

6 WORKPLACE-BASED LEARNERS

6

AN OVERVIEW

The number of learners in industry training reached nearly 200,000 in 2008. Reducing long-term skills shortages in New Zealand's key industries and improving our labour productivity has been a goal of government and industry for a number of years. Supported by continuous funding increases, the number of industry trainees has increased over the last five years by 8.1 percent, on average, per year.

While the latest increase in the number of learners in industry training was smaller than in previous years, it was still significant and occurred at a time when domestic student enrolments in equivalent provider-based study declined. This growth also surpassed the increase in workers in the labour force, so that the proportion of workers involved in industry training, at 9.0 percent, was higher in 2008 than in 2007.

The Modern Apprenticeships scheme, a part of industry training, increased strongly in 2008 and there are now over 12,000 apprentices.

Gateway, established in 2001 to broaden educational options for senior secondary school students by offering them workplace-based learning, has continued to expand. Over 9,690 secondary school students participated in Gateway in 2008, the year in which it was scheduled to be expanded to all decile 7 to 10 integrated- and state-secondary schools.

Industry training, Modern Apprenticeships and Gateway programmes are all linked to the National Qualifications Framework. This means that participants earn credits towards national qualifications, and in the case of Modern Apprenticeships and the majority of industry training programmes, participation is linked to the completion of national certificates and diplomas. Learners in industry training can gain credits through flexible limited credit programmes and supplementary credit programmes, or study towards national qualifications such as national certificates, national diplomas and, less frequently these days, trade certificates.

All three programmes saw increases in credit achievement over 2008, with the number of credits attained in industry training increasing to over 3.8 million for the year, after a consolidation year in 2007. National certificate attainment increased to 36,000, following a drop in the number of national certificates awarded in 2007.

The Ministry of Education published two analytical reports on industry training in 2008, providing further participation and attainment information on both industry training and Modern Apprenticeships programmes. An extract article from *Industry training – exploring the data* is included later in this chapter. It summarises the findings on the importance of various demographic, programme and provider variables of the likelihood of success in workplace-based training, as measured by programme completion.



2009 YEAR

Early indications suggest that the number of learners in industry training has declined slightly overall, an expected consequence of the global economic downturn. The number of learners at June 2009 decreased from the previous year by 1.0 percent. Industries have been unevenly affected. The number of trainees in building and construction, hospitality, retail, joinery, painting, and road transport declined by more than 10 percent. The decline is likely to be both in new enrolments and in workforce reductions in some industries. In contrast, some industries have experienced strong growth. Industries to experience growth were those covered by the NZITO (meat, dairy and a range of other industries), apparel and textiles, and flooring. Among the industries experiencing growth was real estate, where there is a relatively new industry training organisation that has had high growth from a low base. Some industries seem to have been unaffected, or only slightly affected, by the downturn.

A number of government initiatives have been in development in 2008 and 2009, each with the potential to further expand the role and importance of workplace-based learning. The Youth Guarantee programme aims to lift the education and skills attainment of teenagers and ensure their involvement in the education system for longer. The Youth Guarantee programme aims to see young people in education and skills training of some kind until the age of 18 years, in order to build a stronger base for ongoing learning, including through the many opportunities industry training provides.

**THERE ARE
NOW OVER** **12,000**
APPRENTICES

UPWARD TREND IN INDUSTRY TRAINEES¹

The upward trend in industry training continued in 2008. The number of trainees has increased on average 8.1 percent per year since 2003. This reflects the significant increases in the financial investment in industry training and also the increases in the number of participating employers.

The number of workplace-based learners in 2008:

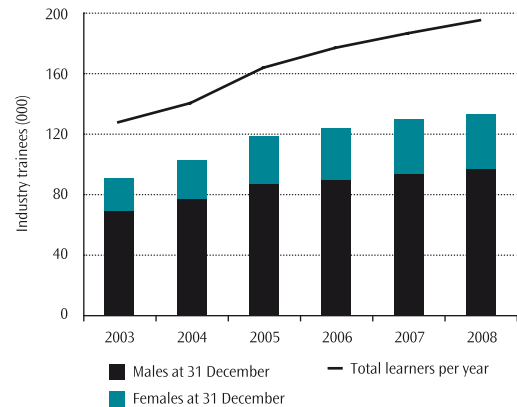
Total (incl. modern apprentices)	195,000	(up 4.8% on 2007)
Males	137,000	(up 5.2% on 2007)
Females	57,300	(up 3.8% on 2007)

At 31 December 2008, there were 133,000 trainees (up 2.4% on 2007) and 12,100 modern apprentices (up 12% on 2007).

The number of female trainees is unevenly spread among the various industries and this may reflect employment patterns in the labour market. For example, 93 percent of hairdressing trainees were women in 2008. Overall, the proportion of female trainees was 29 percent in 2008.

Source: Tertiary Education Commission.

Figure 6.1: Learners in industry training



PARTICIPATION RATE IN INDUSTRY TRAINING

The proportion of workers undertaking industry training is another measure of access to and demand for workplace learning. Estimates of the proportion of the workforce in industry training from the *Household Labour Force Survey* show that this has been increasing in recent years. This measure is shown in Figure 6.2 together with the proportions of industry trainees and provider-based formal students in the population aged 15 years and over.

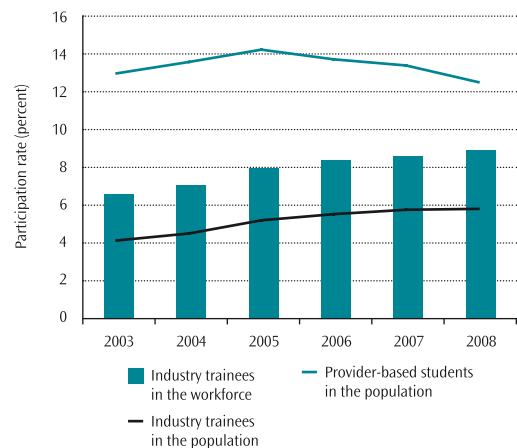
Estimates of participation in industry training in the population:

	2003	2007	2008
		Percentages	
	4.1	5.6	5.8

Note: The provider-based participation rate in the graph has been age-standardised.

