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Is VET vocational?
The relevance of training to the occupations of vocational education and training graduates

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About the research

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Is VET vocational? The relevance of training to the occupations of vocational education and training graduates
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Australia's vocational education and training (VET) system is characterised as being industry-led, with the content of courses based on the skills and competences specified by industry. VET courses have been packaged up into industry training packages developed by industry, with the aim of meeting the needs of an industry or a group of industries. This approach sits well with a view of VET as being about acquiring specific skills to be used in work. By contrast, we think of school and university education as having broader purposes, and often being ends in their own right. While university graduates tend to do well in the labour market, many have degrees which are generic in nature.

Is vocational education and training as narrowly vocational as the standard description seems to imply? *Is VET vocational? The relevance of training to the occupations of vocational education and training graduates* aims to throw some light on this question through a comparison of what VET graduates study and the jobs they get. To do this it uses data from the Student Outcomes Survey. For those graduates whose destination occupation differs from the intended occupation (obtained by assigning an occupation to each course), the study investigates the skill level of the destination occupation and the extent to which the graduates view their training as being relevant. The idea is to distinguish between training that is generic (in the sense of being relevant to a wide range of destination occupations) and training that is wasted. (Physicists driving taxis is the popular example.)

Key messages

✧ The match between what people study and the jobs they get is high for the technicians and trades group of occupations, but relatively low for most other courses.

✧ Most of the mismatch between intended and destination occupations reflects the generic aspect of vocational education and training. Graduates mostly report their training as relevant to their job, despite not ending up in the 'matched' occupation.

✧ There is some skills wastage, however, with graduates reporting that their training is not relevant to the occupation in which they find themselves. The two courses with the highest skills wastage are those for arts and media professionals and sports and personal service workers.

The study has three main implications. First, in thinking about the role of the VET system in addressing the needs of the labour market, it needs to be kept in mind that, with the exception of the trades, there is no neat match between courses and the occupations in which most people end up working. Second, those developing training packages need to be aware that many graduates will not work in their 'intended' occupation. Finally, potential students need to be realistic about the likely occupation that a particular course will lead to.

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Introduction

Vocational education and training (VET) is, by definition, vocational in intent. Its purpose is unashamedly instrumental; it is about acquiring skills to be used at work. This contrasts with the broader purposes of school education and university education, where education is often seen as an end in its own right.

Of course, it would be quite wrong to characterise school education and university education as non-instrumental. The dominant paradigm guiding public policy for many years has been human capital theory, in which individuals acquire skills—human capital—and then obtain a return on that investment through higher employment rates and higher-paying jobs. This model underpins the Higher Education Contribution Scheme (HECS), by which university students pay substantial tuition fees on a deferred, income-contingent basis. The idea is that students contribute to the cost of acquiring human capital and then repay the debt when their subsequent income reaches a threshold.

However, the instrumental nature of university education is not as clear cut as in VET. Certainly, the professional fields of medicine, law, accounting, teacher education, nursing, and engineering are largely vocational in nature and there is an expectation that a high proportion of their students will become doctors, lawyers, accountants, nurses, teachers and engineers. Other fields by contrast are far less vocational in nature and provide a much more generic training, the most obvious examples being the humanities and pure sciences. The social sciences and the applied sciences fall somewhere in between. This is not to say that the non-vocational fields are not valuable preparation for work. For many years, an economics degree was the favoured background for Australian public servants engaged in policy work because it provided a certain way of analysing the world. Similarly, the British civil service was reputed to have favoured Oxbridge graduates with classics degrees.

Perhaps VET should be seen in the same way, as providing not only specific vocational skills but also generic employment skills. Certainly, in recent years there has been increasing attention paid to 'employability skills': skills such as problem-solving, the ability to work in a team, communication skills and so on. However, the official rhetoric has been unambiguous in describing VET in terms of the skills and competences specified by industry. VET courses have been packaged up into industry training packages developed by the various industry skills councils and their antecedents. These industry packages outline a set of nationally endorsed standards, guidelines and qualifications for training, recognising and assessing people's skills. They are developed by industry with the aim of meeting the needs of an industry or group of industries.

The issue that this report explores is how VET is actually used in the labour market. In particular, we look at the match between what people study and the jobs they get. If the match is very good, then we would conclude that the VET system is performing its role in providing individuals with vocational skills. If the match is poor, then we need to think about whether the VET system is not as effective as it should be, or whether we should rethink the nature of vocational education. The classic example of a mismatch would be a physicist or electrician driving a taxi. In such cases, from the point of view of training for a skilled workforce, the education is totally wasted. Where the nature of matching is more problematic is a tradesman, for example, becoming a manager. Here it would not be reasonable to say that the vocational education is a waste, but it may suggest that trades education needs to be considered more broadly, rather than merely being the acquisition of trade skills for a particular occupation.

The Student Outcomes Survey provides a mapping between the intended occupation of training activity and the occupation after training. Each qualification and module is coded to an occupation and it is a simple matter to match the intended occupation (based on the occupation code of the qualification) and the occupation after training. We can then look, by qualification, at how well the intended and destination occupations match. Preliminary research by Cully, Nguyen and John (2004) suggests that, with the exception of trade qualifications, the match between intended and destination occupations is poor, with matches in managerial and professional occupations being the lowest.

As with any empirical work there are a range of issues that need to be taken into account. First, the gap between the end of training and the survey is about six months and so the matching process has only had a limited period of time to be effective. For a subset of the data (persons under the age of 25 years) we have follow-up data two years later. The level of classification also plays a part; by definition, the level of matching will be lower if a finer classification is used. Our analysis is based on the sub-major group level of the Australian and New Zealand Standard Classification of Occupations (ANZSCO). This provides 43 distinct occupations, including seven technician and trade occupations.

The next section presents the results of the matching. We find that the level of matching is quite low at the sub-major occupation group level (36.6% for graduates). However, the rate of matching increases significantly if we restrict ourselves to graduates who undertook training for job-related reasons or graduates who had undertaken an apprenticeship or traineeship. Indeed, the overall match for the latter group is 60.7%, and four out of the seven technician and trade occupations have matches over 85%. There is considerable variability across occupations. The best matches are in the trades and the worst in managerial occupations.

In addition to the extent of matching, our interest lies in the skill levels of the destination occupations, and this is the subject of the third section of the report. The main issue is the extent to which destination occupations are at a level commensurate with intended occupations. This analysis is built on the five levels of skill assigned to each four-digit occupation by the Australian Bureau of Statistics (ABS). Our results are largely positive, with around three-quarters of graduates working at a skill level equal or higher than that of the intended occupation.

The following section takes a different angle by looking at qualitative data from the Student Outcomes Survey. Respondents are asked questions about the relevance of their training and whether the student achieved their main reason for studying. These answers can be classified by whether the intended and destination occupations match. If we find that qualifications are seen to be highly relevant when there is a match but not so relevant when there is no match, then we would conclude that the mismatching is an issue and that the training has largely been wasted. On the other hand, if the qualifications are seen to be relevant even when there is no match, then we would conclude that the qualifications are useful but are more generic in nature, in the sense that people working in a range of occupations have found the training relevant.

One of the features of this section is the level of detail. For each intended occupation we have listed the important destination occupations and the level of the relevance of the training. Our main findings are: that 'wastage' is an issue in relatively few courses (but is a real issue for courses with intended occupations of arts and media professionals, and sports and personal workers); and that VET as generic training (that is, relevant to a range of occupations) is the rule rather than the exception. In fact VET is highly specific only for some of the trades, carers and aides, and cleaners and laundry workers.

We end with some conclusions.

Occupational alignment between training and employment

The *intended occupation* is derived from the Australian and New Zealand Standard Classification of Occupations (ANZSCO) assigned to training package qualifications.[1] The *destination occupation* is the ANZSCO occupation corresponding to a student's employment after training. A *match at major group* refers to equivalent codes when intended and destination occupations are compared at the single-digit occupational level, while a *match at sub-major group* refers to equivalent codes when those occupations are compared at the two-digit level. It is the latter that we primarily use.

We restrict our sample to graduates; that is, those people who have completed a qualification. This is because we are less interested in the match for those who do not complete a full qualification. It would be unreasonable to conclude that the VET system is not providing relevant skills if the individual has not completed the full qualification. Some modules may equip an individual for a particular occupation, but the complete qualification could be expected to provide a better foundation.

Table 1 provides the results of the initial tabulation. The table has two columns: match at major group and match at sub-major group. The two columns are best explained through a couple of examples. Take technicians and trades workers. The match at the major group is 66.7%, meaning that 66.7% of people with trades qualifications ended up in a trades occupation. The match at the sub-major group level is 60.6%, meaning that 60.6% of technicians and trades workers ended up in their intended occupation at the sub-major group level. For individual trades there are again two levels of matching. For example, 72.3% of graduates with an automotive and engineering qualification ended up in an automotive and engineering occupation (that is, matched at the sub-major group), but 80.7% ended up in a trades occupation (that is, matched at the major group). So 8.4% of these graduates ended up in a trades occupation, but not automotive and engineering.

[1] ANZSCO replaced the Australian Standard Classification of Occupations (ASCO) classification in 2006. In this paper we use the more up-to-date classification where possible. The rate of matching is not independent of the classification. A comparison of table 1 with Cully, Nguyen and John (2004) suggests that the rate of matching is higher under ANZSCO than ASCO (36.6% compared with 22.8% at the sub-major group level).

Table 1   Matches between intended and destination occupations for graduates who are employed, by selected ANZSCO, 2007

Intended occupation of training activity	Match at major group	Match at sub-major group
	%	%
1 Managers	**18.8**	**14.1**
12 Farmers and farm managers	36.7	33.4
13 Specialist managers	14.6	8.3
14 Hospitality, retail and service managers	12.6	10.5
2 Professionals	**35.4**	**21.5**
21 Arts and media professionals	22.2	7.5*
22 Business, human resource and marketing professionals	16.9	15.0
23 Design, engineering, science and transport professionals	21.0	16.9
24 Education professionals	56.1	31.0
26 ICT professionals	28.0	16.1*
27 Legal, social and welfare professionals	29.9	28.2
3 Technicians and trades workers	**66.7**	**60.6**
31 Engineering, ICT and science technicians	29.9	20.6
32 Automotive and engineering trades workers	80.7	72.3
33 Construction trades workers	86.1	81.1
34 Electrotechnology and telecommunications trades workers	92.1	85.7
35 Food trades workers	77.8	76.4
36 Skilled animal and horticultural workers	46.6	43.6
39 Other technicians and trades workers	54.6	49.0
4 Community and personal service workers	**53.3**	**43.8**
41 Health and welfare support workers	61.3	33.0
42 Carers and aides	77.4	70.9
43 Hospitality workers	34.8	29.1
44 Protective service workers	41.3	34.9
45 Sports and personal service workers	35.0	26.4
5 Clerical and administrative workers	**50.3**	**23.0**
51 Office managers and program administrators	41.6	10.6
53 General clerical workers	50.9	21.1
54 Inquiry clerks and receptionists	54.0	41.3
55 Numerical clerks	64.9	42.1
59 Other clerical and administrative workers	41.8	18.7
6 Sales workers	**51.6**	**45.2**
61 Sales representatives and agents	49.6	40.1
62 Sales assistants and salespersons	52.0	46.1
7 Machinery operators and drivers	**39.5**	**26.6**
71 Machine and stationary plant operators	38.3	22.2
72 Mobile plant operators	32.1	22.1
73 Road and rail drivers	41.1	32.3
74 Storepersons	40.5	23.7
8 Labourers	**33.6**	**25.5**
81 Cleaners and laundry workers	88.8	84.8
82 Construction and mining labourers	24.0	18.3
83 Factory process workers	43.3	31.9
84 Farm, forestry and garden workers	36.4	26.3
85 Food preparation assistants	23.1	13.7
89 Other labourers	13.1	8.2
Total	**47.8**	**36.6**

Notes: Base is all graduates, irrespective of reason for study, who were employed as at May 2007, excluding those from the adult and community education (ACE) sector and unknown intended ANZSCO.
Some sub-major group level occupations are not presented due too few numbers in sample cells.
* Relative standard error greater than 25%; estimate should be used with caution.

