



## *Literature Scan*

# The reasons for the non-completion of apprenticeships and traineeships in industry training organisations

Prepared for  
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## LITERATURE SCAN: THE REASONS FOR THE NON-COMPLETION OF APPRENTICESHIPS AND TRAINEESHIPS IN INDUSTRY TRAINING ORGANISATIONS

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## Contents

Introduction .....	2
Vocational training in New Zealand .....	2
Factors that contribute to non-completion .....	4
System level factors .....	4
Employment factors .....	6
Personal factors .....	9
Conclusion .....	12
References .....	13
Appendix One: Research Approaches .....	16

## Introduction

This literature scan was undertaken to gain an understanding of the issues associated with non-completion of apprenticeships/workplace qualifications, and to get an understanding of common themes across countries.<sup>1</sup> It is the first stage of a wider research project on the non-completion of traineeships/apprenticeships in New Zealand's Industry Training Organisations. The information from the scan will be used to inform the next stage of the research, consisting of interviews with non-completers.

For this research, non-completion refers to the non-completion of qualifications, rather than non-completion of credits or programmes as measured by the Tertiary Education Commission's (TEC) Educational Performance Indicators (EPIs).

The literature includes research reports, articles and media resources that could be sourced electronically or from government agencies about non-completion. It has been limited to material from New Zealand, Australia, Canada, the United Kingdom, Switzerland, and Germany that has been written in the last 10 years. The research includes the perspectives of employers, apprentices/trainees, government agencies and researchers. Of the 39 studies in this scan, around half of them (18) include primary data, with 13 of these including data from trainees, the majority of whom were still in training.

## Vocational training in New Zealand

New Zealand has a long history of vocational learning in the workplace. Apprenticeships in various trades have been formally regulated in New Zealand since 1894 (McLintock, 1966; Murray, 2001). Since 1992 vocational learning in New Zealand has been mainly supported by Industry Training Organisations (ITOs), while a residual apprenticeship system has remained in the Polytechnic system. ITOs are responsible for setting standards and for arranging training, including the assessment for qualifications. They do not provide training themselves, as they are not registered training providers. Rather, they arrange for training and assessment to occur in the workplace, and in off-job settings. They have varied in number over time, from 52 in 1996 (Ministry of Education (MoE), n.d.) to 12 in 2014. In 2013 there were around 138,000 trainees/apprentices involved in on-job learning through ITOs (MoE, 2014).

In addition to the reduction in the number of ITOs, there have been policy changes to the ways in which the apprenticeship scheme is run in New Zealand. In 2011, a new set of funding rules was instigated following a register cleanout of inactive trainees in 2010. A strategic policy review between 2011 and 2012 led to an extension of the Modern

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<sup>1</sup> This is a scan rather than a full review as its purpose is to identify key themes related to non-completion. This approach was thought to be more useful than an annotated bibliography, which would just have given a description of each of the pieces of research. A table outlining the methodology of each of the pieces of research is attached as Appendix One.

Apprenticeship scheme to include apprentices of all ages and the scheme was rebranded as New Zealand Apprenticeships.<sup>2</sup> Changes have also been made to the funding mechanisms for employers (Joyce, 2013), including opening up the training arrangement role to non-ITOs.

While policy changes from 2011 onwards have looked to address non-completion, it nevertheless remains an issue. The MoE (2014) reports that while overall credit and qualification completion have improved since 2010, there was still a five-year cohort qualification non-completion rate of 64 percent in 2013.<sup>3</sup>

The first question for the New Zealand government, industry, employers and apprentices/trainees is: 'Why are industry training completion rates low?' Australia has completion rates of around 55 percent (National Council for Vocational Education and Research (NCVER), 2014) and has just announced a new Australian Apprenticeship Support Network that is looking to provide more support for apprentices and employers with a view to improving the completion rates (Australian Government, Department of Industry 2014). Canada has similar rates of completion, estimated at around 50 percent (Davidson, 2014). The Department of Business Innovation and Skills (2014) in the UK report their completion rates at 72 percent for 2012/2013. In Germany, completion rates stand at between 75 and 80 percent (Ecorys, IES and IRS, 2013).