Source: Tertiary Education Commission and Statistics New Zealand.

Figure 6.2: Participation rates for industry trainees and provider-based students



EMPLOYERS PARTICIPATING IN TRAINING

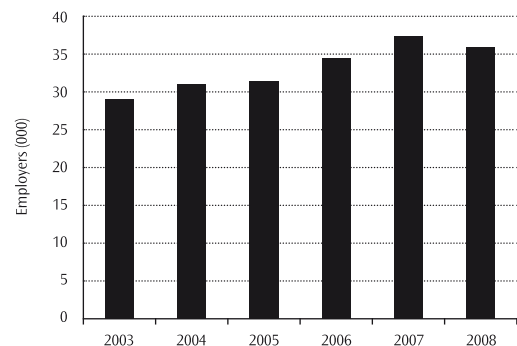
The number of employers providing industry training fell by 3.9 percent from 2007 to 2008. It is thought that this decrease is mainly due to data collection issues, and may not reflect a real reduction in the number of employers. The Tertiary Education Commission estimates that two-thirds of New Zealand's employers and almost three out of four employees are potentially covered by an industry training organisation. All primary industries and 96 percent of manufacturing and construction industries are covered.

The number of employers involved in training:

	2006	2007	2008
	34,800	37,600	36,200

Source: Tertiary Education Commission.

Figure 6.3: Employers providing workplace-based learning



1. Unless otherwise stated, industry training numbers are for the whole year, and include modern apprentices.

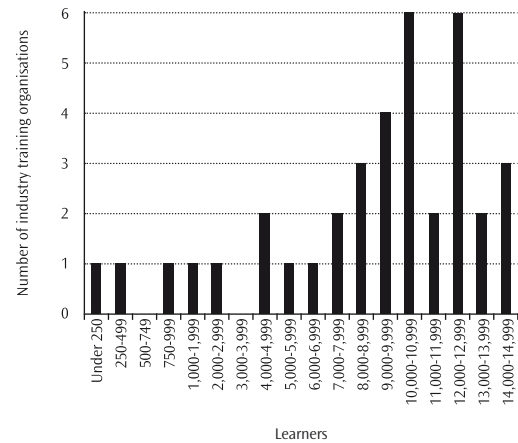
INDUSTRY TRAINING ORGANISATIONS

Industry training occurs on the job in employment situations, and industry training organisations make arrangements for workplace assessment and off-job training. Each organisation covers a specific industry area and there were 38 industry training organisations with learners at December 2008.

Industry training organisations vary greatly in size. At December 2008, the number of learners per organisation averaged 3,500. About half of them had fewer than 3,000 learners (compared to 1,500 in 2005). The two largest organisations, Competenz, which covers engineering, food and manufacturing, and NZITO, which covers leather, meat, dairy and other industries, had over 13,000 learners participating in 2008.

Source: Tertiary Education Commission.

Figure 6.4: Distribution of industry training organisations by number of learners (December 2008)



FUNDING INDUSTRY TRAINING

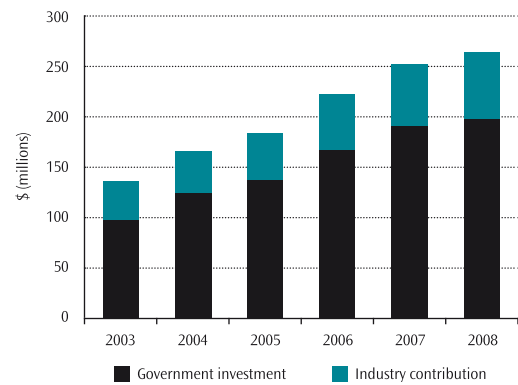
Industry training funding totalled \$269 million in 2008, an increase of 4.6 percent on 2007. Industry training is jointly funded by government and industry. Government's contribution is made through the Industry Training Fund, with industry contributions being in cash or in kind. Employees may bear some of the costs, by meeting some proportion of the training fees or accepting a lower rate of pay as part of the training arrangement.

Funding of industry training:

	2006	2007	2008
	\$ (millions)		
Government investment	166.8	190.6	198.1
Industry contribution	61.1	66.3	70.6

Source: Tertiary Education Commission.

Figure 6.5: Industry training funding by source



LEVEL OF TRAINING AND ETHNIC GROUP

In 2008, two-thirds of industry trainees were enrolled at levels 1 to 3 on the National Qualifications Framework and just under a third were enrolled at level 4. Less than 3 percent studied for qualifications at level 5 and above; industry training organisations can only enrol up to 10 percent of learners at level 5 and above.

Māori are less likely than Europeans to be enrolled in programmes at level 4 or above. Māori and Pasifika have a larger proportion of their number enrolled at levels 1 and 2.

The proportions of industry trainees by ethnic group in 2008:

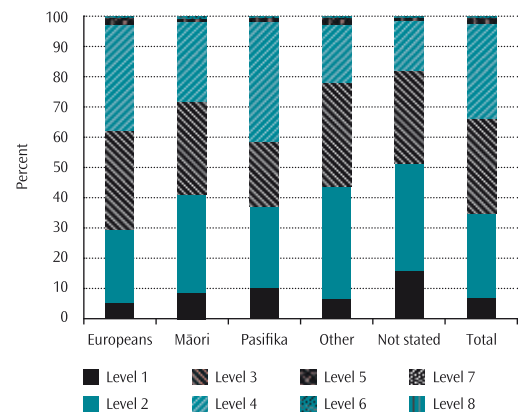
Europeans	59%	(66% in 2003)
Māori	17%	(17% in 2003)
Pasifika	6.6%	(6.0% in 2003)
Other	10%	(5.0% in 2003)

Notes:

1. Ethnic group is based on the single prioritised method of reporting.
2. Trainees may be enrolled in more than one programme at more than one level.