Source: NCVER Student Outcomes Survey, 2007.

The table shows a high degree of variability. The match at the sub-major group level is 36.6%, with individual matches varying between 7.5% for arts and media professionals, to 85.7% for the electrotechnology and telecommunications trades. If the matching criterion is broadened to the major group level, then the matches rise to 22.2% for arts and media professionals and to 92.1% for the electrotechnology and telecommunications trades. Which level is more appropriate is a matter of judgement, but we concentrate on the sub-major group level—it seems to supply a reasonable level of differentiation.

The matches are highest for the trades group. However, within this group the level of matching is much lower for engineering and science technicians, and skilled animal and horticultural workers. In relation to the other groups, matching is particularly poor for managers, labourers and professionals.

Before exploring the nature of the so-defined mismatches, we note that the VET student population is very diverse, ranging from school leavers and new entrants, to people retraining or wishing to advance their careers. Background and motivation are likely to affect the level of matching. For example, if an individual is undertaking a course for personal development reasons, then there would be no reason to expect an occupational match. To throw some light on this we provide two additional tabulations. The first of these (table 2) restricts the sample to those who have indicated that their main reason for study is employment-related (77.7% of graduates in 2007) (NCVER 2007). The second (table 3) restricts the sample to those who had undertaken an apprenticeship or traineeship (25.4% of graduates in 2007) (NCVER 2007). The level of matching increases somewhat when the reason for study is employment-related and quite substantially for those who had undertaken an apprenticeship or traineeship. For those undertaking an apprenticeship or traineeship, the level of matching is particularly high for technician and trade occupations, with an overall match at the sub-major group level of 84.6%, and four out of the seven trade occupations had matches in excess of 85%. However, the level of matching is quite low outside the technicians and trades workers category. The only non-trades sub-major group occupations with matches over 70% are carers and aides (81.5%) and road and rail drivers (78.6%).

Table 2   Matches between intended and destination occupations for graduates who are employed and who undertook their training for employment-related reasons, by selected ANZSCO, 2007

Intended occupation of training activity	Match at major group	Match at sub-major group
	%	%
1 Managers	**19.5**	**15.3**
12 Farmers and farm managers	39.0	37.1
13 Specialist managers	15.0	8.9
14 Hospitality, retail and service managers	11.5	10.3
2 Professionals	**39.0**	**23.8**
21 Arts and media professionals	20.7	5.6*
22 Business, human resource and marketing professionals	20.6	18.3
23 Design, engineering, science and transport professionals	21.7	18.1
24 Education professionals	57.2	31.2
26 ICT professionals	30.6	15.4*
27 Legal, social and welfare professionals	29.5	27.4
3 Technicians and trades workers	**70.4**	**64.3**
31 Engineering, ICT and science technicians	32.5	23.7
32 Automotive and engineering trades workers	83.5	74.8
33 Construction trades workers	86.3	80.9
34 Electrotechnology and telecommunications trades workers	92.2	85.8
35 Food trades workers	80.1	79.1
36 Skilled animal and horticultural workers	49.2	46.6
39 Other technicians and trades workers	60.2	54.6
4 Community and personal service workers	**56.7**	**46.9**
41 Health and welfare support workers	63.4	34.6
42 Carers and aides	79.5	73.2
43 Hospitality workers	36.9	30.7
44 Protective service workers	40.5	34.5
45 Sports and personal service workers	41.3	32.5
5 Clerical and administrative workers	**54.8**	**26.1**
51 Office managers and program administrators	41.2	11.4
53 General clerical workers	58.3	25.0
54 Inquiry clerks and receptionists	60.3	45.9
55 Numerical clerks	65.4	42.8
59 Other clerical and administrative workers	44.9	21.4
6 Sales workers	**52.7**	**46.6**
61 Sales representatives and agents	51.1	43.0
62 Sales assistants and salespersons	53.0	47.3
7 Machinery operators and drivers	**42.9**	**29.0**
71 Machine and stationary plant operators	38.4	22.2
72 Mobile plant operators	30.1	19.5
73 Road and rail drivers	53.2	42.7
74 Storepersons	38.7	22.3
8 Labourers	**35.0**	**27.0**
81 Cleaners and laundry workers	88.8	84.7
82 Construction and mining labourers	26.4	20.7
83 Factory process workers	44.4	33.3
84 Farm, forestry and garden workers	39.8	28.8
85 Food preparation assistants	25.6	15.4
89 Other labourers	12.9	8.6
Total	**51.1**	**39.7**

Notes: Base is all graduates who indicated employment-related reasons for undertaking training and who were employed as at May 2007, excluding those from the ACE sector and unknown intended ANZSCO.
Some sub-major group level occupations are not presented due too few numbers in sample cells.
* Relative standard error greater than 25%; estimate should be used with caution.

Source: NCVER Student Outcomes Survey, 2007.

Table 3   **Matches between intended and destination occupations for apprentices and trainees who have completed their training and are employed, by selected ANZSCO, 2007**

Intended occupation of training activity	Match at major group	Match at sub-major group
	%	%
1 Managers	**11.7**	**11.7**
12 Farmers and farm managers	14.5*	14.5*
13 Specialist managers	8.8*	8.8*
2 Professionals	**22.6***	**21.9***
3 Technicians and trades workers	**88.6**	**84.6**
31 Engineering, ICT and science technicians	58.3	48.6
32 Automotive and engineering trades workers	92.1	87.0
33 Construction trades workers	90.1	87.7
34 Electrotechnology and telecommunications trades workers	94.7	89.5
35 Food trades workers	92.7	91.2
36 Skilled animal and horticultural workers	63.4	61.6
39 Other technicians and trades workers	86.6	82.1
4 Community and personal service workers	**69.3**	**62.0**
41 Health and welfare support workers	66.1	28.4*
42 Carers and aides	86.9	81.5
43 Hospitality workers	46.5	41.3
44 Protective service workers	73.8	68.2
45 Sports and personal service workers	39.7	35.0
5 Clerical and administrative workers	**68.1**	**32.1**
51 Office managers and program administrators	50.7	10.5*
53 General clerical workers	71.2	31.4
54 Inquiry clerks and receptionists	62.2	47.3
55 Numerical clerks	82.6	53.1
59 Other clerical and administrative workers	55.1	27.6
6 Sales workers	**53.4**	**49.0**
61 Sales representatives and agents	76.2	68.1
62 Sales assistants and salespersons	51.9	47.7
7 Machinery operators and drivers	**57.6**	**47.0**
71 Machine and stationary plant operators	49.6	33.4
72 Mobile plant operators	34.1	24.6*
73 Road and rail drivers	81.1	78.6
74 Storepersons	51.2	38.7
8 Labourers	**48.2**	**39.3**
81 Cleaners and laundry workers	83.2	78.6
82 Construction and mining labourers	19.2*	10.1*
83 Factory process workers	58.0	48.5
84 Farm, forestry and garden workers	53.7	40.4
85 Food preparation assistants	42.6*	21.3*
89 Other labourers	16.0	11.2
Total	**70.8**	**60.7**

Notes: Base is all apprentice and trainee graduates who were employed as at May 2007, excluding those from the ACE sector and unknown intended ANZSCO.
Some sub-major group level occupations are not presented due too few numbers in sample cells.
* Relative standard error greater than 25%; estimate should be used with caution.

Source: NCVER Student Outcomes Survey, 2007.

Skill levels

We have established that the matching is pretty good in the trades but much poorer elsewhere. We now attempt to unpick the mismatch to find out whether it is more about the generic nature of qualifications or more that individuals cannot get a job commensurate with their qualifications.

We provide an overall picture by distinguishing between occupations at a higher skill level and occupations at a lower skill level. Under the ANZSCO classification, skill levels are assigned to occupations at the four-digit level, from 1 (the highest) to 5 (the lowest). That is, not all managers are assigned the highest skill level, just as not all labourers have the lowest skill level (see appendix table A1). According to the Australian Bureau of Statistics, occupations at skill level 1 have a level of skill commensurate with a bachelor degree or higher qualification. Occupations at skill level 2 have a level of skill commensurate with an associate degree, advanced diploma or diploma. Occupations at the lowest skill level (skill level 5) have a level of skill commensurate with certificate 1 or compulsory secondary education (ABS 2005).

Table 4 summarises changes in skill levels when graduates are not employed in the intended occupation of training.

Table 4   Employment status, skill level and occupational match by intended occupation, 2007

Intended occupation of training activity	Not employed in intended occupation			
	Employed in intended occupation	Employed at same or higher skill level[a]	Employed at lower skill level[a]	Employed at unknown skill level[a],[b]	Occupation after training unknown
	%	%	%	%	%
Managers	18.8	5.3	28.6	46.4	0.8
Professionals	35.4	6.7	56.7	0.0	1.2*
Technicians and trades workers	66.7	10.8	17.2	4.4	0.9
Community and personal service workers	53.3	16.1	8.9	20.7	1.0
Clerical and administrative workers	50.3	28.0	18.6	2.2	0.9
Sales workers	51.6	43.6	4.4	0.0	0.3*
Machinery operators and drivers	39.5	41.4	16.3	2.1	0.7
Labourers	33.6	63.6	0.6*	0.4	1.9
Total	**47.8**	**25.5**	**16.0**	**9.7**	**1.0**

Note: Base is all graduates, irrespective of reason for study, who were employed as at May 2007, excluding those from the ACE sector and unknown intended ANZSCO.
(a) Calculated at 4-digit ANZSCO level by comparing skill level of intended occupation and skill level of occupation after training.
(b) The 'unknown' skill levels occur when occupations are coded to the 2-digit level, to which skill levels are not assigned.
* Relative standard error greater than 25%; estimate should be used with caution.
Source: NCVER Student Outcomes Survey, 2007.

The occupation group that does worst in this exercise is professionals. In this group a majority of VET graduates (56.7%) ends up in a job at a lower skill level, and the percentage employed in the intended occupation of their training is relatively low (35.4%).

