

VET and higher education pathways – do outcomes differ for the same occupation?

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About the research

VET and higher education pathways – do outcomes differ for the same occupation?

Bridget Wibrow, NCVET

In many occupations there has been a trend towards requiring an entry-level qualification where a qualification was previously not required for the occupation. For various other occupations, the type of qualification needed has changed to one of a higher level. Does this so-called 'credential creep' impact on the outcomes for individuals who choose a vocational education and training (VET) pathway as opposed to a higher education pathway?

Using data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey and interviews with employers in four occupations – childcare workers, surveyors, graphic designers and medical laboratory technicians – this research explores whether individuals with VET qualifications and those with higher education qualifications employed in the same occupations are undertaking the same tasks and receiving the same job outcomes, such as salary and career pathways.

Key messages

- Overall, VET- and higher education-qualified individuals in the same occupation undertake the same tasks and receive the same salary initially (with the exception of childcare workers), but over time their differing qualifications lead to different job outcomes and career pathways. Higher education qualifications tend to lead to higher pay, more autonomy, supervisory responsibilities and more opportunities for career progression.
- Employers actively recruit for and employ both VET- and higher education-qualified individuals. When assessing candidates for positions, experience, skills and fit with the company are often more important than the qualification.
- Due to their technical nature, VET qualifications enable new workers to 'hit the ground running' when entering occupations compared with those with higher education qualifications. VET graduates have more experience in using tools, equipment and software in their courses.
- Receiving credit for VET qualifications and workplace experience when transitioning to a degree is important in creating pathways from VET to higher education to assist individuals to build upon previous study and transition to higher-skilled occupations, and support lifelong learning.
- Enhanced and more accurate career guidance is needed to enable people to better understand the qualifications required for an occupation and the pathways available to them. This will help individuals such as those starting their careers, those transitioning between occupations and those engaging in lifelong learning to make more informed choices.

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Contents



Executive summary	7
Introduction	9
Method	9
Findings from HILDA analysis	11
Findings from employer interviews	14
Employer views on the qualifications	14
The jobs and tasks of VET- and higher education-qualified workers	15
Influence of qualification level on recruitment process	16
Similarities and differences in job outcomes for VET- and higher education-qualified workers	16
Changes to VET qualifications	17
Views on integrated training	18
Other issues raised	19
Discussion	20
What does this all mean?	20
Advice for people choosing VET qualifications	20
Areas for improvement	21
References	22
Appendix A – Childcare workers (ANZSCO 421111)	23
Background on occupation	23
Key points from interviews	23
References	28
Appendix B – Surveyors (ANZSCO 232212)	29
Background on occupation	29
Key points from interviews	29
References	34
Appendix C – Graphic designers (ANZSCO 232411)	35
Background on occupation	35
Key points from interviews	35
References	39
Appendix D – Medical laboratory technicians (ANZSCO 311213)	40
Background on occupation	40
Key points from interviews	40
References	44

Tables and figures

Tables

1 Number of observations by occupation and qualification type

11



Executive summary

The education pathway required for some occupations is clear, for example, apprenticeships for most traditional trades. For other occupations, however, both vocational education and training (VET) and higher education qualification options may be available. This research is interested in finding out whether individuals who choose a VET pathway are undertaking the same tasks and roles and have the same job outcomes, such as salary and career opportunities, as individuals who follow a higher education pathway.

Previous Australian research has found that university degrees generally have greater positive impacts on income and employment status than VET qualifications but that in some instances VET qualifications may be better for males with lower Australian Tertiary Admission Rank (ATAR) scores (Marks 2018; Norton, Cherastidham & Mackey 2019). In the European context, on the other hand, it has been observed that VET graduates may sacrifice the long-term benefits of higher education in favour of the more immediate benefits of VET (Cedefop 2018). Furthermore, there has been a growing trend for individuals to possess a qualification to enter a job where one was previously not required, a phenomenon known as ‘credential creep’ (Karmel, Stanwick & Moore 2015). This current research takes a different perspective, in that it starts with the occupation and looks at whether the outcomes for both VET- and higher education-qualified workers are the same.

The first stage of the research explores data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey, which contains information on the educational and labour market activities for individuals over time. Through this analysis, the labour market outcomes of individuals who work in the same occupations can be compared – for those who have VET qualifications only; those with VET and higher education qualifications; or those holding higher education qualifications only. The occupations examined are at the Australian and New Zealand Standard Classification of Occupations (ANZSCO) 3-digit level, with an extended sample of some 2-digit occupations. Overall, the analysis finds that graduates with VET qualifications have similar rates of employment, including full-time employment, and levels of job satisfaction as those with higher education qualifications. However, VET graduates tend to have lower wages, fewer opportunities for career progression and less autonomy than higher education graduates.

The second stage of the research consists of 20 interviews with employers to investigate their perspectives on both VET and higher education qualifications as entry pathways to occupations, and the values they place on these qualifications. These interviews build upon the HILDA analysis to examine four specific occupations at the 6-digit ANZSCO level – childcare workers, surveyors, graphic designers and medical laboratory technicians – to provide an in-depth understanding of the outcomes of VET-qualified individuals and their higher education counterparts working in the same occupations. The key findings from the interviews indicate that: employers regularly hire both VET- and higher education-qualified people in the same occupations; VET graduates have more practical skills and are more job-ready in the short-term; and that, for most occupations, the job pathways of VET- and higher education-qualified workers differ.

Consolidating the findings from the two stages, it can be concluded that VET- and higher education-qualified individuals in the same occupation initially do the same jobs and tasks and receive the same salary, but that their job outcomes and career pathways alter over time, with the exception of childcare workers, where there are differences in some tasks, salary and outcomes from the beginning. While VET qualifications produce more job-ready graduates (that is, they know how to use tools and equipment), higher education qualifications tend to lead to higher pay, more autonomy, supervisory responsibilities,

and more opportunities for career progression. One reason for the differences in job outcomes and career pathways is the longer duration of a degree course and its ability to build additional skills and knowledge in areas such as management, research and underlying theories.

Because of this, pathways from VET to higher education, which include credit for VET qualifications and experience in the workplace, are essential to enabling people to move between sectors, to build on previous study and to undertake lifelong learning. Furthermore, flexible study options – allowing individuals with VET qualifications to undertake degrees while working in industry – are important. It should also be noted that, for those who do not aspire to have supervisory responsibilities, there are opportunities to branch out in their occupation; for example, surveyors could move from engineering to mining surveying.

In addition, better and more accurate career guidance is needed to enable individuals to better understand the qualifications required for an occupation and the pathways available to them. This was a common theme across all occupations examined during the employer interviews. The information relating to qualifications currently on career websites could be improved by updating the content; this could be achieved by engaging with industry to ensure that it reflects the constantly evolving and emerging occupations. Up-to-date websites will help those looking to start their careers, those transitioning between occupations and those engaging in lifelong learning to make more informed choices.

Introduction

There is growing recognition that more occupations now require qualifications for entry than in the past, known as credential creep. Previous research by Karmel, Stanwick and Moore (2015) explored how the type of job an individual could get differed by education level over a 15-year period. They found that a higher proportion of individuals in 2011 either had qualifications or qualifications at a higher level than they did in 1996. This trend towards qualifications being required to enter the labour market is likely to be ongoing, signalling that the impacts on VET qualifications as an entry to occupations and the outcomes for individuals need to be examined.

Further to this, much research has been undertaken on the labour market outcomes of VET and higher education qualifications for different cohorts of learners. Marks (2018) found that completion of university degrees has a strong positive impact on occupational status, hourly earnings, weekly earnings and employment status compared with the completion of a diploma, certificate IV and certificate III qualification and that these benefits are not weaker for lower-achieving students. However, Norton, Cherastidham and Mackey (2019) focused on students with lower ATARs and found that for males there are some vocational courses that would increase their employability and income compared with university courses, but that higher education is the better option for lower-ATAR female students. Furthermore, the European Centre for the Development of Vocational Training (Cedefop) found that across European countries, VET graduates are at risk of sacrificing the long-term benefits of higher education in favour of more immediate benefits (2018). However, do these outcomes for VET and higher education qualifications differ for individuals employed in the same occupation?

This report explores occupations that can be entered via either a VET qualification pathway or a higher education qualification pathway. It examines whether these individuals do the same job tasks and roles, whether there are differences in how well the qualifications prepare them for the role, and whether they have the same outcomes, such as salary and career pathways.

Method

The first stage of the project was an analysis of data from the HILDA¹ Survey. This survey contains panel data from 2001 on elements of economic and personal wellbeing, and also labour market dynamics and personal life. Importantly, for this study, it contains information for individuals over time on their educational and labour market activities.

The aim of this analysis is to compare labour market outcomes between individuals who work in the same occupations and who have VET qualifications only; or have VET and higher education qualifications; or have higher education qualifications only. The analysis presents results generally for occupations with this mix of graduates. The second-stage analysis examines specific occupations to gain a more nuanced understanding of the pathways of VET and higher education graduates within those occupations.

Note that not all occupations in the case studies for this second stage of this project are represented in the HILDA analysis. Nevertheless, the HILDA analysis represents a sample of occupations that do have a mix of VET and higher education qualifications (or both), as do the case studies, and the results should be seen in this context.

¹ See <https://melbourneinstitute.unimelb.edu.au/hilda>.

The full results of the HILDA analysis are contained in the supporting document, along with the technical details relating to derivations and the analysis.

The second stage of the project consisted of interviews with employers to explore their perspectives of VET and higher education qualifications as entry pathways to occupations and the value they place on these qualifications. Of the over 1000 occupations listed at the 6-digit level in the ANZSCO 2021 release², the interviews focused on four:

- Childcare workers (ANZSCO 421111)
- Surveyors (ANZSCO 232212)
- Graphic designers (ANZSCO 232411)
- Medical laboratory technicians (ANZSCO 311213).

These occupations were chosen because an analysis of content on Job Outlook³ indicated that people employed in these occupations could hold either a VET or higher education qualification. This was confirmed through conversations with the relevant industry peak bodies.

Twenty interviews were conducted with employers across these occupations during February 2022. These included five for childcare workers, six for surveyors, four for graphic designers and five for medical laboratory technicians. The interviews sought employers' views on the differences between the qualifications and how each prepared students for the occupations, as well as their knowledge of the occupational outcomes for individuals with VET qualifications compared with those with higher education qualifications, such as salary and career progression. This report synthesises the findings from the interviews across the four occupation groups. Detailed outcomes for each occupation can be found in the appendices.