Source: Tertiary Education Commission.

Figure 6.6: Distribution of programmes in 2008 by level and ethnic group



CHANGING AGE PROFILE

The increase between 2000 and 2007 in the number of learners aged 15 to 19 years was almost double that of the other age groups. However, in 2008, the proportion of learners in this age group decreased. The proportion of trainees aged 50 years or over has grown recently and they now account for 16 percent of all industry trainees, compared to 13 percent in 2004.

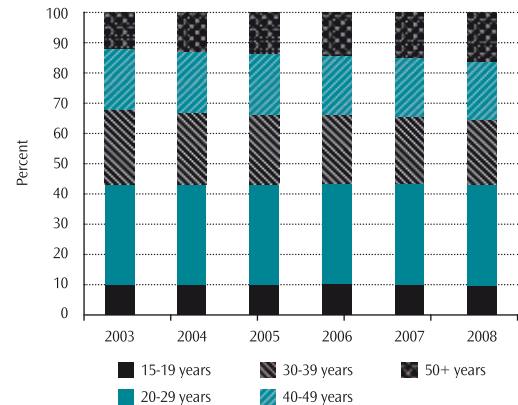
Estimates from the *Household Labour Force Survey* show that the participation of 15 to 19 year-old trainees in the workforce has been stable in recent years. The proportion of learners aged 50 years or over is increasing in line with their growing participation in the labour force.

Workforce participation in industry training by age group (Household Labour Force Survey):

	2004	2005	2006	2007	2008
	Percentages				
15-19 years	10.6	12.4	12.5	12.6	12.1
50+ years	3.5	4.1	4.4	4.7	5.0

Source: Tertiary Education Commission and Statistics New Zealand.

Figure 6.7: Distribution of industry trainees by age group



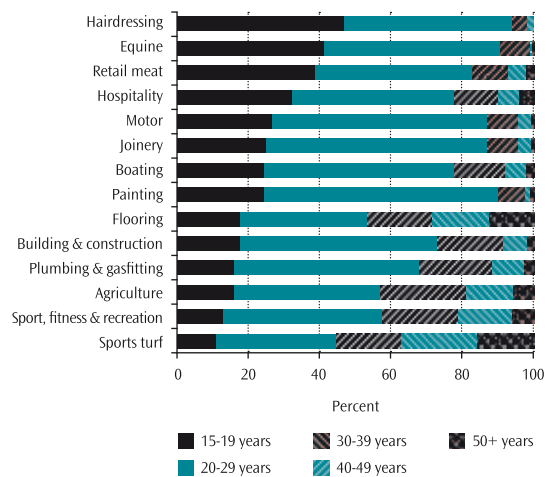
AGE GROUPS VARY BY INDUSTRY

The age distribution of trainees varies considerably across industries. In 2008, 15 to 19 year-olds accounted for 32 percent of all trainees working in hospitality services, 39 percent in retail meat, 41 percent in the equine industry and 47 percent in the hairdressing trade.

In 2008, trainees aged 40 years or over accounted for 51 percent of all learners working in fire and rescue, 58 percent in extractive industries, 55 percent in building service contracting, 60 percent of local government trainees, 62 percent in apparel and textiles, 64 percent in Te Kaiawhina Ahumahi (social services), 68 percent in real estate and 69 percent in community support services.

Source: Tertiary Education Commission.

Figure 6.8: Distribution of learners by selected industry and age group (December 2008)



PROVIDING ACCESS TO QUALIFICATIONS

A key goal of industry training is to improve access to training and to nationally recognised qualifications. It is estimated that approximately half of all industry trainees have no qualification or a low-level qualification before entering training. However, the proportion of learners starting training without a previous qualification is decreasing.

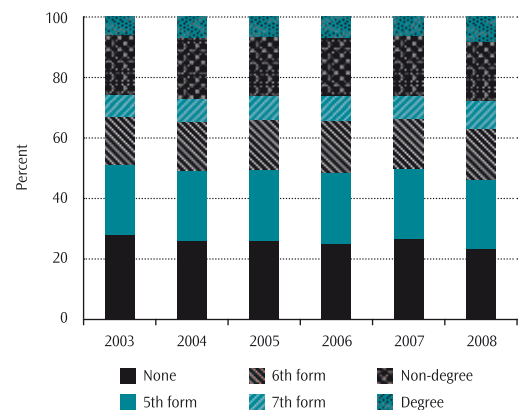
In 2008, 23 percent of industry trainees had no previous qualifications before commencing training, while 8.4 percent had a degree. About one in three of both Māori and Pasifika industry trainees had no previous qualification.

Notes:

1. This is an estimate based on the participants whose previous qualification is known. Previous qualification data is self-reported and is not verified.
2. Qualification categories used here include equivalent qualifications: 5th form refers to attainment at year 11 or equivalent, 6th form at year 12 or equivalent, and 7th form at year 13 or equivalent.

Source: Tertiary Education Commission.

Figure 6.9: Distribution of learners by previous highest qualification



NATIONAL QUALIFICATION ACHIEVEMENT

In 2008, 36,000 national certificates were awarded to industry trainees, up 22 percent on 2007 and up slightly on the high of 35,100 in 2006. Approximately, 60 percent of national certificates were awarded at levels 1 to 3 and 40 percent at level 4.

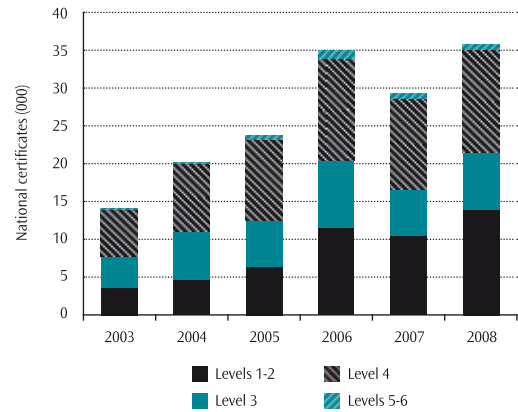
The proportion who gained a level 1 to 2 national certificate rose from 26 percent in 2003 to 39 percent in 2008. Over the same period, the proportion who gained a level 3 certificate declined from 25 to 21 percent and the proportion that gained a level 4 certificate or higher also declined from 45 to 39 percent.