Technicians and trades workers are most likely to be employed in the intended occupation of their training, although 17.2% also end up in a job at a lower skill level. Sales workers do particularly well in this exercise, with 95.2% of graduates from this group either employed in their intended occupation or employed in a job at the same or higher skill level.

As noted earlier, the Student Outcomes Survey occurs around six months after the completion of training. For young people (15–24 years), we have data from the Down the Track survey, a further 24 months later. However, we must use the Australian Standard Classification of Occupations (ASCO) here rather than ANZSCO because the latter was only introduced after the Down the Track survey. This should not matter because our interest is in the relationship between the matches at six months and the matches at 30 months, rather than the level of matching itself. Table 5 indicates that, at the aggregate level, the matching rate actually declines over the period (43.1% to 40.5%), but the proportion moving into higher skill level occupations increases a little. By occupation the picture varies, with the matching increasing for managers and administrators (very modestly), professionals and associate professionals (appreciably), and intermediate production and transport workers (dramatically). Matching declines for the other occupational groups, suggesting attrition in these occupations.

Thus the matching process takes some time for the higher skilled occupations. (The intermediate production and transport workers occupation group appears to be an anomaly.)

Table 5   Employment status, skill level and occupational match, by intended occupation for young people, 2004

Intended occupation of training activity	Short term		Medium term	
	Employed in intended occupation	Employed at lower skill level	Employed in intended occupation	Employed at lower skill level
	%	%	%	%
Managers and administrators	6.2	84.5	7.4	70.9
Professionals	17.5	78.3	20.4	76.0
Associate professionals	19.5	64.3	23.7	54.4
Tradespersons and related workers	78.9	11.5	69.2	22.1
Advanced clerical and service workers	8.2	76.9	5.3	79.0
Intermediate clerical, sales and service workers	42.9	39.4	39.8	26.2
Intermediate production and transport workers	4.9	56.4	45.7	4.2
Elementary clerical, sales and service workers	34.1	0.0	31.9	0.0
Labourers and related workers	25.1	0.0	14.4	0.0
Total	**43.1**	**39.7**	**40.5**	**36.4**

Notes: Base is all graduates, irrespective of reason for study, who were either employed as at May 2002 (short term) or as at September 2004 (medium term), excluding those with unknown intended occupations.

Source: NCVER Down the Track Survey, 2004.

Mismatch or generic training?

We have been tussling with the two competing explanations of the low level of matching in the majority of the occupations (trades being the obvious exception). Does it indicate that the training has been wasted or does it indicate that the qualifications are generic in nature with applicability to a wide range of occupations? The Student Outcomes Survey has a question relating to the relevance to the current job of skills acquired in training. We tabulate the answer to this question in appendix table A2, showing the percentage who report their training as being highly or somewhat relevant for the destination occupations of each intended occupation. We also list, in descending order, the percentage of graduates who end up in each destination occupation. The purpose of this table is to provide readers with a reference to data at a detailed level, in contrast to the largely general picture provided by earlier tables. What we are hoping to understand is the extent to which a mismatch indicates a waste of training (as measured by a low percentage of graduates in a destination occupation reporting the training as being relevant), or generic preparation (as measured by a high percentage reporting the training as being relevant, although they do not end up in the intended occupation).

Before we move on to this issue of relevance among the 'mismatches', we first make sure that the 'matches' report their training as relevant—it would be rather worrying if this were not the case. Overall, 93.4% of those whose destination occupation is the same as their intended occupation report their training as being highly or somewhat relevant (table 6). At the sub-major group level, all occupations report relevance levels of over 80%, with the exception of hospitality, retail and service managers (78.4%) and arts and media professionals (69.9%).

Table 6   Graduates reporting that their training was highly or somewhat relevant: graduates for whom intended and destination occupations match at the sub-major group level, by selected ANZSCO, 2007

Intended occupation of training activity	%
1 Managers	**92.0**
12 Farmers and farm managers	94.6
13 Specialist managers	94.5
14 Hospitality, retail and service managers	78.4
2 Professionals	**90.5**
21 Arts and media professionals	69.9
22 Business, human resource and marketing professionals	97.0
23 Design, engineering, science and transport professionals	85.2
24 Education professionals	89.5
26 ICT professionals	100.0
27 Legal, social and welfare professionals	100.0
3 Technicians and trades workers	**96.5**
31 Engineering, ICT and science technicians	93.1
32 Automotive and engineering trades workers	97.6
33 Construction trades workers	95.7
34 Electrotechnology and telecommunications trades workers	95.2
35 Food trades workers	97.2
36 Skilled animal and horticultural workers	96.1
39 Other technicians and trades workers	97.5
4 Community and personal service workers	**95.1**
41 Health and welfare support workers	94.1
42 Carers and aides	97.3
43 Hospitality workers	91.4
44 Protective service workers	92.8
45 Sports and personal service workers	92.9
5 Clerical and administrative workers	**90.4**
51 Office managers and program administrators	95.2
53 General clerical workers	90.3
54 Inquiry clerks and receptionists	88.3
55 Numerical clerks	89.1
59 Other clerical and administrative workers	93.7
6 Sales workers	**88.2**
61 Sales representatives and agents	96.9
62 Sales assistants and salespersons	86.8
7 Machinery operators and drivers	**89.3**
71 Machine and stationary plant operators	91.4
72 Mobile plant operators	84.8
73 Road and rail drivers	86.3
74 Storepersons	95.8
8 Labourers	**88.8**
81 Cleaners and laundry workers	90.1
82 Construction and mining labourers	96.4
83 Factory process workers	88.2
84 Farm, forestry and garden workers	89.1
85 Food preparation assistants	88.6
89 Other labourers	83.1
Total	**93.4**

Notes: Base is all graduates, irrespective of reason for study, who were employed as at May 2007, excluding those from the ACE sector and unknown intended ANZSCO.
Some sub-major group level occupations are not presented due too few numbers in sample cells.

Source: NCVER Student Outcomes Survey, 2007.

We now get back to the main business of this section. We select two sub-major groups to illustrate the detailed data in table A2: arts and media professional (table 7), and education professionals (table 8).

Table 7   **Top 10 destination occupations and percentage reporting training relevant: arts and media professionals**

Destination occupation	%	Cumulative %	% reporting training was highly or somewhat relevant
62 Sales assistants and salespersons	21.2		18.0
21 Arts and media professionals	7.5	28.7	69.9
43 Hospitality workers	7.1	35.8	5.2
24 Education professionals	7.0	42.8	95.5
89 Other labourers	5.4	48.2	n/a
39 Other technicians and trades workers	4.4	52.6	58.7
63 Sales support workers	4.2	56.8	26.4
42 Carers and aides	3.7	60.5	27.3
13 Specialist managers	3.2	63.7	32.6
22 Business, human resource and marketing professionals	3.0	66.7	30.5

Note: Total number of respondents: 224.
Source: Table A2.

The match with destination occupations is very poor for the graduates of courses with the intended occupation of arts and media professionals: only 7.5% of graduates end up in the intended occupation, while 21.2% end up as sales assistants and salespersons. Of the latter group, only 18.0% report the training as being highly or somewhat relevant. Here there is no doubt that the training is a waste. However, 7.0% of arts and media professionals also end up as education professionals, and 95.5% of this group report the training as being relevant. So for those arts and media professionals who end up as salespersons the training is a waste, and for those who end up as education professionals the training offers a generic preparation. The latter suggests that course designers need to be aware that education occupations are likely to be prized occupations for their graduates.

We contrast this occupation with one where the match between intended and destination occupation is low, but training relevance is high in the non-matched destination occupations. The intended occupation of education professionals (table 8) is one such example. While the match here is only 31.0%, those graduates ending up in other occupations report high levels of training relevance. Thus courses for education professionals are largely generic in nature, in the sense that there are large numbers of graduates who do work as educational professionals but still judge the training as relevant to their work.

**Table 8   Top 10 destination occupations and percentage reporting training relevant:
education professionals**

Destination occupation	%	Cumulative %	% reporting training was highly or somewhat relevant
24 Education professionals	31.0		89.5
22 Business, human resource and marketing professionals	15.9	46.9	96.5
25 Health professionals	5.3	52.2	89.5
13 Specialist managers	5.2	57.4	89.0
51 Office managers and program administrators	4.8	62.2	94.2
31 Engineering, ICT and science technicians	3.0	65.2	86.0
41 Health and welfare support workers	3.0	68.2	81.1
44 Protective service workers	2.8	71.0	84.1
53 General clerical workers	2.7	73.7	71.0
71 Machine and stationary plant operators	2.6	76.3	95.0

Note: Total number of respondents: 1072.
Source: Table A2.

Readers interested in the relevance of individual destination occupations for each intended
occupation are referred to table A2 in the appendix.

To get an overall perspective we consider graduates classified by their intended occupation. For the
graduates who are not employed in their intended occupation, we show the percentage who report
the training as being highly or somewhat relevant, and the percentage who report the training as
having very little or no relevance.

Table 9 present the results of this exercise summarised at the major group level (noting that the
arithmetic is at the sub-major group level).

**Table 9   Training relevance by intended occupation: graduates for whom intended and destination
occupations do not match at the sub-major group level, 2007**

Intended occupation (2-digit ANZSCO within these major groups)	Employed in intended occupation	Not employed in intended occupation			Occupation after training unknown
		Training is highly or somewhat relevant	Training has very little or no relevance	Training relevance unknown	
	%	%	%	%	%
Managers	14.1	65.9	19.1	0.1*	0.8
Professionals	21.5	52.6	24.4	0.3**	1.2*
Technicians and trades workers	60.6	24.2	14.2	0.1*	0.9
Community and personal service workers	43.8	29.4	25.6	0.2*	1.0
Clerical and administrative workers	23.0	53.7	22.3	0.1*	0.9
Sales workers	45.2	37.3	17.1	0.1**	0.3*
Machinery operators and drivers	26.6	47.7	24.7	0.2*	0.7
Labourers	25.5	49.9	22.5	0.3*	1.9
Total	**36.6**	**41.2**	**21.1**	**0.2**	**1.0**

Notes: Base is all graduates, irrespective of reason for study, who were employed as at May 2007, excluding those from
the ACE sector and unknown intended ANZSCO; matching between intended and destination occupation occurs at
the sub-major group level.
* Relative standard error greater than 25%; estimate should be used with caution.
** Fewer than 5 respondents in cell.

Source: Table A3.

The columns to focus on are the first three (numeric) columns. The sum of the first two reflects the usefulness of the course, and the third reflects the wastage. According to this way of looking at the data, overall, 21.1% of graduates had completed courses that were wasted. The lowest wastage rate is among technicians and trades workers, at 14.2%. The courses with the highest wastage rates are those for community and personal service workers (25.6%), machinery operators and drivers (24.7%), and professionals (24.4%).

While these 'wastage' rates are not excessive, a number of sub-major group courses have much higher rates. Table A3 replicates table 9 at the sub-major group level, and we extract the third numeric column from this table to further pursue the wastage issue. Table 10 sorts the courses on the basis of the number of graduates not employed in the intended occupation and reporting that they found the training to be of little or no relevance to their destination occupation.