Limitations and caveats

- For the purposes of this project, VET qualifications are defined as diploma and below and higher education qualifications as bachelor's degrees and above, which matched employers' views of the qualifications. There is, however, some overlap between the qualifications delivered by VET and higher education institutions.
- Only a small number of employers were interviewed for each occupation and while they provide a rich understanding of the occupations and the outcomes for both the VET- and higher education-qualified workers, the findings may not be generalisable to all employers.
- The majority of this research focuses on the occupations in isolation from the potential pathways to other occupations to which they may lead over time.

2 ANZSCO, Australian and New Zealand Standard Classification of Occupations, 2021, Australian Bureau of Statistics (abs.gov.au)

3 <<https://joboutlook.gov.au/>>.



Findings from the HILDA analysis

The analysis used HILDA wave 11 (in 2011) to derive the base sample for the analysis and included working-aged people, 25–56 years (aged 33–63 years in 2019, which is the last year they were tracked). Occupations for the sample were selected on the basis of their mix of workers with higher education and VET (or both) qualifications, with there needing to be at least 10 people in each qualification group to allow for adequate comparisons to be made. The occupations selected were at the 3-digit ANZSCO level, with an extended sample including some 2-digit occupations, which was constructed to test for the sensitivity of the results.

Twenty-four occupations were included in the main analysis group, with a further seven 2-digit occupations being included in the extended analysis (table 1).

Key points

- Within an occupation, graduates with VET qualifications have similar rates of employment, including full-time employment, as higher education graduates
- VET graduates have lower wages compared with those with higher education qualifications.
- They also hold jobs with less autonomy, more repetitiveness and fewer opportunities for new challenges

Table 1 Number of observations by occupation and qualification type

Occupation	Number of observations by qualification type		
	VET only	VET and higher education	Higher education only
<i>Main sample (3-digit ANZSCO)</i>			
Chief Executives, general managers and legislators	25	14	46
Advertising and sales managers	54	21	52
Business administration managers	34	29	73
Construction, distribution and production managers	96	16	35
Education, health and welfare services managers	11	32	31
ICT managers	13	12	24
Miscellaneous specialist managers	22	14	22
Miscellaneous hospitality, retail and service managers	50	11	20
Accountants, auditors and company secretaries	15	32	77
Financial brokers and dealers, and investment advisers	25	15	25
Human resource and training professionals	39	18	28
Information and organisation professionals	26	31	80
Architects, designers, planners and surveyors*	32	16	38
Engineering professionals	14	18	47
School teachers	49	121	195
Tertiary education teachers	19	19	38
Health diagnostic and promotion professionals	15	16	42
Midwifery and nursing professionals	23	48	113
Business and systems analysts, and programmers	16	12	64
Social and welfare professionals	23	32	58
Health and welfare support workers	107	21	12
Contract, program and project administrators	37	21	36
Miscellaneous clerical and administrative workers	53	13	20
Sales assistants and salespersons	131	13	23
Total	929	595	1 199

Occupation	Number of observations by qualification type		
	VET only	VET and higher education	Higher education only
<i>Extra occupations in extended sample (2-digit ANZSCO)</i>			
Hospitality, retail and service managers	118	12	21
Arts and media professionals	26	11	30
Design, engineering, science and transport professionals	21	19	76
ICT professionals	30	15	30
Carers and aides	233	14	26
Inquiry clerks and receptionists	110	11	28
Numerical clerks	144	17	30
Total	1 611	694	1 440

* Includes two of the case study occupations (surveyors and graphic designers).

Source: HILDA wave 11, respondents aged 25–56 with non-missing occupation information and a VET and/or a higher education qualification.

Linear regression models with ‘occupation fixed effects’ and ‘individual controls’⁴ were used to examine the differences between VET and higher education pathways along a number of outcome variables. The outcome variables included those related to their employment and labour force status, the characteristics of the job, and also job satisfaction. Individual controls in the model included gender, age, location, cultural background, parents’ highest level of education and employment/occupation status, and the ‘big 5’ personality traits – agreeableness, conscientiousness, emotional stability, extroversion, openness to experience.

The results examine differences between VET and higher education qualifications as overall groups, meaning, for example, that the analysis is unable to distinguish between the fields of study of VET or whether the VET study was part of an apprenticeship/traineeship or not. It is possible that those with higher-level VET courses (diploma) or those with an apprenticeship may have different relative outcomes from those in lower-level courses.

As noted, the support document contains a full analysis of the results (including charts and confidence intervals for the results) and technical details. The highlights of the results are presented here.

Results

Overall, within occupations, respondents with only VET, both VET and higher education, and only higher education qualifications have a number of similar labour market characteristics. These include:

- similar levels of employment, rates of casual employment and the same usual number of hours per week worked
- similar rates of full-time employment
- the likelihood of having more than one job
- to have undertaken training in the past 12 months
- similar annual and sick leave entitlements and take similar amounts of paid leave every year

4 Occupation fixed effects allow for the control of all drivers of occupation choice. Individual respondent controls are included; these affect the decision to obtain a VET or higher education qualification and may be correlated with outcomes. Further details are in the support document.

- similar estimates of their chance of losing or leaving their job in the following year.

However, the analysis also found that, within occupations, a number of labour market characteristics are different for respondents with a VET qualification by comparison with those with a higher education qualification. Respondents with both VET and higher education qualifications in the main do not differ from those with only higher education qualifications. Specifically, respondents with only a VET qualification (by comparison with a higher education qualification):

- more often have non-standard work schedules
- have lower wages
- have lower access to paid parental leave
- have fewer opportunities for career progression in terms of supervisory responsibilities and (insignificantly) lower yearly rates of promotions
- spend more time unemployed and looking for work overall.

In addition, findings differed between respondents holding only VET qualifications and those with only higher education qualifications on a number of factors related to job quality. This was less true for those with both VET and higher education qualifications. In particular, by comparison with those who have only higher education qualifications, respondents with only VET qualifications tend to have jobs:

- with less autonomy (for example, in deciding when to take a break; what to do at work; how to do their work; when to do work)
- that may be less interesting (that is, that include less variety of interesting things to do and more repetition)
- with fewer opportunities for new challenges (that is, to use initiative; undertake complex and difficult work; learn new skills).

No differences were found, however, in terms of using skills and abilities or experiencing stress. If anything, respondents with a VET qualification feel slightly less time pressure than respondents with a higher education qualification.

Despite these differences, respondents with VET qualifications are not less satisfied with their job than respondents with a higher education qualification. Specifically, they are:

- as satisfied with the flexibility to balance work and non-work commitments and with the work, the job security and the hours of work
- slightly less happy with the pay and the work opportunities but the differences are often statistically insignificant
- consistently not reporting wanting to work a different number of hours (either more or less) than those with a higher education qualification.

For respondents with both higher education and VET qualifications, the most relevant difference we find is that:

- They have shorter tenure in the occupation than respondents with only higher education qualifications (controlling for age and the number of years since they left full-time education).
- They do not, however, appear to have shorter tenures in their job (as compared with occupation).



Findings from employer interviews

The interviews with employers build upon and enrich the findings from the HILDA analysis, given that specific occupations at the 6-digit ANZSCO level were the focus rather than the more generalised 3- and 2-digit ANZSCO levels. This ensures that any comparisons between VET and higher education qualifications are drawn from the same occupation. The interviews also provide real-life examples of how these qualifications are valued in the workplace.

We were interested to determine employer perceptions of the differences between the qualification types; how qualification type influences recruitment; whether VET- and higher education-qualified people are actually doing the same jobs and tasks in these roles; and whether there are any differences in job outcomes for them, such as in pay, career progression and level of additional training required.

The in-depth findings for each of the four occupations – childcare workers, surveyors, graphic designers and medical laboratory technicians – can be found in the appendices.

Key points

- Employers regularly hire both VET and higher education-qualified people in the same occupations
- VET graduates have more practical skills and are often more job-ready in the short-term
- For most occupations, there are differences in the job pathways of VET and higher education-qualified workers

Employer views on the qualifications

Mandated or minimum qualifications

For two of the occupations examined – surveyors and graphic designers - there are no mandated or minimum qualifications to enter the field. On the other hand, childcare workers require a minimum qualification of a certificate III, while regulations specify that at least 50% of educators in a centre need to be diploma-qualified. Medical laboratory technicians also require a VET qualification, but interviewees differed as to whether this was at the certificate III, certificate IV or diploma level.

Main differences between VET and higher education qualifications

VET qualifications were seen by interviewees to be more practical in nature than higher education qualifications, in that they provided experience in using the tools and equipment needed in the occupation. For example, graphic designers would know how to use software; medical laboratory technicians and surveyors would know how to use tools or perform tests; and childcare workers had a good understanding of activities to do with children.

On the other hand, higher education qualifications provided in-depth theoretical knowledge and built the foundation for developing broader skills and knowledge, such as people management, presentation and business skills. Interviewees felt that the longer duration of higher education qualifications, typically four years, provided a more complete and well-rounded education.

- For example, in childcare the degree had more focus on the theory of child development and pedagogical knowledge; in surveying the degree provided knowledge on project management and legal requirements; and in graphic design there was more emphasis on art history, as well as research and thinking skills.
- Similarly, for medical laboratory technicians, degrees provided more theoretical knowledge of testing and analytical skills, but it was noted by interviewees that vast differences exist across medical

science degrees and that those approved by the Australian Institute of Medical Scientists (AIMS) are preferred.

Employer preference for qualification type

Employer preference for qualification type are differentiated by occupation.

- For medical laboratory technicians, a VET qualification is the preferred qualification, but employers have experienced difficulties finding people with the VET qualification. On the other hand, there is an oversupply of people with a science degree, so graduates use the medical laboratory technician role as a stepping stone to become a medical laboratory scientist.
- For childcare and surveying, where previously a qualification was not necessary, now at least a VET qualification is required. For childcare, this was seen as a necessary change, one that has provided better teaching and learning across centres.
- For graphic design, most interviewees stated that there is no preference for a particular qualification and that the portfolio held by an individual is more important.

Differences in the types of people who undertake VET qualifications compared with higher education qualifications

The main differences between the types of people who undertake VET qualifications and those who undertake higher education qualifications relate to academic ability and purpose. Interviewees felt that those who were less academically inclined or had less academic confidence tended to undertake a VET qualification. Those who undertake higher education have a greater sense of purpose, as they know what they want to do and what they want from a career, whereas others who undertake a VET qualification may have had this career suggested to them. For example, childcare is often recommended to girls leaving school who do not know what they want to do, or to mature-aged people if they have experience in raising their own children. People undertaking higher education were also viewed as having different aspirations from those undertaking VET and as having higher career expectations, based on pursuing their passion.