The number of national certificates awarded:

	2006	2007	2008
Total	35,100	29,400	36,000
Levels 1-2	11,600	10,600	14,100
Level 3	8,810	6,120	7,560
Level 4	13,600	12,100	13,600
Level 5 and higher	985	646	701

Source: Tertiary Education Commission.

Figure 6.10: National certificates gained by qualification level



ACHIEVEMENT BY PREVIOUS QUALIFICATION

The distribution of national certificates gained by learners by their previous highest qualification level has been relatively stable. In 2008, 44 percent of national certificates were awarded to trainees with no or a low-level previous qualification, up on 42 percent in 2005.

The proportion of national certificates awarded by previous qualification level:

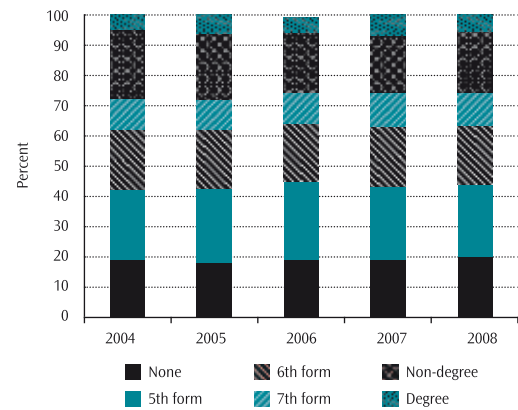
	2005	2006	2007	2008
Percentages				
None	18	19	19	20
5th form	24	26	24	24
6th form	20	19	20	20
7th form	10	10	11	11

Notes:

- This is an estimate based on the participants whose previous qualification is known. Previous qualification data is self-reported and is not verified.
- Qualification categories used here include equivalent qualifications: 5th form refers to attainment at year 11 or equivalent, 6th form at year 12 or equivalent, and 7th form at year 13 or equivalent.

Source: Tertiary Education Commission.

Figure 6.11: National certificates gained by previous highest qualification



CREDIT ACHIEVEMENT

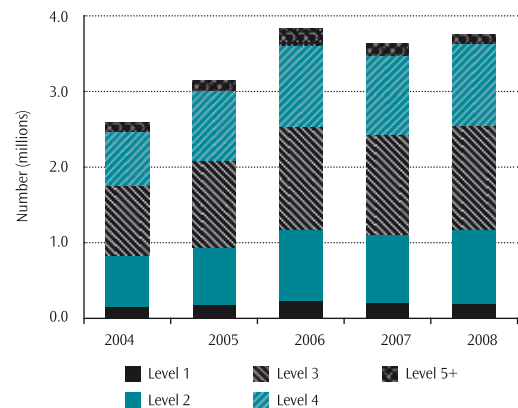
Workplace-based learners achieved 3.8 million credits towards national qualifications in 2008. This represents a 3.6 percent increase compared with 2007. Overall, the distribution by level of credit achievement has remained relatively stable in recent years.

The proportions of credits achieved by qualification level:

	2004	2005	2006	2007	2008
Percentages					
Levels 1-2	32	29	30	30	31
Level 3	35	37	36	36	37
Level 4	28	29	28	29	29
Level 5 and higher	5	4	6	4	3

Source: Tertiary Education Commission.

Figure 6.12: Credits gained by qualification level



COHORT PROGRAMME COMPLETION RATE

Figure 6.13: Industry training cohort completion rates by starting year

About one-third of learners completed their workplace-based training programmes and gained a national qualification. Of the cohort of learners who commenced training in 2002, 28 percent had completed at least one programme after seven years. The 2003 cohort completed at a higher rate than the 2002 learners, with 34 percent completing a programme within six years. As some training, for example limited credit programmes and supplementary credit programmes, does not lead to national qualifications, there is a difference between the completion rates and the qualification attainment rates.

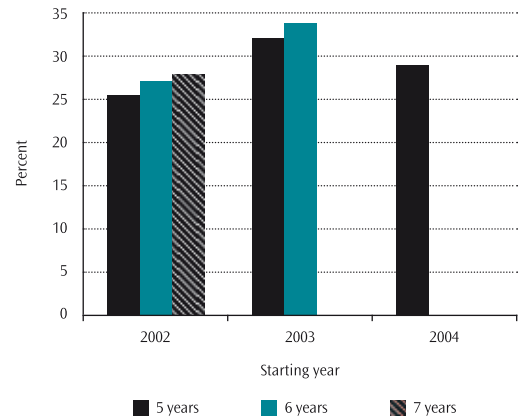
The proportion of learners gaining a qualification by starting year:

	2002	2003	2004
		Percentages	
After 5 years	25	30	28
After 6 years	25	32	
After 7 years	26		

Notes:

1. Qualification attainment rates are for industry trainees excluding modern apprentices.
2. Due to programme duration and reporting lags, seven-year attainment rates are available only for learners who commenced study in 2002.

Source: Ministry of Education and Tertiary Education Commission.



MORE MODERN APPRENTICESHIPS²

Figure 6.14: Number of modern apprentices

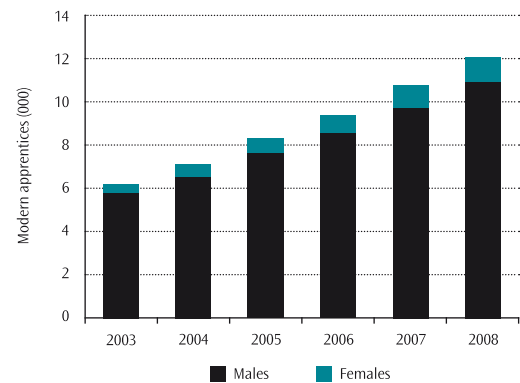
Participation in Modern Apprenticeships has grown steadily since 2002 – averaging a 17 percent increase per year. From 2007 to 2008, the number of modern apprentices increased by 12 percent.