From this table, we conclude that wastage is a real issue for courses designed for arts and media professionals and sports and personal service workers. It is also an issue, but to a lesser extent, for a number of other courses. For all of these courses, students should be made aware of the limited available job opportunities, and policy-makers need to be concerned about the apparent level of over-provision. While the number of graduates in these courses is modest, it is also not insignificant: 3240 arts and media professionals and 15 360 sports and personal service workers, out of an estimated number of graduates of just under 400 000 in 2007.[2]

We now move from the issue of wastage to the balance between specific and generic training.

To obtain an overall view of this issue we categorise courses on a specific to generic scale. We look at the number of graduates in the intended occupation compared with a related occupation (by which we mean a job where the training is highly or somewhat relevant, although not in the intended occupation). Courses classified by the intended occupation are listed, from those which are highly specific (a very high level of matching between the intended and destination occupations), to those which are highly generic (a high number of graduates reporting training relevance in other destination occupations) (figure 1).

We can see that the highly specific courses are dominated by some (but not all) of the trades. Courses for carers and aides are also highly specific. Other occupational areas tend to be much more generic in nature, and course designers need to be aware of the wide range of contexts which make use of the training.

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2   Appendix table A4 provides the estimated number of graduates from the Student Outcomes Survey for all sub-major group level courses.

Table 10   Courses sorted by the proportion of graduates reporting that the training is of little or no relevance to their destination occupation: graduates for whom intended and destination occupations do not match at the sub-major group level, by selected ANZSCO, 2007

Intended occupation of training activity	%
21 Arts and media professionals	63.6
45 Sports and personal service workers	45.0
26 ICT professionals	36.7
73 Road and rail drivers	35.3
43 Hospitality workers	34.0
31 Engineering, ICT and science technicians	31.2
85 Food preparation assistants	29.7
59 Other clerical and administrative workers	28.6
84 Farm, forestry and garden workers	27.2
22 Business, human resource and marketing professionals	27.1
61 Sales representatives and agents	26.0
14 Hospitality, retail and service managers	25.9
53 General clerical workers	25.9
39 Other technicians and trades workers	24.1
23 Design, engineering, science and transport professionals	23.1*
83 Factory process workers	22.5
89 Other labourers	21.7
82 Construction and mining labourers	21.2
54 Inquiry clerks and receptionists	21.2
36 Skilled animal and horticultural workers	20.7
74 Storepersons	20.1
12 Farmers and farm managers	20.0
55 Numerical clerks	19.2
56 Clerical and office support workers	18.1*
41 Health and welfare support workers	17.7
27 Legal, social and welfare professionals	16.9*
13 Specialist managers	16.2
71 Machine and stationary plant operators	16.0
72 Mobile plant operators	15.8
62 Sales assistants and salespersons	15.5
44 Protective service workers	14.7
51 Office managers and program administrators	13.8
42 Carers and aides	13.5
24 Education professionals	12.0
35 Food trades workers	8.3
32 Automotive and engineering trades workers	7.8
81 Cleaners and laundry workers	5.4*
33 Construction trades workers	3.5
34 Electrotechnology and telecommunications trades workers	3.2*

Notes: Base is all graduates, irrespective of reason for study, who were employed as at May 2007, excluding those from the ACE sector and unknown intended ANZSCO; matching between intended and destination occupation occurs at the sub-major group level.
    Some sub-major group level occupations are not presented due too few numbers in sample cells.
    * Relative standard error greater than 25%; estimate should be used with caution.
Source: Table A3.

Figure 1   Courses ranked from most specific to most generic, by selected ANZSCO, 2007
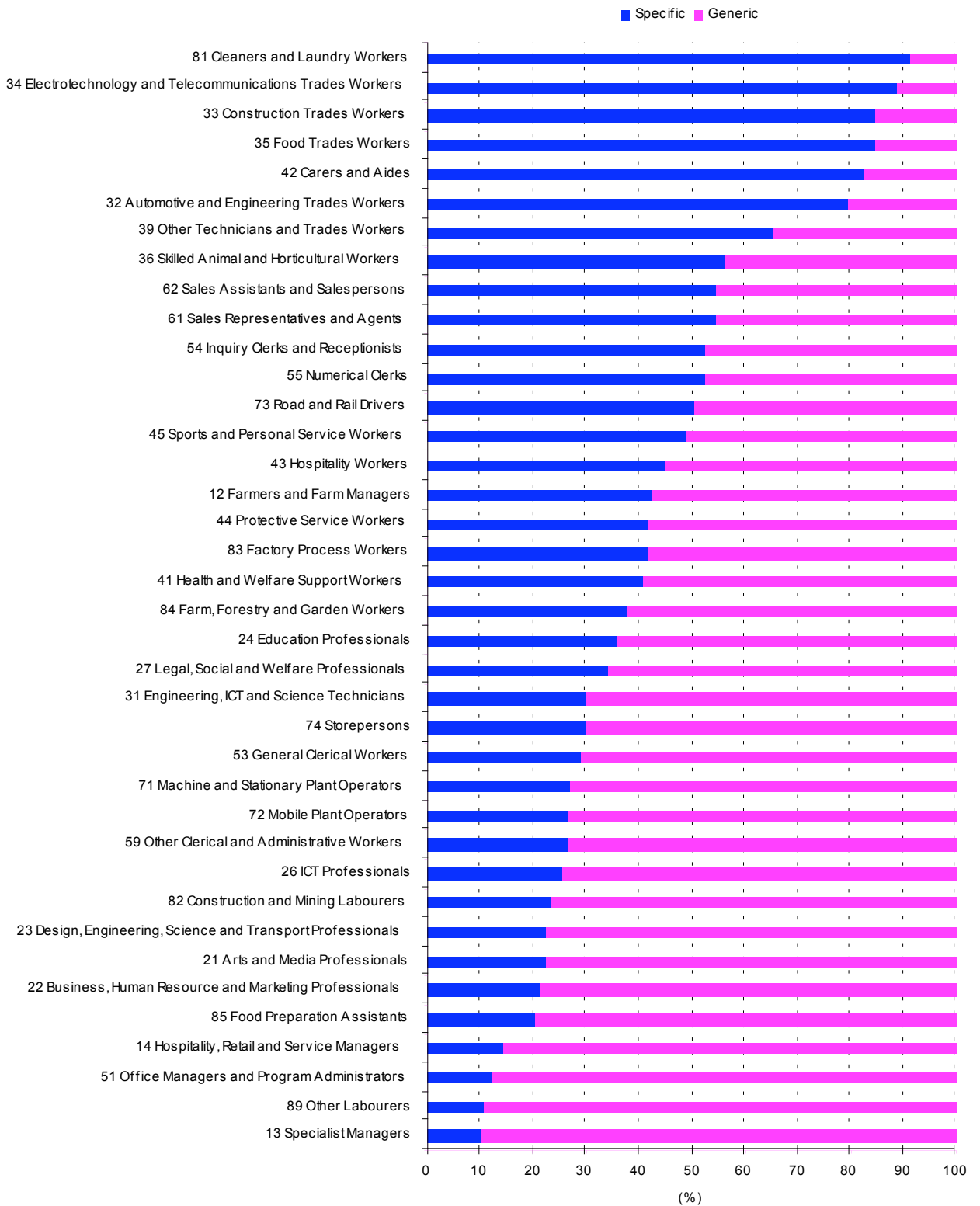
Note: The figure presents, for each intended occupation, the number of graduates in the intended occupation relative to the number of graduates in other jobs who report that the training is relevant.

Source: Derived from table A3.

Is VET vocational? The relevance of training to vocational education and training graduates

Conclusion

We began this paper with the statement that vocational education and training was vocational in intent—its purpose, unashamedly instrumental, being about providing skills to be used in work. We said that school and university education, by contrast, were less instrumental in nature, often being seen as ends in their own right. The question now is does this view stand up to scrutiny, or should we start to rethink the nature of vocational education?

We began by looking at the match between what people study and the jobs they get. Here we found that the match was pretty poor in most occupational groups—technicians and trades workers being the exception rather than the rule. We tried to understand this mismatch by looking at the changes in skill level for the graduates not employed in their intended occupation. For some occupations, most notably professionals, a high percentage of graduates were employed at a lower skill level. By contrast, relatively few community and personal service workers and sales workers were employed at a lower skill level. Finally, we came to the crux of the issue: whether the low level of matching in the majority of occupations meant a waste of training, or whether the training was being used as a generic preparation?

It appears that a narrow view of VET is appropriate only for a few courses. There are a number of trade courses (plus a couple of others) where it makes sense to design the course around a particular occupational setting. These courses would appear to fit very naturally into the world of training packages developed by industry skills councils. However, the majority of courses do not fit into this pattern, and the majority of graduates do not end up in the occupation which is the 'intended' occupation for the course. Most of VET is generic in this sense. This does not imply that the industry focus of VET is wrong, but it does imply that course designers need to be very wary of the range of contexts in which graduates are likely to use the skills they have acquired. It also implies that planners need to be very wary of trying to match training to particular occupations. This view is supported by the finding that the distribution of employment after completion of vocational training bears closer correspondence to the overall workforce distribution of employment than it does to the intended areas of training. This, according to Cully et al. (2006), suggests that labour demand holds sway over supply and that the generic skills delivered through VET are valuable to employers.

While our conclusion overall is that the mismatch reflects the generic nature of VET rather than wastage, this is an overall conclusion not a universal one. There are clear examples of wastage in the sector, where graduates do not end up in jobs where the training is relevant. This must be of concern to planners and to potential students. The obvious example here is courses for arts and media professionals. They may be very good courses and provide sound technical training, but they are clear examples of wasted training effort—if training is focused on the needs of the labour market. However, such courses are very much in the minority, and the relevance of VET training to the labour market is the positive conclusion from this analysis.