The jobs and tasks of VET- and higher education-qualified workers

All the organisations interviewed employed both VET- and higher education-qualified people in the occupations of interest. The ratio of VET-qualified to higher education-qualified differed by occupation: for childcare, the majority of educators were VET-qualified, ranging from 50% to 80%; for surveyors, those with VET qualifications ranged from 20% to 50%; in graphic design it was around 20%; and, for medical laboratory technicians, the percentage was not clear, but it was acknowledged that a higher education degree exceeds the requirements for the position. Most interviewees indicated that only a small number of employees would hold both VET and higher education qualifications in the field.

For the majority of the occupations, VET- and higher education-qualified workers were undertaking the same tasks and jobs, or there were minimal differences, as these were seen to be dependent on the position and not the qualification.

- In surveying, for example, VET- and higher education-qualified workers would mostly do the same jobs except in sign-off situations, when a licensed surveyor was needed. Becoming a licensed surveyor is a pathway only available to higher education-qualified surveyors, but not all higher education-qualified surveyors pursue this pathway.

- In childcare, on the other hand, a person with a VET qualification would generally not be undertaking the same jobs and tasks as an individual with a degree. They would work in the same teams and share some common tasks related to the care, education, safety and supervision of children, but those with higher education qualifications would have specific tasks related to leading and supporting pedagogical practice in their room and the centre.

Influence of qualification level on recruitment process

All employers interviewed tended to openly recruit for both VET- and higher education-qualified individuals and were likely to specify a VET qualification as a minimum in their advertising, except for graphic designers, who were unlikely to specify any qualification. The potential pathway of the specific position within the organisation may influence whether VET- or higher education-qualified candidates are preferred during recruitment.

- For example, if it is anticipated that a surveyor role may need to become a licensed surveyor in the future, then the employer will look for an individual with a higher education qualification.
- On the other hand, pathology providers preferred VET-qualified applicants as they have been trained for that specific role and tend to stay longer.

However, interviewees were also clear that the qualification level was not necessarily the most important aspect for consideration during the recruitment process. Experience, skills, the portfolio (for graphic designers), previous jobs, performance at interview, and team fit were often listed as important as, if not more so than, the qualification.

Similarities and differences in job outcomes for VET- and higher education-qualified workers

Interviewees were asked if they could identify any noticeable differences between the VET- and higher education-qualified people already employed in these occupations in their organisations. Those with VET qualifications were seen to have very good practical skills and were often able to ‘hit the ground running’ whereas those with higher education qualifications had a lot more theoretical knowledge but they may require more help initially with using tools etc. This deficiency in relation to higher education-qualified people was only a short-term issue, whereas the knowledge gap often persisted for longer for VET-qualified individuals.

- Some examples are VET-qualified people being competent in the use of tools for surveying but not so competent in doing calculations or writing reports; VET-qualified medical laboratory technicians being good at using laboratory equipment but not at conducting analyses; VET-qualified educators possessing great skills in the childcare room but having less knowledge of teaching and learning; and, VET-qualified graphic designers having good skills with graphic design software but having fewer thinking or research skills for pitching to clients.

Interviewees were also asked to consider any similarities or differences for VET- and higher education-qualified workers regarding starting salary and pay, additional training required, job and career pathways and expectations placed on employees. For the most part, the qualification level did not influence the starting salary of either category of individuals employed in the same position – the salary was reflective of the position.

- In childcare, however, awards take qualification level and experience into consideration, meaning that the pay would be lower for VET-qualified educators by comparison with higher education-qualified educators.

- Also, two of the six surveying companies interviewed mentioned that higher education-qualified people would be paid more, with one stating that the difference would be about 20%.

Regarding future remuneration, it was agreed that this was more dependent on performance than on qualification level.

All interviewees indicated that the level of any additional training required was based more on individual needs and experience and not on the qualification studied. Most of the training would take place on the job or involve coaching and mentoring, particularly to get the person to the necessary standard, such as with the use of equipment, or learning company procedures and ways of doing things.

- For childcare and graphic design, employers have individual learning plans and staff are encouraged to continue learning. This learning can take different forms such as free online courses or further vocational training.

Differences were identified across the occupations regarding the job and career pathways of VET- and higher education-qualified individuals.

- For graphic design, the pathways would be the same, as these are dependent on individual performance.
- For surveying, three of the employers explained that they considered the pathways within their organisation to be the same regardless of qualification, with the exception of becoming a licensed surveyor, where a university degree is required. Others believed that a VET-qualified person could work their way up to manager, but that this is rare, and they would need exceptional skills, as the VET qualification does not provide the same amount of business training as higher education. Another employer, from a national company, noted that their organisation also has the capacity for VET-qualified individuals to progress into different types of surveying rather than move upwards to management.
- For childcare, some differences relating to pathways were identified between employers, with some stating that VET-qualified people could become centre managers, while others preferred higher education-qualified people for these roles. One employer also mentioned how VET-qualified people can move into operational roles, whereas those with university degrees could move into educational support roles, such as pedagogical leader. Another employer from a smaller childcare centre mentioned that they have different leadership opportunities available on an annual basis, with these open to all employees, such as for sustainability, wellbeing, or outdoor leader.
- For medical laboratory technicians, those with VET qualifications have fixed duties and are unable to progress to scientists unless they undertake a relevant university degree, whereas many more opportunities are available for upward career progression for people with university degrees.

Most employers stated that they would place similar expectations on employees irrespective of their qualification type as they are based on the job role and position description. There was only one employer, who worked in surveying, who stated that they would place higher expectations on someone with a higher education qualification, particularly in relation to learning faster.

Changes to VET qualifications

During discussions, interviewees mentioned changes to VET qualifications they would like to see implemented, with these differing by occupation. Keeping in mind that these suggestions are based on the views of only a small number of employers and so may not be generalisable to all, the following changes were proposed:

- For childcare, one employer wanted more practical experiences for students, although they also mentioned that it could be difficult for RTOs to find quality placements. Another employer had noticed a gap between the learning acquired through VET and the actual requirements of the job for childcare workers, a gap they currently address as an employer through the use of developmental coaches. The gap includes communicating and working with others, as well as components of interacting with children, such as what it looks like in practical terms; the reality of working with children all day as well as with other adults; and dealing with the expectations of parents. It would be helpful if these issues could be addressed in the VET qualification. It should be noted that, while these issues were raised by one employer, others also indicated during their interviews that the quality of the education provider and the mode of study (that is in classroom or online) also affected the quality of the graduate.
- For surveying, all the interviewees felt that the general content of the VET qualifications is appropriate, but that they would like to see more flexible delivery options. Employers need people to be able to work in the field while studying for their qualification and, in the experience of the small number of employers interviewed, this flexibility has not always been readily available to them in the VET sector. In contrast, the University of Southern Queensland was repeatedly raised by employers as having one of the best courses, due to its flexibility and credit arrangements.
- In graphic design, employers would like to see VET qualifications that enable people to develop their conceptual thinking, as well as incorporate more presentation skills. Developing ideas and concepts, explaining the process behind the idea, such as the steps and research undertaken, and pitching to clients are a large part of the role. The inclusion of these skills in combination with the technical skills already developed through the qualification would create more balanced designers. One interviewee also suggested the need for VET courses to teach business skills, since many people finish their training and become freelancers.
- In relation to medical laboratory technicians, one employer suggested that the diploma should include more advanced content. This employer also believed that the qualification needed to be longer than 18 months, as the definition of a ‘technical officer’ in the National Pathology Accreditation Advisory Council standard required a minimum of two years study. Furthermore, another employer would like to see pre-analytical and point-of-care skills scheduled towards the beginning of the certificates III and IV, as these are the areas where many mistakes currently occur. They also suggested the inclusion of a placement to enable the application of practical skills and for the implementation of learnings.

Views on integrated training

During the interviews, employers were asked for their views on integrated training – training that blends both VET and higher education and results in students receiving both qualifications – and whether their industry would find this approach beneficial. Overall, employers did not favour the concept. Even those who initially considered it could be good and would create well-rounded graduates had concerns relating to the workload, the length of time it would take and the risk of burn-out. Two employers (one childcare and one medical laboratory) mentioned that it would be useful if students could complete the diploma first and then build upon this with the degree. This would enable the person to gain employment in the industry while finishing their degree.

Conversations on the topic of integrated training led to discussions about recognition of prior learning and credit pathways. Employers in surveying and graphic design raised the need for better articulation into courses and the need for different pathways into university degrees.

- In surveying, employers have found that many universities do not provide any credit for VET qualifications, emphasising that the recognition of VET qualifications and skills by universities should be consistent across the board.

Other issues raised

Interviewees were given the opportunity to raise additional points or comments at the end of the interviews. Many occupation-specific matters were raised, which are reported in the appendices, such as suggestions for interns in graphic design, options to study surveying as part of the Victorian Certificate of Applied Learning (VCAL) and the need for more content relevant to children under the age of two in early childhood teaching degrees. However, two matters relevant to more than one occupation were highlighted; namely, an individual's ability to progress without a degree and the need for accurate career advice.

- Employers in surveying and medical laboratories indicated that there should be scope for individuals with VET qualifications to progress to a licensed surveyor or medical laboratory scientist without the requirement of a degree. If someone has the skills and ability, they should not be disregarded because they lack the academic confidence or ability to study a degree. The surveying employer suggested that the individual could undertake an examination to test their skills and knowledge before being accepted to enter a training agreement to become a licensed surveyor.
- Additionally, employers in medical laboratories and childcare spoke about the need for more accurate career advice. In relation to childcare, the employer mentioned that people needed a better understanding of the possibilities available to them following completion of the qualification and that clear information on career pathways is not available. The employer of medical laboratory technicians believed that there is a lack of understanding about the career and the type of qualification needed to work in the field, particularly for scientist roles. This employer currently works with high schools to direct students to the right course.

Discussion

What does this all mean?

Employers see a place for both VET and higher education qualifications in their various fields and actively recruit and employ people with either qualification type. When assessing candidates for positions, the candidate's experience, skills and fit with the company are often more important than the qualification.

Generally speaking at the entry level, people employed in the same position are undertaking the same jobs and tasks in a company irrespective of their qualification. They usually receive the same starting salary, as it is based on the position description. However, those with a VET qualification may reach a ceiling in terms of progression and pay before those with a higher education degree. This situation is also reflected in the HILDA analysis, where overall individuals with only VET qualifications working in occupations characterised by a mixture of VET and higher education qualifications have lower wages. As the HILDA Survey follows individuals over time, this suggests that, although they may have similar starting salaries, VET graduates may possibly fall behind over time.