Estimates from the *Household Labour Force Survey* indicate that the proportion of the 15 to 19 year-old workers who were in Modern Apprenticeships was 5.9 percent in 2008, compared to 4.3 percent in 2004.

The number of modern apprentices at December 2008:

All apprentices	12,100	(up 12% on 2007)
Males	11,000	(up 12% on 2007)
Females	1,140	(up 8.4% on 2007)
Proportion of the workforce (15-19 years)	5.9%	(5.1% in 2007)

Source: Tertiary Education Commission and Statistics New Zealand.



APPRENTICES BY ETHNIC GROUP

Figure 6.15: Distribution of apprentices by ethnic group

The participation by ethnic group has remained similar over time. The slight fall in Europeans as a proportion of the total coincides with a rise in apprentices who have not stated their ethnic group and a small increase in the proportion of apprentices identifying with Māori.

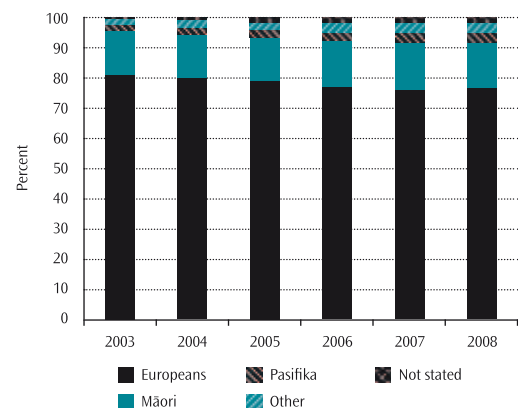
The great majority of apprentices are European males aged 17 or 18 years and in level 4 training programmes. Overall, 11 percent are in level 3 training programmes and 89 percent are in level 4 programmes.

The proportions of modern apprentices by ethnic group:

	Labour force	Modern apprentices
Europeans	0.6%	77%
Māori	1.3%	15%
Pasifika	0.4%	3.1%
Other	0.2%	5.3%

Note: Ethnic group is based on the single prioritised method of reporting.

Source: Statistics New Zealand and Tertiary Education Commission.



2. Unless otherwise stated, Modern Apprenticeships measures are based on the number of apprentices at 31 December.

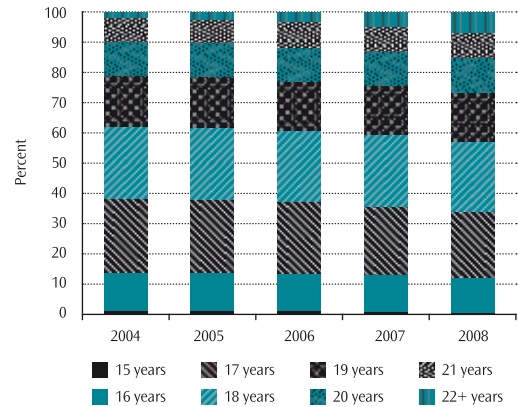
INCREASE IN OLDER PARTICIPANTS

In 2008, the average starting age of modern apprentices was 18 years, with approximately 45 percent of all trainees starting at ages 17 and 18 years.

Although apprenticeships are aimed at younger people, provision may be made for older people seeking a change of career. There were 808 apprentices in 2008 who had started their apprenticeship at age 22 years or over, compared to 494 apprentices in 2007. This group was the fastest growing in 2008 by a wide margin. The second fastest growing group were 20 year-olds, up 14 percent from 2007.

Source: Tertiary Education Commission.

Figure 6.16: Distribution of apprentices by starting age



APPRENTICESHIPS BY INDUSTRY

Modern Apprenticeships are currently available in 35 industries and in 2008 there were 347 apprentices, on average, per industry.

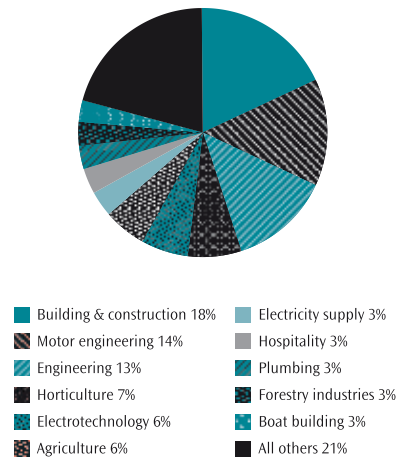
Industries with the greatest increases/decreases in the number of apprentices in 2008:

Aluminium joinery (architectural)	+ 20	(compared to 3 in 2007)
Hairdressing	+ 90	(up 114% on 2007))
Food processing	+118	(up 57% on 2007)
Tourism	- 35	(down 62% on 2007)
Painting and decorating	-122	(down 32% on 2007)

Female learners accounted for over 30 percent of all learners in the industries of hospitality (39 percent), equine (50 percent), retail (53 percent), public sector (77 percent), tourism (89 percent) and hairdressing (93 percent).

Source: Tertiary Education Commission.

Figure 6.17: Distribution of apprentices by selected industries



COHORT PROGRAMME COMPLETION RATE

About 42 percent of apprentices completed their programme within seven years of starting training. The 2003 learners completed at a higher rate than those who started in 2002, with 40 percent completing a programme within six years.

The completion rates differ by ethnic group; however, these differences are due more to the industries worked in, the volume of learning undertaken by the learner and their previous qualification.