A second question for government, industry, employers and apprentices/trainees in New Zealand could perhaps be: 'Does completion really matter?' Overall, the research shows qualification completion is important for economic returns to the individual and the company (Mahoney, Park and Smyth, 2013; Centre for Economic and Business Research, 2013). Crichton (2009) found that gaining a workplace-based qualification at level 4 or higher increased earnings by an average of seven percent. The Canadian Apprenticeship Forum (2011) also reported there were higher employment rates for those who completed apprenticeships, and also higher earnings. It is also important because of future productivity losses to employers and forgone tax revenue for governments when apprentices do not complete (Centre for Economic and Business Research, 2013; Speckesser and Behling, 2013; Deloitte Access Economics, 2011).

Training completion is also important for employment stability. Crichton (2009) reports that 75 percent of those who complete a qualification are with the same employer at the end of

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<sup>2</sup> Apprenticeships are defined as training which results in a level four qualification consisting of a minimum of 120 credits.

<sup>3</sup> Further information and statistics on workplace-based training in New Zealand can be found in Ministry of Education. (2014). *Profile and trends: New Zealand's tertiary education sector 2013*. Wellington: Ministry of Education. [http://www.educationcounts.govt.nz/\\_data/assets/pdf\\_file/0016/152710/Profile-and-Trends-2013.pdf](http://www.educationcounts.govt.nz/_data/assets/pdf_file/0016/152710/Profile-and-Trends-2013.pdf)

their training period, with 50 percent of them still being there a year later. This is compared to 25 percent of non-completers who were still with the same employer a year after their non-completion. Bednarz (2014) cites a NCVET 2010 study where 85 percent of completers were in employment nine months after completing their training as opposed to 60 percent of non-completers.

Finally, the point that needs to be considered in relation to completion is the extent to which the qualification actually matters to the trainee/apprentice and their employer. It maybe that the skills gained on the job and through training are sufficient for them (Mahoney, 2012). This issue is described more fully below.

Given the contribution that qualification completion makes at the outcome level, that is, to individual earnings, employment rates, productivity and employment stability, it is therefore important to know more about why people don't complete and the factors contributing to this. It is also important to know more about non-completion because of the investment government, employers and individuals make to education and training for qualifications.

## **Factors that contribute to non-completion**

The research reviewed for this scan shows single factors on their own do not contribute to non-completion, rather it is the interplay of factors that lead to a trainee/apprentice making a decision not to continue. For this literature scan, the factors fall into three categories: the system, the employer and the trainee/apprentice; and as such, the research described below is written up in these categories.

### **System level factors**

System level factors include the economic climate (and related directly to this, the labour market), industrial relation systems, and the wage rates paid to apprentices/trainees. It also includes the training and assessment models set down by the various industry training bodies and others responsible for delivering training, for example Polytechnics in the New Zealand context. These factors make up the 'system' that apprentices/trainees are required to fit into and are also the factors over which employers (for the most part) and apprentices/trainees have little if any control.

As might be expected, one factor over which employers and trainees/apprentices have no control is the economic climate and the subsequent impact this has on employment. Overall, it seems youth are vulnerable in the New Zealand labour market, as they are in other countries,<sup>4</sup> and as such have been badly affected by the recession. The Treasury (2013), reports unemployment rates for 15-19 year olds at 26 percent and 20-24 year olds at 13 percent. One of the contributing factors to this is the industries in which unskilled youth are

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<sup>4</sup> Note this situation is not particular to New Zealand. Statistics from the UK show youth have been the most affected by the recession with unemployment rates at 35.9% for 16-17 year olds and at 18% for 18-24 year olds (Monaghan, 2014). In 2014 the youth unemployment rate in the European Union was reported at 21.8%, with Spain and Greece being the worst affected countries (Pettinger, 2014).

typically employed, namely retail and food services, the former of which was badly hit by the recession.

Chan's (2011) research on trainees' or apprentices' reasons for starting and continuing in training found that 5 of the 34 non-completers interviewed gave redundancy as a reason for not continuing with their qualification. These non-completers worked in the agriculture and construction industries. Also in the New Zealand context, Crichton (2009) found that around 25 percent of non-completions was due to jobs changing or ending. A Canadian survey of employers, completers and non-completers (Malatest & Associates Ltd., 2008) found that 23 percent of apprentices/trainees and non-completers said that being laid off impacted their ability to complete. However, Laporte and Mueller (2011) report only a weak correlation between regional unemployment rates in Canada and completion. In addition to wider economic factors, Curson (2004) noted that employers reported that there was also seasonal impact on industries such as tourism, travel, agriculture, sport and retail and this made it difficult for companies to continue to employ staff.