An exception to this finding is childcare workers, where, while there is some overlap in the tasks that VET- and higher education-qualified workers undertake, those who are higher education-qualified have greater accountability and are paid more from the outset. The ANZSCO occupation of 'childcare workers' is also different from the other occupations explored, in that it covers two different skill levels rather than one – childcare group leaders (skill level 2) are included in this occupation code – and this could influence the findings.

For a great deal of the time, the technical nature of a VET qualification enables individuals to be effective in the workplace immediately when entering these occupations by comparison with those with higher education qualifications. This is due to the experience in using tools, equipment and software gained during their courses. However, this advantage is short-lived: in the long-term, those with higher education qualifications are seen to progress in the workplace as a result of the broader knowledge obtained during their degrees; for example, in medical laboratories, their theoretical knowledge of why certain tests are used; and in graphic design, the additional skills such as presentation, research, business and management gained through a degree course. The HILDA analysis also points to VET graduates having less opportunity for career progression and fewer supervisory responsibilities, as well as less autonomy than higher education graduates in the same occupation.

Thus, from the HILDA analysis and interviews, it can be surmised that VET-qualified and higher education-qualified people in the same occupation may initially be undertaking the same jobs and tasks and receiving the same salary, but the job outcomes and career pathways will differ over time.

Advice for people choosing VET qualifications

- When considering undertaking a VET qualification to enter an occupation that supports either a VET or higher education pathway, an individual needs to contemplate what their ambitions are. This research has shown in the occupations explored that a degree has the potential to open up more career

Key points

- Initially VET- and higher education-qualified individuals in the same occupation undertake the same jobs and have the same salary
- Over time those with higher education qualifications have more career progression opportunities and higher wages
- More consistent pathways between VET and higher education and more accurate career guidance are needed

pathways, such as becoming a licensed surveyor, medical laboratory scientist or lead educator, although this issue was not as relevant for graphic designers. It is likely that if a person holds career ambitions, they will need to undertake a degree at some later stage.

- On the other hand, while upward career progression for people with VET qualifications may be more limited, opportunities for exploring other areas of their chosen occupation are generally available. For example, educators may work with special needs children; surveyors can branch out into other areas of surveying; and medical laboratory technicians can conduct differing types of tests. A person's career will not stagnate because they have chosen a VET qualification.
- Furthermore, to get ahead when applying for jobs after completing a VET qualification, it is helpful to have an understanding of the industry; for example, what working in a laboratory involves; and the tasks for graphic designers beyond the technical.

Areas for improvement

- Pathways from VET to higher education qualifications, which include credit recognition for VET qualifications already held, along with experience gained in the workplace, are important as they can assist people to build upon previous study and transition to higher-skilled occupations and support lifelong learning. Additionally, people with initial VET qualifications will often undertake degree qualifications while they are working in the industry, meaning that flexibility around study options is also important.

Furthermore, consistency is needed in how VET qualifications and skills are recognised, and, at the same time, in the credit provided by universities. This issue is relevant to a finding from the review of the Australian Qualifications Framework (AQF; Noonan et al. 2019), which highlighted the need to review the AQF Qualifications Pathways Policy to recognise pathways between sectors and provide more guidance around recognition of prior learning. It should also be noted that many different multi-directional pathways are available in post-secondary education – such as moving from higher education to VET or moving between VET courses etc. – but it was the pathway from VET to higher education that was highlighted by employers during the interviews.

- A common theme emerging from the interviews is that better and more accurate career guidance is needed. People need to understand the qualifications required for an occupation and the pathways available to them. By way of example, a medical laboratory science degree is required to become a scientist in a laboratory; but, with a VET qualification and experience, an individual can become the assistant director of a childcare centre.

Moreover, the information presented about occupations on career websites needs to be accurate. Although these websites provide very useful advice on the tasks involved in various occupations, as well as future employment demand and weekly earnings, the information relating to the qualifications required for some of the occupations addressed in this research does not reflect the employer feedback. In the case of surveyors, for example, the career websites refer to the need for a bachelor's degree, but this is not the case, as a VET qualification may be all that is required. Furthermore, many of these websites use ANZSCO as a basis for occupations but some of the terminology and information it contains is outdated. For example, 'childcare worker' is no longer used in the early childhood education and care sector, with these workers referred to as 'educators'. ANZSCO also states that a certificate II or III qualification is needed for the occupation, but the sector now requires a minimum of a certificate III. Conversations with industry, perhaps through peak bodies, could be one way to revise the information on qualifications and update terminology. Improvements such as these will assist individuals looking to start their careers, those transitioning between occupations and those engaging in lifelong learning to make more informed choices.



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Appendix A – Childcare workers (ANZSCO 421111)

Background on occupation

- Childcare workers supervise and care for children in programs such as long day care and occasional care and in childcare centres. Their tasks include guiding children’s social development, preparing activities for them, entertaining children and supervising hygiene (Labour Market Insights 2021a). They also help to support children’s learning and development (Early Learning and Care Council of Australia 2021).
- When looking at all the qualifications in an occupation that workers have, 72% of childcare workers have VET qualifications and 17% have higher education qualifications (6-digit ANZSCO level) (Australian Bureau of Statistics 2020).
- Number of individuals employed in occupation: 96 300 (6-digit ANZSCO level) (Labour Market Insights 2021a).
- Projected growth between 2021 and 2026: 5.9% (4-digit ANZSCO level) (Labour Market Insights 2021b).
- Average weekly earnings: \$1059 (4-digit ANZSCO level) (Labour Market Insights 2021b).
- Current vacancies at March 2022: 4135 (4-digit ANZSCO level) (National Skills Commission 2022).

Interviews were undertaken with five different childcare providers, ranging from a small local service with 20 educators, to large national providers with services in every state and territory and over 16 500 educators. Interviewees were asked to focus on educator positions (those in the room with the children), noting that there is a requirement for higher education-qualified teachers in each service. A limitation for this specific research project identified with this occupation is that two different skill levels are contained in this ANZSCO occupation, as the category childcare group leaders (skill level 2) is included as a specialisation for childcare workers. This may influence the results and thus the comparison between qualifications for this occupation is not as explicit as it is for the other occupations explored.

It should also be noted that ‘childcare workers’ is used in this report to reflect the particular ANZSCO occupation on which the research is focused and that this is an outdated term no longer used in the sector. The correct term is ‘educators’.

Key points from interviews

Employers’ views on the qualifications

Mandated or minimum qualifications

The employers interviewed stated that the certificate III is the mandated minimum qualification but that they also have other regulations to meet, with these impacting on the qualification level of educators. These include that only 50% of the workforce are allowed to have a certificate III and that the remainder must have a diploma qualification in order to ensure the quality of care and qualifications of centres. Additionally, centres must employ a certain ratio of ‘early childhood teachers’ (higher-education

qualified), dependent on their size (that is, some centres may only require one and others will need more).

Furthermore, it was noted by interviewees that some centres aim to operate above these regulations and will hire more diploma- and degree-qualified individuals as educators in their rooms.

Most centres interviewed also hire trainees, who can study for the certificate III qualification while working.

Main differences between VET and higher education qualifications

When it came to differences between the VET and higher education qualifications, interviewees agreed that VET provided the practical skills that were needed for the job and had a focus on activities, whereas the higher education qualifications were much more focused on teaching and learning, as well as on the theory of child development. Employers also mentioned that many more people who undertake VET qualifications work in the area while they are studying, particularly at the diploma level.

In terms of the differences between the certificate III and the diploma level, the diploma was seen to add a leadership element. It is also concerned with looking after a group of children, rather than one-on-one, and working with other teachers.

One interviewee commented that children are exposed to a very rich environment through the different skills and experiences that all of the qualifications bring to the sector.

Employer preference for qualification type

The past 20 or so years have seen a shift in qualification preferences in the industry. Interviewees stated that previously people did not need a qualification and there was no requirement for a degree-qualified teacher in centres either. The change for a minimum certificate III qualification and the move to have 50% of educators with diploma qualifications were seen as necessary. These changes have provided better teaching and learning knowledge across the services.

One interviewee also mentioned that the industry tends to be moving away from the certificate III to the diploma for skilling educators as it lifts their capability. They believe that this is of significant benefit to the children.

Another interviewee stated that, although they would prefer to employ more higher education graduates due to their teaching and learning knowledge, they have a higher rate of pay so they cost more for the centre to hire.

Differences in types of people who undertake VET qualifications compared with higher education qualifications

Interviewees suggested that the main differences in the types of people who undertake VET qualifications compared with higher education qualifications are their academic confidence and what they hope to achieve with the qualification (that is, getting a job versus a career). Those people who do not believe they are academic are more inclined to undertake VET. One interviewee also mentioned that they sponsor educators (those who already have a diploma) to study the degree but they see a high dropout rate in the second semester due to the academic nature of the course, even though they have already been accredited with 50% of the course. Furthermore, the academic requirement was seen as a hindrance, especially if they are already working full-time in the industry.

Additionally, interviewees believed that those who choose a higher education pathway are more likely to have considered the occupation as a career, whereas those who undertake VET are just trying to get a

job; for example, it may be a relevant skill set for a mature-aged person who has had children themselves or for an experienced babysitter.

Interviewees also mentioned that childcare is a highly feminised industry but they have noticed that men are more likely to study the higher education qualification than a VET qualification.

The occupation

Mix of VET and higher education-qualified workers employed by organisation

All organisations employed educators with VET and higher education qualifications. For most, the VET qualifications included the certificate III and diploma; however, there was one employer who only employed diploma- and degree-qualified workers.

For most employers, the majority of their educators are VET-qualified. This ranged from 50% to 80%. Not every employer interviewed had access to information on whether they employed any people with both VET and higher education qualifications, although it was a recognised pathway. One employer mentioned that around 20% of their VET-qualified educators are currently studying for the higher education qualification.

Many of the employers mentioned that they also run trainee programs.

The jobs and tasks of VET and higher education-qualified workers

Most interviewees stated that the jobs and tasks of VET- and higher education-qualified educators were generally not the same. They work in the same teams and there are some common tasks related to the care, education, safety and supervision of children, such as cleaning, changing nappies and working with families, but those with higher education qualifications have specific tasks related to leading and supporting pedagogical practice in their room and the centre, and they also support centre planning to ensure high-quality teaching, which draws on contemporary teaching theories, strategies and styles, and strong knowledge of child development. Higher expectations are also placed on higher education-qualified educators to hold more accountability and legal responsibilities.