The seven-year completion rates for apprentices who started training in 2002:

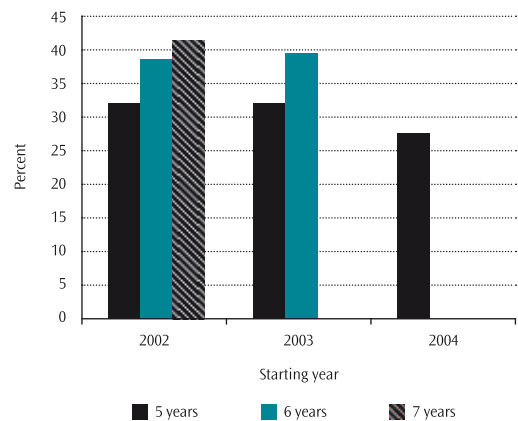
Europeans	43%
Māori	31%
Pasifika	39%
Other	51%

Notes:

1. Qualification attainment rates are for modern apprentices and exclude industry trainees.
2. Due to programme duration and reporting lags, the seven-year attainment rates are available only for learners who commenced study in 2002.

Source: Ministry of Education and Tertiary Education Commission.

Figure 6.18: Modern apprentices' completion rates by starting year



MORE GATEWAY STUDENTS

Participation in Gateway has risen significantly in recent years. From 2007 to 2008, the number of students increased by 18 percent. The Gateway programme was introduced in 2001 to provide school students with workplace experience while learning. The programme includes all decile 1 to 6 schools and by 2010 it will include all decile 7 to 10 schools.

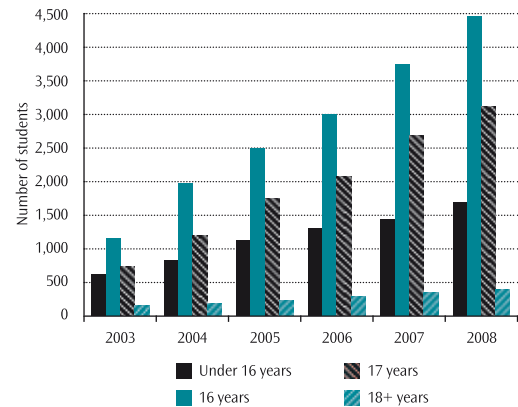
The number of Gateway students:

	2004	2005	2006	2007	2008
Gateway students	4,190	5,620	6,690	8,240	9,690
Change from previous year (%)	57	34	19	23	18

Note: Data relates to trainees who started a placement during that year.

Source: Tertiary Education Commission.

Figure 6.19: Gateway students by age group

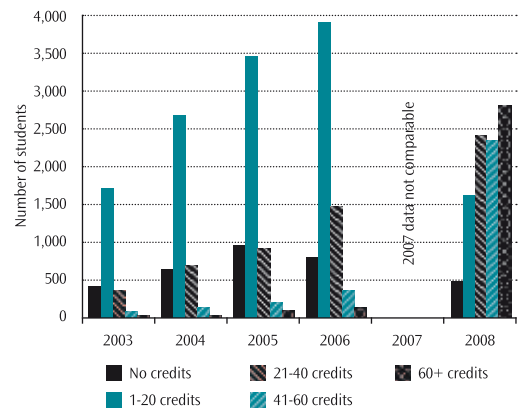


CREDITS ACHIEVED BY GATEWAY STUDENTS

A greater proportion of students participating in Gateway are gaining credits. In 2008, 95 percent of students gained credits on the National Qualifications Framework, up from 88 percent in 2006 (data for 2007 is not comparable with other years due to quality issues).

Seventeen percent gained between 1 and 20 credits and a further 78 percent gained more than 20 credits. Five percent of Gateway students did not gain credits in 2008, a decrease from 12 percent in 2006.

Figure 6.20: Gateway students by the number of credits gained



OUTCOMES OF GATEWAY

There has been an increase in the number of students achieving positive outcomes in Gateway. In 2008, 96 percent of students completing a Gateway placement carried on to further education or employment.

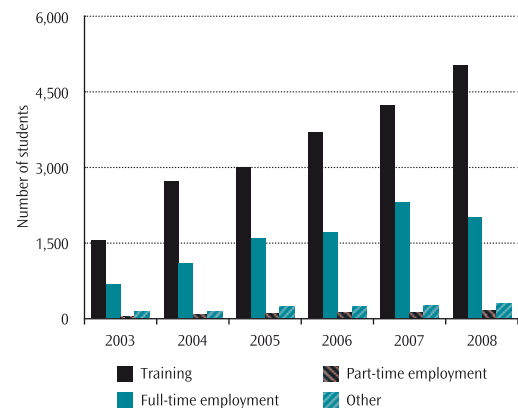
Sixty-seven percent of students carried on to further education at school or with a tertiary provider, while 29 percent entered employment.

The proportion of students progressing to further education or employment:

	2003	2004	2005	2006	2007	2008
	Percentages					
To education	64	62	61	64	61	67
To employment	30	34	34	32	35	29

Source: Tertiary Education Commission.

Figure 6.21: Gateway students by outcome achieved



New Zealand's industry training data

The Ministry of Education has conducted an analysis of the factors associated with the successful completion of industry training programmes, using the industry training administrative dataset. This analysis modelled the probability of 'programme completion' for a representative group of learners, which is one possible measure that can be used to determine success in industry training.

The main research question was: what factors are associated with success in industry training? To answer this, logistic regression analysis was used to determine the association of individual, training-related and external factors with the probability of programme completion. The factors included:

- gender, ethnic group and age of learner
- training fund (a Modern Apprenticeship or other form of industry training)
- programme duration
- programme level
- proposed 'volume' of learning
- industry training organisation sponsoring the learning
- year of exit
- previous highest qualification
- location of employment, and
- programme type (national certificate or diploma; limited or supplementary credit programme).

It was not possible to include every factor that might explain a learner's success (or otherwise) in completing a training programme. The omissions in this analysis were employer and industry influences, learner motivation and socio-economic status.

Another complication is the lack of information on the contents of individuals' training agreements or plans. Were this data collected, it would be a simple matter to determine success in industry training by looking at whether or not each learner completed the tasks set out in

The industry training administrative dataset

This information is collected by the Tertiary Education Commission for funding purposes and forms the basis of all analytical and performance reporting on industry training.