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Appendix

Table A1   Skill level by ANZSCO

ANZSCO 4-digit	Description	Skill level
1111	Chief executives and managing directors	1
1112	General managers	1
1113	Legislators	1
1211	Aquaculture farmers	1
1212	Crop farmers	1
1213	Livestock farmers	1
1214	Mixed crop and livestock farmers	1
1311	Advertising and sales managers	1
1321	Corporate services managers	1
1322	Finance managers	1
1323	Human resource managers	1
1324	Policy and planning managers	1
1325	Research and development managers	1
1331	Construction managers	1
1332	Engineering managers	1
1333	Importers, exporters and wholesalers	1
1334	Manufacturers	1
1335	Production managers	1
1336	Supply and distribution managers	1
1341	Child care centre managers	1
1342	Health and welfare services managers	1
1343	School principals	1
1344	Other education managers	1
1351	ICT managers	1
1391	Commissioned officers (management)	1
1392	Senior non-commissioned defence force members	1
1399	Other specialist managers	1
1411	Cafe and restaurant managers	2
1412	Caravan park and camping ground managers	2
1413	Hotel and motel managers	2
1414	Licensed club managers	2
1419	Other accommodation and hospitality managers	2
1421	Retail managers	2
1491	Amusement, fitness and sports centre managers	2
1492	Call or contact centre and customer service managers	2
1493	Conference and event organisers	2
1494	Transport services managers	2
1499	Other hospitality, retail and service managers	2
2111	Actors, dancers and other entertainers	1
2112	Music professionals	1
2113	Photographers	1

ANZSCO 4-digit	Description	Skill level
2114	Visual arts and crafts professionals	1
2121	Artistic directors, and media producers and presenters	1
2122	Authors, and book and script editors	1
2123	Film, television, radio and stage directors	1
2124	Journalists and other writers	1
2211	Accountants	1
2212	Auditors, company secretaries and corporate treasurers	1
2221	Financial brokers	2
2222	Financial dealers	1
2223	Financial investment advisers and managers	1
2231	Human resource professionals	1
2232	ICT trainers	1
2233	Training and development professionals	1
2241	Actuaries, mathematicians and statisticians	1
2242	Archivists, curators and records managers	1
2243	Economists	1
2244	Intelligence and policy analysts	1
2245	Land economists and valuers	1
2246	Librarians	1
2247	Management and organisation analysts	1
2249	Other information and organisation professionals	1
2251	Advertising and marketing professionals	1
2252	ICT sales professionals	1
2253	Public relations professionals	1
2254	Technical sales representatives	1
2311	Air transport professionals	1
2312	Marine transport professionals	1
2321	Architects and landscape architects	1
2322	Cartographers and surveyors	1
2323	Fashion, industrial and jewellery designers	1
2324	Graphic and web designers, and illustrators	1
2325	Interior designers	1
2326	Urban and regional planners	1
2331	Chemical and materials engineers	1
2332	Civil engineering professionals	1
2333	Electrical engineers	1
2334	Electronics engineers	1
2335	Industrial, mechanical and production engineers	1
2336	Mining engineers	1
2339	Other engineering professionals	1
2341	Agricultural and forestry scientists	1
2342	Chemists, and food and wine scientists	1
2343	Environmental scientists	1
2344	Geologists and geophysicists	1
2345	Life scientists	1
2346	Medical laboratory scientists	1
2347	Veterinarians	1
2349	Other natural and physical science professionals	1
2411	Early childhood (pre-primary school) teachers	1
2412	Primary school teachers	1
2413	Middle school teachers (Aus) / intermediate school teachers (NZ)	1
2414	Secondary school teachers	1
2415	Special education teachers	1

ANZSCO 4-digit	Description	Skill level
2421	University lecturers and tutors	1
2422	Vocational education teachers (Aus)/polytechnic teachers (NZ)	1
2491	Education advisers and reviewers	1
2492	Private tutors and teachers	1
2493	Teachers of English to speakers of other languages	1
2511	Dieticians	1
2512	Medical imaging professionals	1
2513	Occupational and environmental health professionals	1
2514	Optometrists and orthoptists	1
2515	Pharmacists	1
2519	Other health diagnostic and promotion professionals	1
2521	Chiropractors and osteopaths	1
2522	Complementary health therapists	1
2523	Dental practitioners	1
2524	Occupational therapists	1
2525	Physiotherapists	1
2526	Podiatrists	1
2527	Speech professionals and audiologists	1
2531	Generalist medical practitioners	1
2532	Anaesthetists	1
2533	Internal medicine specialists	1
2534	Psychiatrists	1
2535	Surgeons	1
2539	Other medical practitioners	1
2541	Midwives	1
2542	Nurse educators and researchers	1
2543	Nurse managers	1
2544	Registered nurses	1
2611	ICT business and systems analysts	1
2612	Multimedia specialists and web developers	1
2613	Software and applications programmers	1
2621	Database and systems administrators, and ICT security specialists	1
2631	Computer network professionals	1
2632	ICT support and test engineers	1
2633	Telecommunications engineering professionals	1
2711	Barristers	1
2712	Judicial and other legal professionals	1
2713	Solicitors	1
2721	Counsellors	1
2722	Ministers of religion	1
2723	Psychologists	1
2724	Social professionals	1
2725	Social workers	1
2726	Welfare, recreation and community arts workers	1
3111	Agricultural technicians	2
3112	Medical technicians	2
3113	Primary products inspectors	2
3114	Science technicians	2
3121	Architectural, building and surveying technicians	2
3122	Civil engineering draftspersons and technicians	2
3123	Electrical engineering draftspersons and technicians	2
3124	Electronic engineering draftspersons and technicians	2
3125	Mechanical engineering draftspersons and technicians	2

ANZSCO 4-digit	Description	Skill level
3126	Safety inspectors	2
3129	Other building and engineering technicians	2
3131	ICT support technicians	2
3132	Telecommunications technical specialists	2
3211	Automotive electricians	3
3212	Motor mechanics	3
3221	Metal casting, forging and finishing trades workers	3
3222	Sheetmetal trades workers	3
3223	Structural steel and welding trades workers	3
3231	Aircraft maintenance engineers	3
3232	Metal fitters and machinists	3
3233	Precision metal trades workers	3
3234	Toolmakers and engineering patternmakers	3
3241	Panelbeaters	3
3242	Vehicle body builders and trimmers	3
3243	Vehicle painters	3
3311	Bricklayers and stonemasons	3
3312	Carpenters and joiners	3
3321	Floor finishers	3
3322	Painting trades workers	3
3331	Glaziers	3
3332	Plasterers	3
3333	Roof tilers	3
3334	Wall and floor tilers	3
3341	Plumbers	3
3411	Electricians	3
3421	Airconditioning and refrigeration mechanics	3
3422	Electrical distribution trades workers	3
3423	Electronics trades workers	3
3424	Telecommunications trades workers	3
3511	Bakers and pastrycooks	3
3512	Butchers and smallgoods makers	3
3513	Chefs	2
3514	Cooks	3
3611	Animal attendants and trainers	3
3612	Shearers	3
3613	Veterinary nurses	3
3621	Florists	3
3622	Gardeners	3
3623	Greenkeepers	3
3624	Nurserypersons	3
3911	Hairdressers	3
3921	Binders, finishers and screen printers	3
3922	Graphic pre-press trades workers	3
3923	Printers	3
3931	Canvas and leather goods makers	3
3932	Clothing trades workers	3
3933	Upholsterers	3
3941	Cabinetmakers	3
3942	Wood machinists and other wood trades workers	3
3991	Boat builders and shipwrights	3
3992	Chemical, gas, petroleum and power generation plant operators	3
3993	Gallery, library and museum technicians	2

ANZSCO 4-digit	Description	Skill level
3994	Jewellers	3
3995	Performing arts technicians	3
3996	Signwriters	3
3999	Other miscellaneous technicians and trades workers	3
4111	Ambulance officers and paramedics	2
4112	Dental hygienists, technicians and therapists	2
4113	Diversional therapists	3
4114	Enrolled and mothercraft nurses	2
4115	Indigenous health workers	2
4116	Massage therapists	2
4117	Welfare support workers	2
4211	Child carers	4
4221	Education aides	4
4231	Aged and disabled carers	4
4232	Dental assistants	4
4233	Nursing support and personal care workers	4
4234	Special care workers	4
4311	Bar attendants and baristas	4
4312	Cafe workers	5
4313	Gaming workers	4
4314	Hotel service managers	3
4315	Waiters	4
4319	Other hospitality workers	5
4411	Defence force members – other ranks	3
4412	Fire and emergency workers	3
4413	Police	2
4421	Prison officers	4
4422	Security officers and guards	5
4511	Beauty therapists	4
4512	Driving instructors	3
4513	Funeral workers	2
4514	Gallery, museum and tour guides	4
4515	Personal care consultants	4
4516	Tourism and travel advisers	4
4517	Travel attendants	3
4518	Other personal service workers	5
4521	Fitness instructors	4
4522	Outdoor adventure guides	4
4523	Sports coaches, instructors and officials	3
4524	Sportspersons	3
5111	Contract, program and project administrators	2
5121	Office managers	2
5122	Practice managers	2
5211	Personal assistants	3
5212	Secretaries	3
5311	General clerks	4
5321	Keyboard operators	4
5411	Call or contact centre workers	4
5412	Inquiry clerks	4
5421	Receptionists	4
5511	Accounting clerks	4
5512	Bookkeepers	4
5513	Payroll clerks	4

ANZSCO 4-digit	Description	Skill level
5521	Bank workers	4
5522	Credit and loans officers	4
5523	Insurance, money market and statistical clerks	4
5611	Betting clerks	5
5612	Couriers and postal deliverers	5
5613	Filing and registry clerks	5
5614	Mail sorters	5
5615	Survey interviewers	5
5616	Switchboard operators	5
5619	Other clerical and office support workers	5
5911	Purchasing and supply logistics clerks	4
5912	Transport and despatch clerks	4
5991	Conveyancers and legal executives	2
5992	Court and legal clerks	3
5993	Debt collectors	4
5994	Human resource clerks	4
5995	Inspectors and regulatory officers	4
5996	Insurance investigators, loss adjusters and risk surveyors	3
5997	Library assistants	4
5999	Other miscellaneous clerical and administrative workers	4
6111	Auctioneers, and stock and station agents	3
6112	Insurance agents	3
6113	Sales representatives	4
6121	Real estate sales agents	3
6211	Sales assistants (general)	5
6212	ICT sales assistants	5
6213	Motor vehicle and vehicle parts salespersons	4
6214	Pharmacy sales assistants	5
6215	Retail supervisors	4
6216	Service station attendants	5
6217	Street vendors and related salespersons	5
6219	Other sales assistants and salespersons	5
6311	Checkout operators and office cashiers	5
6391	Models and sales demonstrators	5
6392	Retail and wool buyers	3
6393	Telemarketers	5
6394	Ticket salespersons	5
6395	Visual merchandisers	4
6399	Other sales support workers	5
7111	Clay, concrete, glass and stone processing machine operators	4
7112	Industrial spraypainters	4
7113	Paper and wood processing machine operators	4
7114	Photographic developers and printers	4
7115	Plastics and rubber production machine operators	4
7116	Sewing machinists	4
7117	Textile and footwear production machine operators	4
7119	Other machine operators	4
7121	Crane, hoist and lift operators	4
7122	Drillers, miners and shot firers	4
7123	Engineering production systems workers	4
7129	Other stationary plant operators	4
7211	Agricultural, forestry and horticultural plant operators	4
7212	Earthmoving plant operators	4

ANZSCO 4-digit	Description	Skill level
7213	Forklift drivers	4
7219	Other mobile plant operators	4
7311	Automobile drivers	4
7312	Bus and coach drivers	4
7313	Train and tram drivers	4
7321	Delivery drivers	4
7331	Truck drivers	4
7411	Storepersons	4
8111	Car detailers	5
8112	Commercial cleaners	5
8113	Domestic cleaners	5
8114	Housekeepers	5
8115	Laundry workers	5
8116	Other cleaners	5
8211	Building and plumbing labourers	5
8212	Concreters	5
8213	Fencers	4
8214	Insulation and home improvement installers	4
8215	Paving and surfacing labourers	5
8216	Railway track workers	4
8217	Structural steel construction workers	4
8219	Other construction and mining labourers	5
8311	Food and drink factory workers	5
8312	Meat boners and slicers, and slaughterers	4
8313	Meat, poultry and seafood process workers	5
8321	Packers	5
8322	Product assemblers	5
8391	Metal engineering process workers	5
8392	Plastics and rubber factory workers	5
8393	Product quality controllers	4
8394	Timber and wood process workers	5
8399	Other factory process workers	5
8411	Aquaculture workers	5
8412	Crop farm workers	5
8413	Forestry and logging workers	4
8414	Garden and nursery labourers	5
8415	Livestock farm workers	5
8416	Mixed crop and livestock farm workers	5
8419	Other farm, forestry and garden workers	5
8511	Fast food cooks	5
8512	Food trades assistants	5
8513	Kitchenhands	5
8911	Freight and furniture handlers	5
8912	Shelf fillers	5
8991	Caretakers	5
8992	Deck and fishing hands	4
8993	Handypersons	5
8994	Motor vehicle parts and accessories fitters	4
8995	Printing assistants and table workers	4
8996	Recycling and rubbish collectors	5
8997	Vending machine attendants	5
8999	Other miscellaneous labourers	5

Source: ABS (2005).

