the establishment of an independent organisation or collective with technical expertise in all stakeholder segment requirements, including those derived from the VET Quality Framework, state/territory Health and Safety regulations, employer obligations and industry and association requirements, to facilitate communication and understanding between the various stakeholders. Such a body would be able to provide holistic guidance to all stakeholders and ensure consistency in the provision of health and safety training and assessment with a purpose to creating workers that are focused on workplace safety and ultimately reducing the occurrence of workplace incidents and fatalities. The independent organisation would not act as a regulator but rather provide an authoritative support structure to VET Sector stakeholders. The organisation would be positioned to summarise the key regulatory issues of each regulator and define the ways in which they interact and potentially conflict. This support could be provided in a similar way that a Training Consultant does to an RTO, and could provide the expertise to guide RTOs through the complexities created in multiple regulator environments with a view to reducing the levels of non-compliance against the various requirements with consistent and correct advice. This would result for improved training quality and subsequently improved workplace safety.

4. Conclusion

Structuring training and assessment activities to meet training package requirements can be a complicated and confusing task. The complexity of training and assessment activities is increased where the training and assessment practices are regulated by multiple regulators. Multiple regulators are often involved where

there are licenced outcomes attached to units of competency. Each of the regulators applies their requirements to the training and assessment activity and RTO's are tasked with interpreting these requirements. They then formalise these into training and assessment systems based on their interpretation. The distinction between the various regulatory requirements may not be clear in some cases and as such, RTO misconceptions can tarnish their practices. Jurisdictional variation also creates an additional opportunity for difficulty in developing training and assessment tools and strategies. RTOs will significantly benefit from any assistance they can be provided with in this regard.

Confusion in a training system can lead to inadequate training which can ultimately result in health and safety issues in workplaces. Any contributions into a more effective training system, especially related to high risk work, are well valued and should be considered to be mandatory.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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