It should be noted that the use of 'programme' in industry training does not align with its use in other parts of the tertiary education sector. A programme in industry training refers to a specific course of study, developed by an industry training organisation. Learners may take several programmes in order to fulfil the requirements of their training agreement or plan.

For an explanation of programme type categories, please see the article *The variety of industry training programmes* contained in *Profile & Trends 2006*, chapter 6, pp 77-82.

There are a number of considerations that need to be taken into account when interpreting the results of this industry training data analysis.

their plan. Instead, the data collection is based on learning programmes and while these form the main parts of the training agreements or plans, they do not give the whole picture of agreed learning intentions. Learners may plan to do any number of programmes in pursuit of their learning goals. However, most learners do only one programme in total during their time in industry training, and where this is the case, the programme analysis may closely approximate the learning intention set out in the training agreements and plans.

Whether or not a learner completes a programme may also not be the most appropriate measure of success in industry training. Hence, the goal of this exploratory analysis is to determine such things through the comparison of the different factors, and consideration of them in context. It is also intended to repeat the analysis using a number of possible 'success' indicators before any definitive statements are able to be made.

The regression analysis allowed us to calculate the probability of a learner completing their industry training programme and the contribution of each factor was able to be accounted for in the presence of all the other factors. This allowed us to isolate the influence of

individual factors, as well as calculate the odds of the event occurring if we changed the 'level' of each factor. In calculating the probability of a learner completing their programme, a representative group of industry training learners was used as the reference category. This means that it is probable that our results will apply to a significant portion of industry training learners. It will not apply to all of them, but the overall order of the importance of each contributing factor to the success in industry training would remain the same for all categories of learners.

Table 6.1 ranks the factors in order of importance in predicting the completion of industry training programmes. The factors in this list were all statistically significant – with the first 15 of them being highly significant.

Table 6.1: Analysis of effects

Effect	Rank
Industry training organisation	1
Programme duration	2
Volume	3
National certificate programme	4
Limited credit programme	5
Field of study	6
Age at exit from programme	7
Level of study	8
Location of employment	9
Previous highest qualification	10
Ethnic group	11
Year of exit	12
Off-job component	13
Learner category	14
Training fund	15
National diploma programme	16
Gender	17
Supplementary credit programme	18

Notes:

1. The volume used here is measured in standard training measures – a measure used by the Tertiary Education Commission in the allocation of industry training funding.
2. Level of study is recorded on the National Qualifications Framework.
3. A full analysis of the factors ranked 10 to 18 can be found in Mahoney (2009).

The biggest predictor of success was the industry training organisation, followed by programme duration, the volume of learning and whether or not the programme was for a national certificate. Other important factors included: whether the training is for a limited credit programme, the field of study, the learner's age when leaving the programme, and the level of study, as well as the location of employment. These factors are further considered below.

Industry training organisation

The likelihood of a learner successfully completing their industry training programme seemed to depend quite heavily on their choice of industry. This was measured through the industry training organisation factor. This suggests that each industry is likely to possess differing characteristics that may affect the ability of learners to achieve their workplace-based learning goals. These may include employment effects (particular to each industry), employer effects (including attitudes to workplace learning and perhaps the presence of competing priorities), as well as the effects brought about by each industry training organisation in representing their industry.

What does this mean? In the absence of further information, it simply means that if programme completion is used as an indicator of success in industry training, learners in some industries are better placed than those in other industries to be successful. Future studies will attempt to break down this effect further than was possible in this current analysis.

Programme duration

The actual time spent by learners in industry training programmes was very important in predicting their success in completing a programme. Learners who left a programme after a short duration were generally more likely to complete their programme than those who left after a longer duration of time.

Industry training learners are able to proceed at their own pace to a certain extent. It may be that learners who attain skills more quickly than others are also more likely to satisfactorily complete all of the assessment tasks. Conversely, learners who attain skills more slowly than others may take longer to complete their programme and be less likely to complete assessment tasks satisfactorily, or they may lose the motivation to study over time.

It may be that longer programmes provide learners with the skills they require. However, towards the end of the programme, it could be that the skills acquired rather than the qualifications awarded become important to the learner (and perhaps also the employer). For this reason, it is possible that programme completion may not in fact be an adequate indicator of success in industry training. Rather, skills may be acquired and successfully utilised within the workplace, without the requirement for qualifications to be acquired through the completing of the programme. It could well be argued that for learners in employment (as is necessary in industry training), credentials and qualifications become less important than for learners who are not in employment.

Volume of learning

Industry trainees who undertook a lower volume of learning were, generally, less likely to complete their programme, while those with a higher volume of learning (or a more intensive programme) were more likely to complete this.

A significant number of learners are participating in programmes of 0.7 standard training measures or higher. It is possible that these higher-volume learners may have received some of their credits through 'recognition of prior learning', rather than through the formal 'learning and assessment' mode. As there is no mode indicator in the dataset we are not able to verify this.

One might speculate that the higher probability of completing a programme by learners who undertake more standard training measures suggests that the learners undergoing 'recognition of prior learning' are more likely to have the skills that they are being assessed on than those undergoing formal 'learning and assessment'. There may also be other factors involved such as motivational factors. Learners with 'recognition of prior learning' may be participating in order to have their existing skills recognised through certification. Consequently, they may be more likely to see their programme right through to the end than 'learning and assessment' learners, who could have different motivations, for example, seeking to acquire skills and not credentialisation.

National certificates and limited credit programmes

National certificate programmes, the predominant programme type in industry training, were less likely to be completed than other types of programmes, while limited or supplementary credit programmes were more likely to be completed than other types of programmes.

The difference in the probability of completing national certificate programmes, compared with other types of programmes, appeared to be due to the intrinsic differences between the various types of programmes. It was not due to other differences or similarities, such as the duration of learning. While other programme types such as the limited and supplementary credit programmes are invariably of a shorter duration, this factor was controlled for in the modelling of the data.