The employer who prefers to hire only diploma and higher education-qualified educators stated that they tend to do the same jobs and tasks overall. The main difference was in regard to the kindergarten program, where there is a funding requirement for higher education-qualified early childhood teachers to run these programs.

Recruitment

How often do employers recruit?

How often an employer recruits for educators is generally dependent on their size. For the larger organisations, recruitment is an ongoing process, with one employer stating that they have 200 to 250 vacancies across role types at any one time. For the smaller organisations, recruitment ranged from one or two times per year to six or eight. It was recognised by most that there is a current shortage of childcare educators.

Specification of qualification level in advertising

All interviewees would specify either a VET or higher education qualification when advertising for a position and it usually related to the role type and the ratio requirements they need to meet. While the

certificate III is the minimum qualification required to be an educator, some employers will specify the need for a diploma or degree for their room teams.

Differentiating between VET and higher education qualifications when assessing candidates

When it came to differentiating between VET- and higher education-qualified candidates when assessing applications, interviewees stated that if the position were opened to either qualification, then they would probably not differentiate based on the qualification. They would look at the person's experience and skills, how they performed in the interview and how they match the centre's values and fit. Only one interviewee said that they would weight a higher education qualification higher due to the learning outcomes for children. Another interviewee mentioned that they rarely get anyone with a higher education degree applying for educator or lead educator positions.

On a sidenote, one interviewee of a national organisation indicated that differences between metropolitan and regional areas apply when it comes to recruitment. They have difficulties in attracting and recruiting in the regional areas and this can have an impact on those communities, particularly if only one centre serves the community. This means it is important for the families, children and community to have high-quality childcare workers in those areas, otherwise curriculum quality could be compromised. Thought needs to be given to how to support these centres and communities.

Existing workers

Differences between VET and higher education-qualified people already employed

The main differences between VET- and higher education-qualified people were related to confidence and practical experience. For younger certificate III trainees and graduates, confidence in dealing with children and communicating with parents were seen as areas where they may need mentoring and support but this is something that improves as they mature. For higher education graduates, they are often unprepared for working on the ground with children for a full day, whereas VET-qualified individuals have a more realistic view of this. One employer mentioned that they can find it overwhelming and may leave the early childhood sector.

More than one interviewee stated that differences vary and depend on the person's particular experience with the qualification and where they got their qualification (that is, education provider). Also whether a person undertook their qualification online or on campus can also impact how prepared they are.

Differences and similarities in job outcomes for VET- and higher education-qualified workers

Starting salary and pay

Most interviewees stated that the starting salary and pay will be different for a VET-qualified and a higher education-qualified educator. These interviewees mentioned that there are awards, or enterprise agreements for some, where the qualification and years of service will impact pay.

Only one interviewee mentioned that the pay would be the same for both a VET- and higher education-qualified person in an educator role.

Level of additional training

The level of additional training required was dependent more on individual needs and experience rather than on whether they had a VET or higher education qualification. The type of training they undertake may be internal or involve coaching or mentoring.

Job/career pathways

The pathways for VET- and higher education-qualified people tended to be different. An individual has the opportunity to work their way up from a certificate III to be a diploma-qualified educator and then onto a higher education-qualified teacher. An educator may also move to working in early intervention or with special needs children.

There were differences between employers, with some stating that VET-qualified people could become centre managers, whereas others prefer higher education-qualified people for these roles. One employer said that VET-qualified people could move into operational roles, while those with higher education qualifications would go into education support roles, such as pedagogical leader.

Another employer of a smaller centre mentioned that their employees do not have as many opportunities for progression but that they offer other leadership opportunities on an annual basis, such as being a sustainability, wellbeing or outdoor leader.

Moving forward

Changes to VET qualifications

Two employers highlighted changes they would like to make to VET qualifications, with the first suggesting more practical experiences for students. However, they realised that a dilemma for RTOs is finding quality placements because if a student does not have a positive experience while on placement then they are unlikely to want to continue.

The second employer explained how they had developed their own support network for studying educators as they are not necessarily getting what they need out of the VET sector. They mentioned how there is a perceived gap in the content they are learning through VET and what is required on the job. The employer elaborated by explaining that the gap included communicating and working with others, as well as components of interacting with children, such as the practical realities like changing nappies, which many are unable to do properly, the experience of working with children all day and working successfully with other adults. They also have a gap in dealing with the expectations of parents. The employer has developmental coaches who work with these people and help to explain what is involved with these processes. They also mentioned that this is part of the reason why they like to employ trainees, as they can apply their learning.

Views on integrated training

Interviewees were not convinced that integrated learning would be of interest to people and believed that many practical considerations needed to be solved first, such as the length of time it would take, the amount of work required and the risk of burn-out. Most agreed that combining the theoretical with the practical has benefits, as they would get a better graduate, but they were not sure that this was the right approach. The option of exiting with a diploma rather than continuing with the degree was also raised.

One interviewee was keen on the concept as they felt that the shortage of early childhood teachers in the sector is a big challenge. They thought that if a person could complete the diploma partway through the integrated course, then it could attract school leavers into the industry as they would be qualified educators; the organisation could support them through the remainder of their course, enabling them to complete the degree. An approach such as this may make individuals more attracted to work in the early childhood sector rather than in primary schools. This is important as the amount of international students as teaching graduates are also dropping.

Another interviewee indicated that there needed to be a clear understanding of what is possible following completion of the qualification since career pathways are difficult to discern. This suggests that better career advice is needed.

Other issues raised

When given the opportunity to raise other relevant information on the topic, interviewees noted the following:

- A couple of employers mentioned that university degrees are heavily focused on primary school education, and they need more focus on babies and basic childhood development. They felt that children under the age of two are overlooked in the degree and, because children learn from birth, they need degree-qualified teachers to work with all age groups. Additionally, the people undertaking these degrees are expected to run kindergarten programs and develop educational plans across all age groups in centres. One interviewee even suggested that there could be a separate degree focused on the 0 to 5 (or up to 8) age group. Another mentioned how the skilled educators with young children make learning look like play rather than teaching. However, a cursory look at the early childhood degrees offered by Australian universities demonstrate that some do offer degrees focused on birth to 5 years and others on birth to 8 years. Based on the views of these employers, it should be ensured that children under 2 years are adequately addressed in these degrees and that teachers considering work in childcare settings possess one of these degrees specifically.
- It is important that there are more opportunities to move from the diploma to the degree and receive recognition of prior learning (RPL). In Victoria there is a policy imperative around kindergarten, with three universities in that state offering accelerated degrees (18 months instead of three years). More opportunities for RPL would represent a good way to attract more VET-qualified educators into the degree; without RPL the process is very arduous, particularly with the number of placements. That said, another interviewee did not support fast-tracking qualifications as they felt that it was to the detriment of the sector.
- One interviewee spoke about bridging courses for migration. They explained that the Australian Children's Education and Care Quality Authority (ACECQA) skill recognition currently takes 12 weeks, meaning that there is the potential to streamline this for international arrivals.
- Diversity in childcare is important so that centres truly represent the community and therefore foster an inclusive world. By diversity, they mean all cultures, religions, gender identities, sexual orientations and Indigenous people. However, 'sometimes doing things the normal way [training]' can make it hard to get this representation. The interviewee assumed the VET sector also has the same challenges in achieving representation in their courses.

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Appendix B – Surveyors (ANZSCO 232212)

Background on occupation

- Surveyors undertake survey work to precisely work out boundaries and positions of land, coastlines and underground works among other. Specialisations include cadastral surveyor, engineering surveyor, geodetic surveyor, hydrographic surveyor, mine surveyor and photogrammetric surveyor (Labour Market Insights 2021a)
- When looking at all the qualifications in an occupation that the workers possess, 66% of surveyors have VET qualifications and 34% have higher education qualifications (4-digit ANZSCO level) (Australian Bureau of Statistics 2020).
- Number of individuals employed in occupation: 8500 (6-digit ANZSCO level) (Labour Market Insights 2021a).
- Projected growth between 2021 and 2026: 14.6% (4-digit ANZSCO level) (Labour Market Insights 2021b).
- Average weekly earnings: \$1907 (4-digit ANZSCO level) (Labour Market Insights 2021b).
- Current vacancies at March 2022: 499 (4-digit ANZSCO level) (National Skills Commission 2022).

Interviews were held with six surveying firms across different locations in Australia. They varied from a small, local firm with around 20 surveyors, to a large national firm with over 300 surveying staff. They also differed in the services provided, from cadastral surveying to major infrastructure projects. Some firms were multi-disciplinary.

Key points from interviews

Employer views on the qualifications

Mandated or minimum qualifications

There is no minimum qualification to enter the general field of surveying and some people learn on the job. However, there may be differences, dependent on the type of work being done; for example, when completing work for some state or territory governments a minimum two-year qualification may be required, such as a Diploma in Surveying or a certain number of years of experience. Some governments may also specify certain types of accreditation, such as SSSI (Surveying & Spatial Sciences Institute) certification.

There are also many different types of surveying such as cadastral, engineering, geodetic, hydrographic, mine and photogrammetric (Labour Market Insights 2021a). Cadastral surveying requires a licensed surveyor to sign off on work. To become a licensed surveyor, a minimum four-year bachelor's degree is required, along with a training agreement under the supervision of a licensed surveyor and examinations for the Surveyors Board in the particular state or territory. Not all higher education-qualified surveyors pursue becoming licensed.

Main differences between VET and higher education qualifications

The VET qualifications are seen as very practical and enable graduates to ‘hit the ground running’. VET-qualified graduates are more experienced in using the tools and are more field-based than higher education graduates. However, they do not possess some of the broader skills held by the higher education graduates, such as presenting to clients.

The higher education qualification is more theoretical in nature and contains a broader set of skills such as project management, finance, business, people management and legal requirements. The skill levels in the surveying subjects are viewed as the same as in the VET qualifications but higher education graduates are seen as less experienced – ‘greener’ – with tools and instruments.

The other main difference is that VET qualifications are shorter than university qualifications (two years for a diploma versus four years for a degree) so VET graduates are able to enter the field more quickly.

Employer preference for qualification type

Interviewees were divided on this question and it really depended on the individual company situation and their needs. Some believed that due to skill shortages in the industry there was more demand for VET qualifications as they are quicker to complete and that VET graduates are ready for fieldwork. Others believed that there was more demand for university courses now as there is a perceived lack of quality VET courses in the area and that VET providers are less flexible than universities in delivery options. Due to the shortage of surveyors, flexible delivery is important to employers as it allows them to employ people while they are studying, meaning that more people are available to do jobs.