Table A2   Top 10 destination occupations and percentage reporting training highly or somewhat relevant for intended occupations at the sub-major group level, by selected ANZSCO, 2007

Managers

Destination occupation	Farmers and farm managers		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Farmers and farm managers	33.4		94.6
Farm, forestry and garden workers	22.4	55.8	88.2
Engineering, ICT and science technicians	5.6	61.4	86.7
Skilled animal and horticultural workers	3.8	65.2	82.7
Other labourers	2.5	67.7	42.9
Mobile plant operators	2.4	70.1	69.0
Automotive and engineering trades workers	2.3	72.4	18.2
Factory process workers	2.3	74.7	71.4
Design, engineering, science and transport professionals	2.2	76.9	61.0
Office managers and program administrators	2.2	79.1	87.1

Note: Total number of respondents: 558.

Destination occupation	Specialist managers		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Carers and aides	17.5		96.2
Specialist managers	8.3	25.8	94.5
Business, human resource and marketing professionals	7.6	33.4	92.5
Sales assistants and salespersons	7.5	40.9	56.1
General clerical workers	6.3	47.2	80.9
Office managers and program administrators	6.1	53.3	91.5
Hospitality, retail and service managers	4.6	57.9	96.2
Education professionals	2.8	60.7	81.9
Other clerical and administrative workers	2.8	63.5	85.4
Engineering, ICT and science technicians	2.4	65.9	83.3

Note: Total number of respondents: 1638.

Destination occupation	Hospitality, retail and service managers		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Hospitality workers	23.6		84.2
Sales assistants and salespersons	11.1	34.7	50.6
Sports and personal service workers	10.9	45.6	94.9
Hospitality, retail and service managers	10.5	56.1	78.4
Inquiry clerks and receptionists	7.0	63.1	79.6
Sales support workers	4.5	67.6	56.5
Office managers and program administrators	3.6	71.2	84.1
General clerical workers	3.5	74.7	52.2
Food trades workers	3.2	77.9	86.8
Business, human resource and marketing professionals	1.8	79.7	57.7

Note: Total number of respondents: 531.

Professionals

Destination occupation	Arts and media professionals		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Sales assistants and salespersons	21.2		18.0
Arts and media professionals	7.5	28.7	69.9
Hospitality workers	7.1	35.8	5.2
Education professionals	7.0	42.8	95.5
Other labourers	5.4	48.2	n/a
Other technicians and trades workers	4.4	52.6	58.7
Sales support workers	4.2	56.8	26.4
Carers and aides	3.7	60.5	27.3
Specialist managers	3.2	63.7	32.6
Business, human resource and marketing professionals	3.0	66.7	30.5

Note: Total number of respondents: 224.

Destination occupation	Business, human resource and marketing professionals		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Numerical clerks	22.9		93.9
Business, human resource and marketing professionals	15.0	37.9	97.0
Sales assistants and salespersons	9.4	47.3	28.2
General clerical workers	6.2	53.5	85.0
Specialist managers	5.2	58.7	89.7
Other clerical and administrative workers	4.9	63.6	75.0
Hospitality, retail and service managers	3.8	67.4	83.9
Inquiry clerks and receptionists	3.8	71.2	47.1
Hospitality workers	3.7	74.9	14.8
Office managers and program administrators	3.0	77.9	88.7

Note: Total number of respondents: 537.

Destination occupation	Design, engineering, science and transport professionals		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Design, engineering, science and transport professionals	16.9		85.2
Farm, forestry and garden workers	15.7	32.6	96.8
Farmers and farm managers	11.5	44.1	95.9
Mobile plant operators	7.2**	51.3	3.8
Skilled animal and horticultural workers	5.3	56.6	66.7
Protective service workers	4.8	61.4	89.3
Other labourers	4.0	65.4	87.4
Other clerical and administrative workers	3.0	68.4	89.3
Specialist managers	2.8	71.2	75.5
General clerical workers	2.5	73.7	50.1

Notes: Total number of respondents: 197.
           ** Fewer than 5 respondents in cell.

Destination occupation	Education professionals		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Education professionals	31.0		89.5
Business, human resource and marketing professionals	15.9	46.9	96.5
Health professionals	5.3	52.2	89.5
Specialist managers	5.2	57.4	89.0
Office managers and program administrators	4.8	62.2	94.2
Engineering, ICT and science technicians	3.0	65.2	86.0
Health and welfare support workers	3.0	68.2	81.1
Protective service workers	2.8	71.0	84.1
General clerical workers	2.7	73.7	71.0
Machine and stationary plant operators	2.6	76.3	95.0

Note: Total number of respondents: 1072.

Destination occupation	ICT professionals		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Engineering, ICT and science technicians	21.8		85.4
ICT professionals	16.1	37.9	100.0
Electrotechnology and telecommunications trades workers	8.6**	46.5	100.0
Sales support workers	7.1**	53.6	n/a
Other labourers	6.4**	60.0	n/a
Food preparation assistants	4.9**	64.9	n/a
Design, engineering, science and transport professionals	4.3	69.2	100.0
Education professionals	3.9**	73.1	81.6
Hospitality workers	3.7**	76.8	n/a
Storepersons	3.7**	80.5	n/a

Notes: Total number of respondents: 65.
** Fewer than 5 respondents in cell.

Destination occupation	Legal, social and welfare professionals		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Legal, social and welfare professionals	28.2		100.0
Health and welfare support workers	28.0	56.2	75.0
Carers and aides	22.0	78.2	87.7
Hospitality workers	4.3**	82.5	n/a
Specialist managers	3.8**	86.3	100.0
Office managers and program administrators	3.8**	90.1	100.0
Protective service workers	3.2**	93.3	100.0
Other clerical and administrative workers	2.1**	95.4	100.0
Education professionals	1.7**	97.1	100.0
Sales assistants and salespersons	1.5**	98.6	n/a

Notes: Total number of respondents: 57.
** Fewer than 5 respondents in cell.

Technicians and trades workers

Destination occupation	Engineering, ICT and science technicians		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Engineering, ICT and science technicians	20.6		93.1
ICT professionals	8.0	28.6	93.5
Education professionals	7.1	35.7	87.7
Sales assistants and salespersons	6.2	41.9	15.7
Health professionals	4.5	46.4	92.8
Specialist managers	3.6	50.0	94.5
Design, engineering, science and transport professionals	3.6	53.6	89.2
Business, human resource and marketing professionals	3.3	56.9	72.8
Food preparation assistants	2.8	59.7	12.7
Automotive and engineering trades workers	2.7	62.4	83.2

Note: Total number of respondents: 895.

Destination occupation	Automotive and engineering trades workers		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Automotive and engineering trades workers	72.3		97.6
Electrotechnology and telecommunications trades workers	3.6	75.9	98.7
Engineering, ICT and science technicians	2.1	78.0	69.1
Construction and mining labourers	1.9	79.9	74.1
Factory process workers	1.7	81.6	43.7
Design, engineering, science and transport professionals	1.6	83.2	79.0
Machine and stationary plant operators	1.5	84.7	86.9
Other labourers	1.4	86.1	43.0
Other technicians and trades workers	1.2	87.3	100.0
Road and rail drivers	1.2	88.5	56.5

Note: Total number of respondents: 1374.

Destination occupation	Construction trades workers		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Construction trades workers	81.1		95.7
Specialist managers	2.4	83.5	90.5
Automotive and engineering trades workers	2.0	85.5	82.5
Other technicians and trades workers	2.0	87.5	100.0
Construction and mining labourers	1.7	89.2	63.3
Protective service workers	1.5**	90.7	100.0
Machine and stationary plant operators	1.3	92.0	92.9
Other labourers	1.2	93.2	95.1
Factory process workers	1.1	94.3	50.7
Unknown destination occupation	0.8**	95.1	n/a

Notes: Total number of respondents: 687.
** Fewer than 5 respondents in cell.

Destination occupation	Electrotechnology and telecommunications trades workers		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Electrotechnology and telecommunications trades workers	85.7		95.2
Engineering, ICT and science technicians	2.8	88.5	100.0
Automotive and engineering trades workers	2.4	90.9	87.1
Other labourers	2.1**	93.0	100.0
Other technicians and trades workers	1.3	94.3	100.0
Specialist managers	0.6**	94.9	100.0
Sales assistants and salespersons	0.6**	95.5	27.0
Clerical and office support workers	0.5**	96.0	n/a
Factory process workers	0.5**	96.5	64.4
Design, engineering, science and transport professionals	0.4**	96.9	100.0

Notes: Total number of respondents: 457.
** Fewer than 5 respondents in cell.

Destination occupation	Food trades workers		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Food trades workers	76.4		97.2
Food preparation assistants	4.0	80.4	63.9
Hospitality, retail and service managers	3.4	83.8	96.5
Sales assistants and salespersons	2.1	85.9	78.2
Unknown destination occupation	1.4	87.3	45.1
Carers and aides	1.2	88.5	56.8
Factory process workers	1.2	89.7	91.9
Education professionals	0.9	90.6	88.9
Sales representatives and agents	0.9**	91.5	64.4
Farmers and farm managers	0.8**	92.3	33.5

Notes: Total number of respondents: 480.
** Fewer than 5 respondents in cell.

Destination occupation	Skilled animal and horticultural workers		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Skilled animal and horticultural workers	43.6		96.1
Farm, forestry and garden workers	14.5	58.1	88.5
Sales assistants and salespersons	5.4	63.5	49.2
Farmers and farm managers	4.7	68.2	95.2
Mobile plant operators	2.8	71.0	86.5
Other labourers	2.6	73.6	62.5
Hospitality, retail and service managers	2.2	75.8	53.7
General clerical workers	2.2	78.0	14.8
Design, engineering, science and transport professionals	2.1	80.1	96.7
Factory process workers	1.5	81.6	51.9

Note: Total number of respondents: 741.