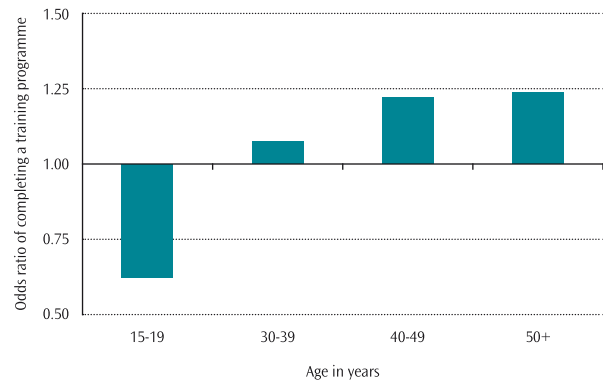
At present, not enough is known about the differences between the various types of programmes to be able to offer an explanation as to why learners are more successful in completing some programmes and not others. This is an area for future investigation. It is possible that limited and supplementary credit programmes may be more likely to consist of core units that are required for the safe operation of a workplace. Consequently, it is possible that employers may offer more encouragement to complete this type of unit.

Certification is also more likely to be of benefit to the learner than the employer (for whom skills acquisition is likely to be the more important consideration).

Age at which trainees leave a programme

Figure 6.25 shows that the odds of learners in the younger age groups completing their programme were significantly less than those of learners in the older age groups. The odds of learners aged 50 years or over completing a programme were 1.24 times the odds of those aged 20 to 29 years.

Figure 6.22: Odds ratio of completing a training programme by leaving age group compared with learners aged 20 to 29 years



Source: Tertiary Education Commission.

This result is somewhat surprising. There is a generally held belief that older workers would be less concerned about credentials than younger learners. Older learners have more experience than younger learners, and their curriculum vitae acts as a signal of their acquired skills and capabilities in the labour market. However, it may be that this equips older learners to accomplish tasks, such as completing programmes, better than younger learners, who are generally less experienced. Also younger learners have more time to make up their minds about a chosen career path and, for this reason, may try several different vocations before they settle into a career. These facts may help account for the fact that younger learners are less likely to complete programmes than older learners.

Level of study

The level of study of a programme on the National Qualifications Framework was the eighth most important predictor of success in completing an industry training programme. There is a complex relationship between the likelihood of programme completion and the level of study of the reference group – learners in level 3 programmes. Learners who left a level 1 or 2 programme were 1.35 times more likely to complete their programme than learners leaving a level 3 programme. Learners in level 4 programmes were the most likely to have completed the programme on leaving. Learners at level 4 were 1.56 times more likely to complete than those in level 3 programmes. On the other hand, there was a small number of learners in levels 6 and 7 programmes who were less likely (0.43 times as likely) to complete their training programme than learners in level 3 programmes.

An equivalent Australian study found that apprentices and trainees studying lower-level qualifications such as level 1 and 2 certificates were much less likely to complete a training contract than those studying higher-level vocational qualifications. The predicted probability of an apprentice or trainee completing a training contract increased when the level of the vocational qualification increased.

Any analysis of this effect has to consider the possibility that lower-level programmes are more likely to be completed than higher-level programmes because they are less demanding for the learner. Other explanations are also worth pursuing, including that lower-level programmes are more relevant to the learners' day-to-day employment as they are less theoretical. Level 4 programmes are more likely to be completed for a number of reasons, including that only the most able learners pursue level 4 learning. This finding merits further investigation.

Location of employment

Location of employment was the ninth strongest factor associated with learners completing their programme. In line with overseas findings, the probability of completion was lower in metropolitan areas (Wellington and Auckland) than in non-metropolitan regions.

What are the regional differences that account for the variation in the completion rates of industry training learners? This effect is not reliant on industry or field of study as these factors are controlled for. A ranking of the locations appeared to indicate a population density effect. Similarly, an Australian study found that there was a significant difference in the likelihood of an apprentice or trainee who lived in a state-capital city completing their training contract compared with those living in other metropolitan or rural areas. Apprentices and trainees who lived in a non-capital city metropolitan area or rural area in Australia were more likely to complete their training contract compared with those living in capital cities and those in remote or interstate localities. Apprentices and trainees living in rural areas had the highest predicted probability of completing their training contract.

This suggests that there may be an employment selection effect at work here. In rural areas, learners may have fewer alternative employment prospects available to them than learners in the more densely populated areas. There may also be a 'small town' industry coverage by one employer – where if you work in a certain industry, in a certain rural town, there may be few – or perhaps only one employer to work for, so learners may have fewer options for job-change. Another possibility is that workers in the big cities may have access to more information about career choices and employment opportunities than those in rural areas.

Conclusion

The work undertaken by the Ministry of Education to explore the industry training administrative dataset has so far been exploratory and concentrated on providing baseline and contextual information, while drawing out some tentative key themes in industry training. The important question addressed by the current analysis was: what factors are associated with success in industry training? If success can be gauged by the relative proportions of programmes that are completed by learners, then this analysis has highlighted some of the factors associated with success in industry training. The most important of these are the industry and the associated industry training organisation, the duration of the learner's training programme and the volume of learning undertaken.

This analysis may have some interesting policy implications. However, we would caution that, as this is a first step in a programme of analysis, more must be done to determine the full picture of achievement in industry training before any policy implications can be assessed. For example, if programme completion was adopted as the main signal of quality in industry training, this might provide incentives for providers to arrange for types of training known to have good completion rates, based on this analysis. However, it does not follow that simply because a certain programme characteristic has been shown to contribute highly to programme completion these types of programmes should be preferred: what is important is that both government's and industry's goals for the consumers of industry training are reached.

At this time, there is more work to be done to determine the most appropriate indicators of success, as well as the factors associated with the best indicator of success. Work planned by the Ministry will explore these questions in more detail.

References:

Mahoney, P. (2007) *Industry training – exploring the data*, Wellington: Ministry of Education.

Ministry of Education (2007) *Profile & Trends 2006: New Zealand's tertiary education sector*, Wellington: Ministry of Education.