Most agreed that, at a minimum, there has been a change towards having a qualification as opposed to none at all; this is mainly a consequence of contracts with governments, which stipulate that workers on projects need to be qualified. The requirement for a qualification is also dependent on the size of the employer (more so for smaller firms) and the field they are in, such as specialised areas like tunnels.

Differences in types of people who undertake VET qualifications compared with higher education qualifications

Most interviewees did not notice many differences between the types of people who undertake VET qualifications and those who undertake higher education qualifications. The main difference reported was that those with a VET qualification may be less academically inclined than those who hold higher education qualifications. Other differences mentioned include:

- Those who undertake university degrees are more invested in the career and have an end goal in mind as it is a larger investment both in time and cost.
- People straight out of school are more likely to go to university, whereas those changing careers will do a VET qualification, although those who missed out on a university place may then choose to do a VET qualification. Related to this is that those who undertake a higher education qualification tend to be younger than those who do a VET qualification.
- Individuals studying the VET qualification tend to be more visual learners and prefer hands-on learning, whereas those studying a higher education qualification can learn from a book.

Interviewees also mentioned how surveying is a very male-dominated industry generally.

The occupation

Mix of VET- and higher education-qualified workers employed by organisation

All of the employers interviewed stated that their organisation employs both VET- and higher education-qualified surveyors. Only one said that they employed more VET-qualified employees than those with higher education. For the others, the percentage of VET-qualified employees ranged from 20% to 50%. For all employers, only a small number of surveyors would hold both a VET qualification and higher education qualification in surveying.

The jobs and tasks of VET and higher education-qualified workers

Overall, interviewees expressed that there were only slight differences between the jobs and tasks performed by VET-qualified and higher education-qualified surveyors. One interviewee indicated that 80% of the tasks can be done by either VET- or higher education-qualified people and that higher education is required for running projects or for becoming a licensed surveyor. Another mentioned that the amount of supervision may be different; that is, someone with a higher education qualification will need less supervision. Yet another interviewee stated that the only difference between the two was that a person with a higher education qualification (a licensed surveyor) was needed to sign off on work.

Another difference identified was that a VET-qualified person may do more fieldwork, whereas a higher education-qualified person would be involved more in doing the calculations in the office and client liaison. However, it was also noted that a VET-qualified person with lots of experience could also step into this role.

Recruitment

How often do employers recruit?

Four of the six organisations interviewed are either continually recruiting or constantly on the lookout for good surveyors, through methods such as word of mouth or referral. For the other two organisations, recruitment is dependent on staff leaving but they are still likely to recruit at least once per year.

Specification of qualification level in advertising

Interviewees differed over whether they specified the need for a particular qualification level when advertising for a surveyor. Some did not state a specific qualification as it is not necessarily needed for general surveying, and they looked for experience instead. However, if it were for a licensed surveyor position, then they would specify that an applicant needed a higher education qualification and to have completed their licensing training agreement. Other employers stated that a minimum qualification was required and this varied as to whether this was a certificate IV or diploma.

Differentiating between VET and higher education qualifications when assessing candidates

Most employers indicated that experience was more important than the qualification level when assessing candidates. They will look at whether a candidate's experience has been in the same field of surveying, such as cadastral or engineering, as well as whether an applicant has repeatedly changed firms, which is seen as a negative. For these employers, the only time they may prefer a candidate with a higher education qualification is if the career path of the particular position is expected to lead to a licensed surveyor or management position.

Only one employer stated that they prefer candidates with higher education qualifications in preference to those with VET qualifications. They believe that the education they have undertaken is more wide-

ranging and it gives them more flexibility as an employer to point the person in the direction the business needs.

Existing workers

Differences between VET- and higher education-qualified people already employed

Initially, people with VET qualifications are seen to be a little more job-ready than those with higher education qualifications, as they have had more experience using the tools and equipment during their training. They are also more likely to ask questions and seek help if they need it. However, these differences are short-lived and, in most instances, the person with the higher education qualification has caught up during the probationary period.

On the other side, those with a higher education qualification tend to have more analytical brains and are able to complete calculations and reports more quickly. This difference tends to remain in the long-term. They also tend to have broader knowledge from their degree and are more likely to move up to management. Those that are really technical tend to struggle in management. Consequently, it is believed that a degree is more likely to take a person above in the long-term.

Employers also acknowledge that there is still a lot they need to teach both VET- and higher education-qualified people on the job. This includes the company's processes and particular ways of doing things.

One employer emphasised that people with VET qualifications should not be excluded from being able to become licensed surveyors. They were of the opinion that a person with the right skills, knowledge, experience and aptitude, despite not being so good at studying, should be able to sit an examination for entry into a licensing training agreement. They stated that, while the current pool of licensed surveyors coming through is consistent, it is not enough to meet demand. This could be one way to increase the pool of licensed surveyors.

Differences and similarities in job outcomes for VET- and higher education-qualified workers

Starting salary and pay

For all but two employers, the starting salary for both VET and higher education graduates would be the same and their performance would impact on their future pay. The other two employers said that a person with a higher education qualification would be paid more, with one stating that the difference is 20%.

One employer mentioned that an issue impacting on starting salary would be if a graduate had 'out of the box' skills around technology, such as computer programming. Their salary would likely be higher, as this is a skill that is in high demand.

Level of additional training

Most employers stated that VET-qualified and higher education-qualified workers generally require similar levels of additional training and that most of this training occurs on the job. One employer mentioned that it came down to the individual and how quickly they put into practice what they had learnt rather than the qualification they held. Another employer mentioned that, in terms of additional training, they may utilise further vocational training if it was for skills such as becoming drone pilots.

Job/career pathways

Three of the employers conveyed that the pathways for VET- and higher education-qualified surveyors are the same within their organisation, with the exception of becoming a licensed surveyor, where a

university degree is required. Others believed that it came down to the individual and their capabilities – a VET-qualified person could work their way up to manager, but they would need exceptional skills, as the VET qualification does not provide the same amount of business training as the higher education qualification. Furthermore, one national employer mentioned that, rather than progressing upwards to management, many other pathways into different types of surveying were available for VET-qualified individuals.

Expectations

All but one employer stated that the expectations placed on an individual are the same whether they are VET- or higher education-qualified – the expectations relate to the position description and the individual's experience. Only one employer stated that they would probably place higher expectations on the higher education-qualified person, particularly around learning faster.

Moving forward

Changes to VET qualifications

When asked about whether they had any suggestions for changes to VET qualifications, the general comments related to needing more people graduating from the various courses, or that nothing needs to change. However, a consistent message emerging from all interviews in response to other questions is the need for more flexible delivery options. Employers need people to be able to work on the ground as they obtained their qualification. In the experience of the small number of employers interviewed, this flexible delivery has not always been available to them in the VET sector.

By contrast, the University of Southern Queensland was repeatedly raised by employers as having one of the best courses due to its flexible delivery and credit arrangements. The university has done a great deal of work to aid the transition process from VET to higher education and is the only provider of surveying content online. The university enables learners to study while working full-time, which is a major benefit for employers, given the shortage of surveyors. It should also be noted that one employer mentioned that RMIT offers good pathways as well.

There was also a discussion with one employer about the surveying academy currently being created by Consulting Surveyors National. The decision was made to create the academy because of the lack of quality VET courses. This issue led to a conversation about the industry expertise of some VET educators. This particular employer had offered to help teach some surveying subjects at their local TAFE but was unable to do so as they do not have a Certificate IV in Training and Assessment (TAE), which they do not have the time to complete. They believed that other avenues should be established to enable industry experts to come in and teach casually.

Views on integrated training

Employers were also asked for their views on integrated training – training that blends both VET and higher education and results in both qualifications being awarded to a student – and whether this approach could be useful in their industry.

Some questioned whether it was needed, as going straight into a degree is possible if an individual has the initial school marks; alternatively, they could progress to a degree from a diploma. The main perceived benefit was that the degree would potentially include some of the more practical components currently in VET qualifications. There were also concerns that if you are studying both simultaneously the student would be doubling up on some information and it could be a lot of work.

This question led to a discussion around recognition of prior learning and credit pathways. Employers have found that many universities, apart from the University of Southern Queensland, do not provide any credit for VET qualifications and one employer even said that the lack of university recognition of the diploma is offensive. Another employer mentioned that the recognition of VET qualifications and skills by universities needs to be consistent across the board. They suggested the need for a standardised national framework for surveying, as well as standardised education to go with this. Another employer noted that Consulting Surveyors National is currently looking into credit arrangements. This employer commented that a concern is whether education institutions are keeping up with all the technology advancements.

Other issues raised

An important issue raised by one of the Victorian employers is the lack of surveying options for secondary school students undertaking the Victorian Certificate of Applied Learning (VCAL). They had a student who was very interested in surveying as a career and who was undertaking work experience with them and who then wanted to go on and do surveying as part of their VCAL. However, the student was unable to do this as surveying is not one of the options. The employer pushed from their end for the student to undertake a VCAL placement with them, but the student had to do electrical as the theory part of their VCAL. They also have a second VCAL student doing the same, that is, a placement in surveying and theory in electrical. The employer believed that they would have been better off being able to do the diploma while at school. Also, for other students doing VCAL, it means that surveying is ‘not on their radar’ as a potential career and they could be lost to another trade. The employer stated that surveying is an industry with an ageing profession in Victoria so they need to look at the ‘whole pipeline’ to encourage more people into surveying.

Another employer noted the different requirements around registration and licensing in each state and territory; for example, South Australia is similar to New South Wales, which is aligned to Queensland, but Victoria and Australian Capital Territory are completely different again. At the moment, a person could complete a surveying degree in South Australia but if they wanted to be registered in Victoria they would need to go back to university and complete a law component. A national framework for surveying and education would benefit the industry.

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Appendix C - Graphic designers (ANZSCO 232411)

Background on occupation

- Graphic designers work with clients to prepare and develop design concepts for publication and reproduction. This involves undertaking research, formulating ideas, negotiating design solutions, selecting materials and media, and supervising the production of the final product (Labour Market Insights 2021a)
- When looking at all the qualifications in an occupation that the workers possess, 48% of graphic designers have VET qualifications and 50% have higher education qualifications (6-digit ANZSCO level) (Australian Bureau of Statistics 2020)
- Number of individuals employed in occupation: 26 100 (6-digit ANZSCO level) (Labour Market Insights 2021a)
- Projected growth between 2021 and 2026: 21.7% (4-digit ANZSCO level) (Labour Market Insights 2021b)
- Average weekly earnings: \$1502 (4-digit ANZSCO level) (Labour Market Insights 2021b)
- Current vacancies at March 2022: 1011 (4-digit ANZSCO level) (National Skills Commission 2022).