Destination occupation	Other technicians and trades workers		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Other technicians and trades workers	49.0		97.5
Sales assistants and salespersons	6.6	55.6	30.7
Arts and media professionals	2.9	58.5	84.7
Other clerical and administrative workers	2.4	60.9	82.9
Automotive and engineering trades workers	2.3	63.2	94.1
Factory process workers	2.3	65.5	50.1
Farmers and farm managers	2.1	67.6	82.7
Hospitality workers	2.1	69.7	4.6
Other labourers	2.0	71.7	33.7
Business, human resource and marketing professionals	1.9	73.6	58.2

Note: Total number of respondents: 902.

Community and personal service workers

Destination occupation	Health and welfare support workers		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Health and welfare support workers	33.0		94.1
Carers and aides	24.1	57.1	93.0
Legal, social and welfare professionals	7.9	65.0	98.5
Sales assistants and salespersons	5.8	70.8	16.2
Office managers and program administrators	3.2	74.0	70.5
General clerical workers	2.8	76.8	68.9
Business, human resource and marketing professionals	2.3	79.1	93.7
Inquiry clerks and receptionists	2.3	81.4	68.7
Education professionals	1.9	83.3	78.6
Sports and personal service workers	1.9	85.2	89.6

Note: Total number of respondents: 1131.

Destination occupation	Carers and aides		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Carers and aides	70.9		97.3
Health and welfare support workers	4.7	75.6	97.3
Sales assistants and salespersons	4.0	79.6	9.8
Cleaners and laundry workers	2.6	82.2	58.5
Hospitality workers	1.5	83.7	7.4
General clerical workers	1.4	85.1	40.6
Food preparation assistants	1.3	86.4	56.3
Specialist managers	1.1	87.5	100.0
Sales support workers	1.0	88.5	2.8
Inquiry clerks and receptionists	0.9	89.4	31.9

Note: Total number of respondents: 3093.

Destination occupation	Hospitality workers		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Hospitality workers	29.1		91.4
Sales assistants and salespersons	13.9	43.0	52.3
Food preparation assistants	9.1	52.1	82.9
Hospitality, retail and service managers	5.9	58.0	84.4
Food trades workers	5.3	63.3	90.1
Carers and aides	2.7	66.0	44.3
General clerical workers	2.6	68.6	20.4
Inquiry clerks and receptionists	2.5	71.1	35.2
Sales support workers	2.5	73.6	34.7
Education professionals	2.4	76.0	64.0

Note: Total number of respondents: 1903.

Destination occupation	Protective service workers		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Protective service workers	34.9		92.8
Business, human resource and marketing professionals	5.6	40.5	92.3
Automotive and engineering trades workers	4.3	44.8	78.0
Engineering, ICT and science technicians	3.6	48.4	81.8
Sports and personal service workers	3.3**	51.7	100.0
Office managers and program administrators	3.1	54.8	81.3
Design, engineering, science and transport professionals	3.0	57.8	80.2
Hospitality, retail and service managers	2.8	60.6	65.6
Food trades workers	2.8	63.4	86.7
Health and welfare support workers	2.5	65.9	76.5

Notes: Total number of respondents: 316.
          ** Fewer than 5 respondents in cell.

Destination occupation	Sports and personal service workers		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Sports and personal service workers	26.4		92.9
Sales assistants and salespersons	14.3	40.7	28.2
Other technicians and trades workers	6.6	47.3	91.0
General clerical workers	4.2	51.5	29.7
Inquiry clerks and receptionists	4.1	55.6	44.0
Sales support workers	4.0	59.6	20.5
Hospitality workers	3.8	63.4	18.8
Farmers and farm managers	3.2	66.6	9.7
Carers and aides	3.0	69.6	52.8
Hospitality, retail and service managers	2.5	72.1	65.5

Note: Total number of respondents: 1181.

Clerical and administrative workers

Destination occupation	Office managers and program administrators		
	%	Cumulative %	% reporting training was highly or somewhat relevant
General clerical workers	13.6		89.9
Office managers and program administrators	10.6	24.2	95.2
Hospitality, retail and service managers	7.1	31.3	95.8
Business, human resource and marketing professionals	5.5	36.8	95.3
Specialist managers	4.9	41.7	94.2
Numerical clerks	4.9	46.6	83.7
Other clerical and administrative workers	4.7	51.3	96.3
Inquiry clerks and receptionists	4.4	55.7	93.7
Engineering, ICT and science technicians	4.0	59.7	94.4
Sales assistants and salespersons	4.0	63.7	50.9

Note: Total number of respondents: 1095.

Destination occupation	General clerical workers		
	%	Cumulative %	% reporting training was highly or somewhat relevant
General clerical workers	21.1		90.3
Inquiry clerks and receptionists	14.2	35.3	90.2
Sales assistants and salespersons	8.9	44.2	41.5
Numerical clerks	5.8	50.0	84.7
Carers and aides	3.5	53.5	49.9
Personal assistants and secretaries	3.3	56.8	93.5
Sales support workers	3.2	60.0	38.2
Business, human resource and marketing professionals	2.6	62.6	69.7
Education professionals	2.4	65.0	81.7
Other clerical and administrative workers	2.3	67.3	73.6

Note: Total number of respondents: 2912.

Destination occupation	Inquiry clerks and receptionists		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Inquiry clerks and receptionists	41.3		88.3
Engineering, ICT and science technicians	8.7	50.0	88.8
General clerical workers	6.4	56.4	78.1
Sales support workers	6.4	62.8	84.8
Sales assistants and salespersons	4.2	67.0	24.5
Sports and personal service workers	3.0	70.0	47.6
Food preparation assistants	3.0	73.0	53.1
Numerical clerks	2.7	75.7	65.1
Specialist managers	2.2	77.9	73.9
Other labourers	2.2	80.1	52.8

Note: Total number of respondents: 317.

Destination occupation	Numerical clerks		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Numerical clerks	42.1		89.1
Business, human resource and marketing professionals	10.9	53.0	91.6
General clerical workers	9.1	62.1	82.1
Sales assistants and salespersons	5.3	67.4	45.3
Inquiry clerks and receptionists	5.2	72.6	69.8
Other clerical and administrative workers	4.5	77.1	53.6
Hospitality, retail and service managers	2.9	80.0	88.5
Sales support workers	2.2	82.2	15.5
Hospitality workers	2.0	84.2	51.2
Office managers and program administrators	2.0	86.2	84.6

Note: Total number of respondents: 581.

Destination occupation	Other clerical and administrative workers		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Other clerical and administrative workers	18.7		93.7
Sales assistants and salespersons	10.8	29.5	22.1
General clerical workers	6.6	36.1	88.2
Office managers and program administrators	6.4	42.5	89.9
Storepersons	5.0	47.5	78.5
Business, human resource and marketing professionals	4.6	52.1	89.3
Personal assistants and secretaries	4.5	56.6	73.3
Inquiry clerks and receptionists	3.4	60.0	79.3
Hospitality workers	3.0	63.0	17.5
Hospitality, retail and service managers	2.7	65.7	73.9

Note: Total number of respondents: 290.

Sales workers

Destination occupation	Sales representatives and agents		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Sales representatives and agents	40.1		96.9
Sales assistants and salespersons	6.9	47.0	2.4
Business, human resource and marketing professionals	5.7	52.7	87.1
Inquiry clerks and receptionists	5.6	58.3	54.2
General clerical workers	4.3	62.6	81.3
Other clerical and administrative workers	3.2	65.8	89.7
Hospitality, retail and service managers	2.6	68.4	58.1
Sales support workers	2.6**	71.0	19.6
Personal assistants and secretaries	2.5	73.5	100.0
Numerical clerks	2.5	76.0	75.8

Notes: Total number of respondents: 272.
              ** Fewer than 5 respondents in cell.

Destination occupation	Sales assistants and salespersons		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Sales assistants and salespersons	46.1		86.8
Food preparation assistants	8.6	54.7	85.6
Hospitality, retail and service managers	7.3	62.0	94.3
Sales support workers	4.7	66.7	93.5
Hospitality workers	4.2	70.9	72.2
Inquiry clerks and receptionists	3.0	73.9	61.2
Carers and aides	2.5	76.4	34.1
General clerical workers	1.9	78.3	57.0
Storepersons	1.5	79.8	82.6
Automotive and engineering trades workers	1.2	81.0	51.1

Note: Total number of respondents: 1669.

Machinery operators and drivers

Destination occupation	Machine and stationary plant operators		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Machine and stationary plant operators	22.2		91.4
Automotive and engineering trades workers	12.9	35.1	84.4
Mobile plant operators	10.3	45.4	77.5
Construction and mining labourers	7.7	53.1	87.5
Factory process workers	7.0	60.1	83.2
Road and rail drivers	4.9	65.0	81.0
Design, engineering, science and transport professionals	4.1	69.1	89.1
Other labourers	3.7	72.8	74.3
Engineering, ICT and science technicians	3.1	75.9	75.1
Electrotechnology and telecommunications trades workers	3.0	78.9	89.4

Note: Total number of respondents: 733.

Destination occupation	Mobile plant operators		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Mobile plant operators	22.1		84.8
Construction and mining labourers	11.7	33.8	86.6
Electrotechnology and telecommunications trades workers	8.7	42.5	90.1
Automotive and engineering trades workers	6.9	49.4	66.7
Road and rail drivers	6.3	55.7	100.0
Other labourers	6.0	61.7	100.0
Construction trades workers	4.7	66.4	81.7
Skilled animal and horticultural workers	4.6	71.0	77.1
Engineering, ICT and science technicians	3.8	74.8	88.9
Machine and stationary plant operators	3.7	78.5	76.4

Note: Total number of respondents: 174.

Destination occupation	Road and rail drivers		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Road and rail drivers	32.3		86.3
Automotive and engineering trades workers	6.3	38.6	44.0
Mobile plant operators	4.1	42.7	54.4
Electrotechnology and telecommunications trades workers	3.3	46.0	74.2
Specialist managers	2.8	48.8	46.1
Machine and stationary plant operators	2.7	51.5	62.4
Education professionals	2.6	54.1	65.2
Protective service workers	2.6	56.7	53.0
Business, human resource and marketing professionals	2.5	59.2	45.8
Engineering, ICT and science technicians	2.5	61.7	37.5

Note: Total number of respondents: 895.

Destination occupation	Storepersons		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Storepersons	23.7		95.8
Other clerical and administrative workers	12.9	36.6	99.3
Mobile plant operators	8.0	44.6	93.8
Sales assistants and salespersons	6.9	51.5	61.3
Factory process workers	6.5	58.0	55.3
Other labourers	5.1	63.1	66.6
Road and rail drivers	5.0	68.1	78.1
Automotive and engineering trades workers	4.3	72.4	80.8
Machine and stationary plant operators	3.7	76.1	83.9
Electrotechnology and telecommunications trades workers	2.5	78.6	16.6

Note: Total number of respondents: 405.