Interviews were held with four different graphic design companies across different Australian states. They ranged in size, from employing around five to 20 permanent graphic designers, with some firms also contracting freelancers. The type of work related to brand design and strategy, packaging, wayfinding and place vision. It was noted during the interviews that graphic designers are also referred to as 'creatives'.

Key points from interviews

Employer views on the qualifications

Mandated or minimum qualifications

Interviewees stated that there are no formal mandated or minimum qualifications for graphic designers. Having talent and the quality of an individual's portfolio were seen as most important.

Main differences between VET and higher education qualifications

The employers interviewed stated that VET qualifications tended to be more technical and craft-based, while the courses are also much shorter, with one employer stating that some private colleges offer 16-week intensive courses. While these courses may produce 'slick' portfolios, the skills the individual held were insufficient for the organisation. VET qualifications were also seen to lack thinking and research skills.

On the other hand, higher education qualifications are longer in duration, which enables more time to develop research and thinking skills. The courses are more conceptual, higher-level and ideas-based, which helps to prepare people for pitching ideas, presenting to and working with clients, which is a large

part of being a graphic designer. To gain the practical side that VET qualifications offer, one employer mentioned that those undertaking higher education qualifications can complete internships at the same time.

Only one employer considered that there was little difference between the two qualifications. They said that for juniors it was better to have done some type of course rather than none, as it provides an opportunity to work on 'fake projects' so they have something to show potential employers.

Employer preference for qualification type

Most employers stated that there is no preference for a particular qualification and that the portfolio and talent of the individual are the more important characteristics. Of these employers, one believed that the quality of the institute, including both VET and higher education, at the time impacted their preferences.

Only one employer preferred higher education qualifications, due to the depth of the degree, but admitted that this may be a personal prejudice as they are a university graduate themselves. The employer also argued that ultimately it comes down to their ability sell ideas and their presentation skills. They also mentioned that mature-aged candidates with VET qualifications, as opposed to younger people with VET qualifications, are able to better function in the organisation and with clients, as they have more confidence and the ability to express themselves.

Differences in types of people who undertake VET qualifications compared with higher education qualifications

Interviewees were varied in their responses to whether there are differences in the types of people who do VET qualifications compared with higher education qualifications. Two interviewees stated that there were no obvious differences to them, as they see people from all different sorts of backgrounds.

One employer believed that people who complete VET qualifications tend to be older as they have changed careers and choose a shorter course, whereas those who go through higher education tend to do so straight from school and therefore are younger. On the other hand, another employer thought that the people who complete higher education courses tend to be older as they may have gone through the VET system first and been disappointed so change to higher education. This employer also believed that this could be relevant only to their state, where there is only one provider of higher education and one provider of VET courses in graphic design and that the quality of these courses varies year to year.

The only other difference raised related to the aspirations of the individuals. This employer believed that those who undertake VET qualifications are happy to do computer work and tasks like drawing and real estate boards, whereas those with higher education qualifications have greater aspirations and are more aware of the different types of work available in graphic design.

The occupation

Mix of VET- and higher education-qualified workers employed by organisation

One employer was unsure of the qualifications of their employees as they do not track this, as it is less important than their portfolio. The other employers all employed a mix of both VET- and higher education-qualified graphic designers, but higher education qualifications were predominant; two employers indicated that over 80% had higher education qualifications, while another employer stated that more had higher education qualifications. Only one employer knew of any employees with both VET and higher education qualifications in graphic design.

The jobs and tasks of VET- and higher education-qualified workers

All interviewees indicated that the jobs and tasks of VET- and higher education-qualified individuals are the same. They will be working to a job description and need to be able to do what is required for the role – no adjustments are made based on qualification. One employer stated that it is an imagination-based sector so it comes down to how imaginative they are, as well as their personal characteristics, and not their qualification.

One employer noted that any differences tend to be more associated with individual skill, ability and interests and not necessarily the qualification. This employer mentioned that their VET-qualified employee does more digital projects but that is because ‘their thinking is wired around this’, whereas a current higher education-qualified employee does not do this as they do not have experience with coding.

Recruitment

How often do employers recruit?

How often an employer recruits depends on staff turnover or growth. One employer mentioned that graphic design is a very fluid industry and employees tend to have a life cycle of two-and-a-half to three years. Some employers only recruit one to two graphic designers per year, whereas another mentioned that they are on the lookout for someone every month. Another employer stated that they had recruited five people in the previous week.

Specification of qualification level in advertising

Three of the four employers claimed that they do not specify a qualification when advertising for a graphic designer, as the portfolio is more important and, if it were for a senior position, it would be based on years of experience. The remaining employer would specify a higher education qualification based on their own experience in employing hundreds of designers during their 35 years in the industry. They have found that university graduates tend to be a higher-quality candidate, are able to perform well, stay with the company longer and progress further.

Differentiating between VET and higher education qualifications when assessing candidates

When assessing candidates during recruitment, employers stated that they were not likely to differentiate based on qualification. They will generally look at the candidate’s portfolio first, followed by their experience and where they have worked previously (that is, in the graphic design industry rather than as an in-house designer in a corporate business). Any differentiation will only occur if they are looking for specific skills in the position, for example, they would look to VET for technical skills and higher education for big thinking.

The employer who preferred higher education qualifications and would specify a higher education qualification during recruitment explained that qualifications are more critical at the junior level so they would value a four-year degree over a 12-month VET qualification. If they were recruiting for mid or senior designers, then the assessment would be based more on their experience and how they perform, with less emphasis on the type of qualification.

Existing workers

Differences between VET- and higher education-qualified people already employed

Employers noted that, overall, they do not notice any differences between their VET- and higher education-qualified employees in relation to job-readiness and skill level. Two employers mentioned that, in the past, higher education-qualified employees may have needed help with technical skills and software, but this is not so much of an issue now, as they can be undertaken as electives while at university or picked up during industry placements.

One employer did observe that higher education graduates were more engaged with people in the industry through mentoring, internships and work-integrated learning while studying and have engaged more with industry associations and junior awards. They thought that maybe those who had progressed through VET did not place as much importance on this.

Differences and similarities in job outcomes for VET- and higher education-qualified workers

Starting salary and pay

All employers stated that the starting salary would be the same for both VET- and higher education-qualified employees. The salary is position-related and their background does not matter. Individual skills, knowledge and performance will determine future pay.

Level of additional training

Any additional training is dependent more on the individual, as well as on business needs, rather than on the qualification held. Two of the employers mentioned how they like staff to be self-motivated in their learning and that a great deal of technical knowledge is now available online. Another employer mentioned that every employee has their own development plan and can dedicate one hour per week to training. This helps them to learn different skills like 3D software, presenting and managing people.

Job/career pathways

All employers stated that the job and career pathways for their graphic designers are the same, irrespective of whether they are VET- or higher education-qualified. One employer gave an example of how they have previous interns who have attained the positions of design director and associate design director.

Expectations

Employers stated that the expectations they place on people are the same, regardless of qualification, as they are based on the job role and the person. For example, someone may be hired due to their skills in 3D and animation, but they would develop the person's conceptual brand design skills to create a well-rounded creative.

Moving forward

Changes to VET qualifications

When asked if they could suggest any changes to the VET qualifications in graphic design, all employers agreed that the qualifications need to help people to develop their conceptual thinking. One employer explained that it is not just about coming up with an idea, but being able to explain how you arrived at the idea, as well as the steps taken and any research, were also important. Clients want to understand how you got from the brief to the final outcome. Being proficient in this area will help graduates to be more job-ready and, along with the technical skills, will result in balanced designers. On a similar note, another suggestion was incorporating more presentation skills.

Views on integrated training

When asked for their views on integrated training and its usefulness to their industry, employers were split. Two employers thought that it could be useful as it meant that they would get graduates who are the ‘full package’, having both the technical skills and conceptual thinking. However, they also expressed concerns about how it would work and whether it would be too burdensome, both financially and from a workload point of view, to appeal to potential learners.

The question around integrated learning also led to discussion of the pathways between qualifications. Employers expressed the need for better articulation between courses and the need for different pathways into higher education qualifications. One employer noted that the ATAR for some university design courses is on par with medicine and that they want good creatives, not just academics.

Other issues raised

One employer took the opportunity to speak about interns and how some industries take advantage of unpaid interns. They mentioned that, due to the borders being closed because of COVID, they have been struggling to recruit experienced designers and that hiring more juniors is not necessarily an option as they end up costing more. For example, they charge an hourly rate to clients, but if you use a junior they need to work under the supervision of a senior, so the charge-out rate ends up being more than using a senior alone – or you wear the cost as an employer and end up losing money. They suggested that there could be an annual government payment of \$5000, for example, which could then allow an agency to hire an intern for a couple of months without losing money. This would ensure the intern is paid and learns at the same time, with the internship becoming a viable option for more people rather than just for those who can afford not to be paid for a few months.

Another employer suggested that there should be more of a focus on the ‘4 Cs’ – communication, collaboration, critical thinking, and creativity – as students need to understand it is important for future workforce development. They also mentioned that every young person needs help to deal with high anxiety and mental health and that this is not addressed well in VET or higher education.

This same employer also indicated the need for a vocational training review. Many people are coming out of their training and becoming freelancers, a situation which has only been accelerated during COVID, as it is a better option for work–life balance, but they do not have business skills. The VET courses need to also teach business skills as they are essentially micro businesses, so they need to know about Australian Business Numbers (ABNs), invoicing, marketing, running books, charge-out rates etc. Incorporating this small business training is important to help students to earn an income when they graduate, as they can run into issues if they do not have this knowledge. Training on marketing and strategising would also be helpful.

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Appendix D - Medical laboratory technicians (ANZSCO 311213)

Background on occupation

- Medical laboratory technicians undertake laboratory tests and operate diagnostic equipment, for example, preparing stain slides, performing diagnostic tests on tissues and fluids, and testing for diseases (Labour Market Insights 2021a)
- When looking at all the qualifications in an occupation that the workers possess, 46% of medical laboratory technicians have VET qualifications and 41% have higher education qualifications (4-digit ANZSCO level) (Australian Bureau of Statistics 2020)
- Number of individuals employed in occupation: 6200 (6-digit ANZSCO level) (Labour Market Insights 2021a)
- Projected growth between 2021 and 2026: 20.7% (4-digit ANZSCO level) (Labour Market Insights 2021b)
- Average weekly earnings: \$1178 (4-digit ANZSCO level) (Labour Market Insights 2021b)
- Current vacancies at March 2022: 637 (4-digit ANZSCO level) (National Skills Commission 2022).

Interviews were held with five pathology providers across different states and territories in Australia. Some interviewees were managers of whole pathology services, whereas others managed certain areas, such as immunology or microbiology. The number of employees managed by interviewees ranged from 30 to over 5000 (this includes all employees, not just medical laboratory technicians).

Key points from interviews

Employer views on the qualifications

Mandated or minimum qualifications

For a medical laboratory technician, a VET qualification is necessary. Interviewees differed on whether this was a certificate III or IV or a Diploma in Laboratory Science. It may be that there are different requirements for the various states and territories. Furthermore, it may not be mandated but viewed as highly desirable. Other technical positions, such as a laboratory assistant, do not necessarily require a qualification.

It was noted that professional staff, such as a medical scientist, are the only employees who must have higher education qualifications, typically in medical science or medical laboratory science.

Main differences between VET and higher education qualifications

VET qualifications, such as those in laboratory techniques or phlebotomy, would focus on handling, loading analysers, plating, preparing blood films, urines, and some lateral flow testing for reporting. They are also shorter in nature than a degree; for example, a Diploma in Pathology Laboratory Science is 18 to 24 months long and a degree is four years. The VET qualifications are also very hands-on and much

less knowledge-based and prepare students for the factory-like processing of samples. There is also no requirement for the person to have worked in a laboratory.

The higher education qualification contains much more theoretical knowledge of testing and how to analyse and trouble-shoot. Interviewees also pointed out that there are vast differences between a medical science degree and a laboratory medical science course, particularly those accredited by the Australian Institute of Medical Scientists (AIMS). The courses accredited by AIMS are four years long and include long practical placements (one person said 16 weeks and another said 40 weeks). These courses provide an in-depth knowledge of pathology, at both basic and advanced levels. In relation to other science degrees, the person may have only heard about pathology in the classroom.

Employer preference for qualification type

Most interviewees stated a preference for VET qualifications for the laboratory technician role but they indicated that many people with science degrees apply for this position as they view it as a way to progress to becoming a scientist. It would seem that any increase in people with higher education qualifications stems more from there being an oversupply of people with these degrees and not enough positions, so they apply for laboratory technician roles to get a foot in the door. Interviewees also noted that there are few new graduates in this area coming out of VET. One interviewee commented that the change seems to be at the high school level, where more students are going to university and the diploma is less visible. They also said that many undertake a science degree without realising it is not suitable for the role. Another employer noted that if they have a VET qualification, then you know that this is the position they are aiming for, so it brings more stability to the role.

One interviewee who worked in more of a research and development laboratory noted that substantial advances in technology mean that a large part of the hands-on methods have now become automated, such as molecular tests. In their area, they are reducing the number of technical positions and recruiting more scientists.

Differences in types of people who undertake VET qualifications compared with higher education qualifications

Overall, interviewees considered there were no differences between the types of people who undertake VET qualifications and those who undertake higher education qualifications. They viewed the qualification chosen as setting a pathway and demonstrating the person's preferred path. One interviewee surmised that it may be that the people who undertake higher education have different passions and expectations for their career. Another interviewee mentioned that people may choose to do VET as they have not achieved a high enough ATAR, but it does not mean they are less intelligent.

Furthermore, an interviewee spoke about the existence of a large cohort of people who have undertaken a degree qualification overseas and then complete the diploma when they come to Australia. For those from a culturally diverse background, the VET qualification is a way to get their foot in the door without having to do a full degree. They may start with a Certificate III in Pathology Collection and then progress to certificate IV and diploma. They may use state funding programs for this, such as Smart and Skilled.

The occupation

Mix of VET- and higher education-qualified workers employed by organisation

For the medical laboratory technician role, the organisations interviewed employed a mixture of VET-qualified and higher education-qualified individuals; however, the interviewees were clear that a degree

exceeds the requirement for the role. Generally they prefer to hire people with a VET qualification in the role but the numbers available are limited, so they look at people with a science degree.

One employer commented that maybe 10% of their VET-qualified staff have progressed to the higher education degree in the area. Another employer mentioned that people who hold a science degree rather than a medical science degree are likely to undertake a diploma as well as it gives them the practical experience needed and increases their employability.

The jobs and tasks of VET and higher education-qualified workers

Overall, the jobs and tasks of VET-qualified and higher education-qualified medical laboratory technicians are the same, as the duties are driven by the position and not the qualification. One interviewee was clear that they did not want people with degrees to exploit the laboratory technician role as a way to get into a scientist role. A technician is involved in setting up and undertaking pre-analytical tasks, preparing cultures, conducting microscopy on samples and loading onto instruments for sampling. A scientist would do the interpretation, analysis and sign-off. There was a difference noted in New South Wales, where a medical laboratory technician is also able to validate work. The interviewee also mentioned that in NSW the medical laboratory technician role has a higher degree of crossover with scientists than in other states.

Recruitment

How often do employers recruit?

Recruitment was dependent on the type of laboratory. Some laboratories recruit less than one medical laboratory technician per year, whereas for others it is a handful. Recruitment is very dependent on staff turnover. For pathology laboratories involved in COVID-19 testing, recruitment has been in the hundreds over the past few years, but this is very abnormal.

Specification of qualification level in advertising

When advertising for a medical laboratory technician position, most interviewees stated that they would specify a diploma as the minimum qualification required. This was often due to requirements in the position description for a particular qualification. One employer mentioned that a certificate III or IV or experience would be the minimum for a technician role and that this related to the wording they are allowed to use when advertising health jobs.

Differentiating between VET and higher education qualifications when assessing candidates

Interviewees mentioned that they did not really differentiate between VET- and higher education-qualified people when assessing candidates for the technician position. They tended to look at the person's experience in a laboratory and their fit within the team. Candidates may also need to undertake a practical component as part of the recruitment process, and their performance in this will be a consideration. One interviewee spoke about how they would look more closely at a suitable person with a VET qualification as VET-qualified people tend to stay longer.

Existing workers

Differences between VET- and higher education-qualified people already employed

Interviewees found this question difficult to answer as people may be at different points in their career; for example, someone with a VET qualification may have 20 years or more experience in the role,

whereas someone with a degree may be early on in their career and using the position for subsequent access to a scientist role. It was acknowledged that someone with a VET qualification is trained for that particular role and has the practical skills. One interviewee noted that as time goes on the qualification becomes less important.

Differences and similarities in job outcomes (pay etc.)

Starting salary and pay

For a diploma- and a degree-qualified person in a technician role, the starting salary would be the same as it is dependent on the role and specified in the award.

Level of additional training

The level of additional training required tended to be based more on the individual person and their previous experience, as opposed to the qualification they have undertaken. It was acknowledged that all individuals would need to be trained in the procedures of the particular laboratory, irrespective of whether they had worked in a laboratory previously. One interviewee mentioned that those with VET qualifications have the laboratory skills for the technician position, whereas those with higher education qualifications may need more practice. That said, those with higher education qualifications tend to have more knowledge of the theory behind the tests.

Job/career pathways

The job or career pathways of VET- and higher education-qualified medical laboratory technicians are different. Those with the VET qualifications have fixed duties and are unable to progress to scientists unless they undertake a degree in medical science. One employer mentioned that if they show initiative then they can be given variety, such as new tasks. Another employer noted that they may get supervisory positions, such as phlebotomy supervisor, which would be similar pay and accountability to an entry-level scientist.

Someone with a higher education qualification is able to progress to a scientist position and continue to move upwards in the professional stream, such as to a senior scientist.

Expectations

Interviewees mentioned that they would have the same expectations of medical laboratory technicians, regardless of the qualification, as they are based on the position description, although they would expect those with a pathology-related course would perform better at a higher level initially.

Moving forward

Changes to VET qualifications

One interviewee suggested that a change for the diploma could be to increase molecular studies and surgical dissections, such as transfers and non-complex cut-ups. This interviewee was based in NSW, where technicians can validate results, and they were concerned that the diploma is only an 18-month qualification and that this does not meet the definition of a 'technical officer' in the National Pathology Accreditation Advisory Council (NPAAC) standard, which requires a minimum two years of study. They were worried that the 18-month qualification was insufficient.

When it came to the Certificate III in Pathology and Certificate IV in Laboratory Technology, one interviewee suggested that these courses needed to include pre-analytical and point of care skills at the

outset, as this was an area where a lot of mistakes were made in laboratories. They also suggested a placement to enable the individuals to apply their practical skills and implement their learnings.

Viewed on integrated training

Only one interviewee considered that integrated training, whereby both VET and higher education qualifications were blended, would be useful to the industry. They believed that this could result in more practical courses and that both VET and higher education could benefit from each other. They also believed that the more exposure a person had to a laboratory, the better, since this is a different workflow and mindset from the practical classes at university. The interviewee explained that students needed to be familiar with what happens in industry, and this could add breadth and depth. Another interviewee thought that integrated training would not be practical and that they would rather see a degree in medical science, which teaches more of the technical side of things and has more placements. They mentioned four universities with degrees in medical science with limited opportunities for students to undertake placements.

Another interviewee thought it would be useful if a student could complete a diploma first and then build upon this to finish with a degree in pathology. They thought that there could be higher crossover of credit, which is then utilised for the degree. This would require a high level of collaboration between VET and higher education. Building upon this, a further interviewee mentioned how they can offer people who are undertaking a medical laboratory science degree part-time technician roles once they have completed their clinical subjects. They can then work while they are finishing their degree and the unusual hours of the work accommodates their studies. Thus a person who has achieved a diploma as part of an integrated training course could be employed in the area while finishing the degree part.

Other issues raised

When asked if they had anything else to contribute on the topic, two interviewees spoke about how there should be more scope for people with VET qualifications to progress to scientist positions. Queensland was mentioned as one state that allows progression, as it has aligned the scientist position to the health profession stream and a person can enter this stream with either a VET or higher education qualification. This approach was seen to take qualifications out of the equation to some extent. Other states have a technician stream for VET and a professional stream for higher education degrees.

Another interviewee highlighted the lack of understanding about the career and the type of qualification that is needed to work in the field; this especially relates to scientist roles. This particular employer works with high schools to point students to the right course. They also work with universities on what is suitable content for degrees leading to laboratory/pathology work. They noted that this should be addressed as a profession and not by employers.

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