Labourers

Destination occupation	Cleaners and laundry workers		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Cleaners and laundry workers	84.8		90.1
Sales assistants and salespersons	2.3	87.1	29.3
Unknown destination occupation	2.0**	89.1	100.0
Other labourers	1.4	90.5	63.3
Factory process workers	1.2**	91.7	62.1
Food preparation assistants	1.1**	92.8	100.0
Carers and aides	0.8**	93.6	47.8
Hospitality, retail and service managers	0.7**	94.3	79.5
Automotive and engineering trades workers	0.6**	94.9	22.4
Sales support workers	0.6**	95.5	100.0

Notes: Total number of respondents: 409.
              ** Fewer than 5 respondents in cell.

Destination occupation	Construction and mining labourers		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Construction trades workers	26.4		91.6
Construction and mining labourers	18.3	44.7	96.4
Machine and stationary plant operators	7.5	52.2	79.8
Automotive and engineering trades workers	6.8	59.0	63.7
Education professionals	5.3	64.3	100.0
Other technicians and trades workers	4.0	68.3	77.8
Sales assistants and salespersons	3.9	72.2	17.1
Mobile plant operators	3.9	76.1	92.6
Other labourers	3.6	79.7	55.3
Storepersons	3.0	82.7	22.1

Note: Total number of respondents: 228.

Destination occupation	Factory process workers		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Factory process workers	31.9		88.2
Automotive and engineering trades workers	12.1	44.0	86.4
Electrotechnology and telecommunications trades workers	6.3	50.3	86.4
Construction trades workers	4.7	55.0	74.8
Machine and stationary plant operators	4.1	59.1	76.4
Farm, forestry and garden workers	3.5	62.6	68.5
Mobile plant operators	2.8	65.4	58.3
Sales assistants and salespersons	2.6	68.0	51.8
Storepersons	2.4	70.4	83.9
Other labourers	2.4	72.8	34.2

Note: Total number of respondents: 952.

Destination occupation	Farm, forestry and garden workers		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Farm, forestry and garden workers	26.3		89.1
Skilled animal and horticultural workers	9.8	36.1	95.9
Farmers and farm managers	5.9	42.0	84.3
Mobile plant operators	4.5	46.5	63.8
Automotive and engineering trades workers	3.7	50.2	53.5
Road and rail drivers	3.6	53.8	39.9
Other labourers	3.2	57.0	63.0
Unknown destination occupation	3.2	60.2	67.2
Sales assistants and salespersons	3.0	63.2	28.3
Education professionals	2.9	66.1	78.9

Note: Total number of respondents: 958.

Destination occupation	Food preparation assistants		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Food trades workers	21.3		78.5
Food preparation assistants	13.7	35.0	88.6
Hospitality workers	8.6	43.6	84.0
Sales assistants and salespersons	8.6	52.2	59.8
Hospitality, retail and service managers	6.9	59.1	84.2
Cleaners and laundry workers	4.6	63.7	8.3
Education professionals	4.4	68.1	84.5
Sales support workers	3.9	72.0	31.5
Carers and aides	3.5	75.5	82.8
General clerical workers	3.5	79.0	25.9

Note: Total number of respondents: 250.

Destination occupation	Other labourers		
	%	Cumulative %	% reporting training was highly or somewhat relevant
Automotive and engineering trades workers	38.0		90.1
Electrotechnology and telecommunications trades workers	11.0	49.0	90.2
Other labourers	8.2	57.2	83.1
Design, engineering, science and transport professionals	4.7	61.9	91.7
Sales assistants and salespersons	3.3	65.2	38.1
Protective service workers	2.7	67.9	69.6
Engineering, ICT and science technicians	2.4	70.3	69.4
Education professionals	2.0	72.3	94.1
Other technicians and trades workers	1.9	74.2	56.1
Sports and personal service workers	1.8	76.0	72.0

Note: Total number of respondents: 1339.
Source: NCVER Student Outcomes Survey, 2007.

Table A3 **Training relevance by intended occupation: graduates for whom intended and destination occupations do not match at the sub-major group level, by selected ANZSCO, 2007**

Intended occupation	Employed in intended occupation	Not employed in intended occupation			
		Training is highly or somewhat relevant	Training has very little or no relevance	Training relevance unknown	Occupation after training unknown
	%	%	%	%	%
1 Managers	**14.1**	**65.9**	**19.1**	**0.1***	**0.8**
12 Farmers and farm managers	33.4	45.2	20.0	0.0	1.3*
13 Specialist managers	8.3	74.5	16.2	0.2**	0.7*
14 Hospitality, retail and service managers	10.5	63.1	25.9	0.1**	0.4**
2 Professionals	**21.5**	**52.6**	**24.4**	**0.3****	**1.2***
21 Arts and media professionals	7.5*	26.4	63.6	0.0	2.5*
22 Business, human resource and marketing professionals	15.0	55.9	27.1	0.6**	1.4*
23 Design, engineering, science and transport professionals	16.9	59.1	23.1*	0.0	0.9**
24 Education professionals	31.0	55.7	12.0	0.3**	1*
26 ICT professionals	16.1*	47.1	36.7	0.0	0.0
27 Legal, social and welfare professionals	28.2	54.9	16.9*	0.0	0.0
3 Technicians and trades workers	**60.6**	**24.2**	**14.2**	**0.1***	**0.9**
31 Engineering, ICT and science technicians	20.6	47.6	31.2	0.0	0.6*
32 Automotive and engineering trades workers	72.3	18.6	7.8	0.1**	1.1*
33 Construction trades workers	81.1	14.6	3.5	0.0	0.8**
34 Electrotechnology and telecommunications trades workers	85.7	10.9	3.2*	0.0	0.2**
35 Food trades workers	76.4	13.8	8.3	0.1**	1.4*
36 Skilled animal and horticultural workers	43.6	34.3	20.7	0.1**	1.3*
39 Other technicians and trades workers	49.0	26.1	24.1	0.2**	0.6*
4 Community and personal service workers	**43.8**	**29.4**	**25.6**	**0.2***	**1.0**
41 Health and welfare support workers	33.0	47.7	17.7	0.4**	1.2*
42 Carers and aides	70.9	14.9	13.5	0.1**	0.6*
43 Hospitality workers	29.1	35.4	34.0	0.3*	1.3
44 Protective service workers	34.9	48.2	14.7	0.1**	2*
45 Sports and personal service workers	26.4	27.4	45.0	0.0	1.1*
5 Clerical and administrative workers	**23.0**	**53.7**	**22.3**	**0.1***	**0.9**
51 Office managers and program administrators	10.6	75.0	13.8	0**	0.6*
53 General clerical workers	21.1	51.5	25.9	0.2*	1.3
54 Inquiry clerks and receptionists	41.3	37.0	21.2	0.0	0.5**
55 Numerical clerks	42.1	38.1	19.2	0.0	0.6*
56 Clerical and office support workers	0.0	75.7	18.1*	6.2**	0.0
59 Other clerical and administrative workers	18.7	52.2	28.6	0.0	0.4**
6 Sales workers	**45.2**	**37.3**	**17.1**	**0.1****	**0.3***
61 Sales representatives and agents	40.1	33.4	26.0	0.0	0.5**
62 Sales assistants and salespersons	46.1	38.0	15.5	0.1**	0.3*

Intended occupation	Employed in intended occupation	Not employed in intended occupation			
		Training is highly or somewhat relevant	Training has very little or no relevance	Training relevance unknown	Occupation after training unknown
	%	%	%	%	%
7 Machinery operators and drivers	**26.6**	**47.7**	**24.7**	**0.2***	**0.7**
71 Machine and stationary plant operators	22.2	60.8	16.0	0.2**	0.8*
72 Mobile plant operators	22.1	61.6	15.8	0.0	0.5**
73 Road and rail drivers	32.3	31.6	35.3	0.1**	0.7*
74 Storepersons	23.7	55.0	20.1	0.5**	0.7**
8 Labourers	**25.5**	**49.9**	**22.5**	**0.3***	**1.9**
81 Cleaners and laundry workers	84.8	7.7	5.4*	0.1**	2**
82 Construction and mining labourers	18.3	59.6	21.2	0.4**	0.5**
83 Factory process workers	31.9	44.3	22.5	0**	1.2*
84 Farm, forestry and garden workers	26.3	43.1	27.2	0.2**	3.2
85 Food preparation assistants	13.7	53.3	29.7	0.4**	2.9*
89 Other labourers	8.2	68.4	21.7	0.5*	1.2*
Total	**36.6**	**41.2**	**21.1**	**0.2**	**1.0**

Notes: Base is all graduates, irrespective of reason for study, who were employed as at May 2007, excluding those from the ACE sector and unknown intended ANZSCO; matching between intended and destination occupation occurs at the sub-major group level.
Some sub-major group level occupations are not presented due too few numbers in sample cells.
* Relative standard error greater than 25%; estimate should be used with caution.
** Fewer than 5 respondents in cell.

Source: NCVER Student Outcomes Survey, 2007.

Table A4   Estimated populations of graduates by intended occupation, by selected ANZSCO, 2007

Intended occupation of training activity	Number of graduates
1 Managers	**28 340**
12 Farmers and farm managers	5 800
13 Specialist managers	16 440
14 Hospitality, retail and service managers	6 100
2 Professionals	**25 610**
21 Arts and media professionals	3 240
22 Business, human resource and marketing professionals	8 130
23 Design, engineering, science and transport professionals	2 880
24 Education professionals	9 760
26 ICT professionals	1 240
27 Legal, social and welfare professionals	340
3 Technicians and trades workers	**75 430**
31 Engineering, ICT and science technicians	12 840
32 Automotive and engineering trades workers	18 710
33 Construction trades workers	9 470
34 Electrotechnology and telecommunications trades workers	6 220
35 Food trades workers	6 920
36 Skilled animal and horticultural workers	9 670
39 Other technicians and trades workers	11 600
4 Community and personal service workers	**93 700**
41 Health and welfare support workers	11 470
42 Carers and aides	32 620
43 Hospitality workers	29 970
44 Protective service workers	4 280
45 Sports and personal service workers	15 360
5 Clerical and administrative workers	**67 950**
51 Office managers and program administrators	10 670
53 General clerical workers	41 490
54 Inquiry clerks and receptionists	4 790
55 Numerical clerks	7 340
56 Clerical and office support workers	200
59 Other clerical and administrative workers	3 460
6 Sales workers	**24 680**
61 Sales representatives and agents	3 640
62 Sales assistants and salespersons	21 030
7 Machinery operators and drivers	**30 550**
71 Machine and stationary plant operators	9 890
72 Mobile plant operators	2 110
73 Road and rail drivers	12 440
74 Storepersons	6 110
8 Labourers	**52 010**
81 Cleaners and laundry workers	3 700
82 Construction and mining labourers	2 740
83 Factory process workers	12 370
84 Farm, forestry and garden workers	14 110
85 Food preparation assistants	4 320
89 Other labourers	14 770
Total	**398 270**

Note: Some sub-major group level occupations are not presented do due too few numbers in sample cells.
Source: NCVER Student Outcomes Survey, 2007.