Training wage rates are another system factor that have an impact on completions. Here, the literature shows that low pay as a reason for non-completion varies between countries because of the differing systems that subsequently impact on the wage rates.<sup>5</sup> This is understandable given both the training wage rates and qualified wage rates. An international comparison of rates shows that Germany and Switzerland have training wages rates lower than other countries, but qualified rates at the higher end, which may act as an incentive to stay and complete qualifications.

The rate of return (the difference between what is earned during and after an apprenticeship/traineeship) for New Zealand apprentices/trainees, who have higher training wages rates than apprentices in Germany and Switzerland, is considerably less (Low Pay Commission, 2013).<sup>6</sup> In Australia, Bednarz (2014) notes that it is worthwhile completing a qualification because of the higher pay rates for qualified workers than non-qualified workers. However, she also notes the pay increases are not the same for all trades, with hairdressers receiving substantially less than those in the electrotechnology and telecommunications industries.

In the Australian and New Zealand research reviewed for this scan, low wage rates have not been reported as an issue for non-completers. Bednarz (2014) reports that only 9 percent of trade apprentices in 2008 and 5 percent in 2009 reported low pay as their main reason for leaving. In the New Zealand context, it is seldom cited as a reason for non-completion, for example only one of the 34 non-completers in Chan's (2011) study cited low wages as a reason for non-completion. McDonald, Alkema and Blakie (2011) found that 80 percent of

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<sup>5</sup> It is outside the scope of this scan to describe these systems. Further information can be found in Steedman, 2010.

<sup>6</sup> Countries in the study were: United Kingdom, Australia, New Zealand, Germany, Austria, Switzerland, Netherlands, Spain, Italy, France, Belgium, Ireland, Denmark, and Sweden.

their trainees in the agriculture sector said that they knew they would get more money when they were qualified, but it was not the driving factor for them. However, this is not to say low wages are not an issue as the New Zealand research covered in this scan does not include the views of many non-completers.

The training system is also shown to have an impact on whether apprentices/trainees continue and complete qualifications. In New Zealand terms, the system means the training approach, that is, the percentage of training that is done on- and off-job, the number of credits required for a qualification, the access trainees/apprentices have to ITO training advisers and assessors, and any associated assessment practices.

Vaughan (2012) notes the challenges for ITOs with, '...industry training organisations struggling to create formatively-based assessment systems to recognise on-job learning, to help trainees to complete qualifications, and to foster a lifelong learning disposition in trainees,' (p. 9). She also comments that the separation of theory and practice, in either the teaching or learning process, where 'the theory component is regarded as difficult and less relevant by apprentices and sometimes also their employers,' is a factor in non-completion (ibid, p. 9).

Most of the training factors covered in the scan related to the quality, delivery and support of training in the workplace and this is discussed in the next section on employment factors.

The New Zealand system requires trainees and apprentices to be, on the whole, self-directed learners. This approach does not seem to work for those who are not motivated, do not have the time outside of work to complete workbooks or assessments (or are tired after working long hours) or do not have the skills to access the learning and assessment materials. Kerehoma, Connor, Garrow and Young (2013, p. 34) found this was a particular issue for Māori learners.

There was a feeling that the self-directed learning approach of an apprenticeship was less suited to Māori learners, who needed more of a 'push'. Some stated that to get any help, you generally have to ask for it, which was not seen as 'a Māori way of doing things'.

A recent study by Competenz (2014) on Māori and Pasifika trainees, found that one of the strongest barriers to their completion was complex assessment materials and workbooks provided by ITOs. An additional barrier was the work that was required for block courses. In Scotland, Gallacher, Whittaker and Crossan (2004) found that check-list approaches to training, in other words, what they described as 'ticking off competencies' and the monitoring of the training being delivered by the provider and employer impacted on completions rates. They argue that what apprentices need to support completion is sound training processes.

### **Employment factors**

The factors described in this section are those over which employers have control. Overall, the literature shows that employer- and employment-related factors make the largest contribution to the non-completion of apprenticeships/traineeships. Here the key factors



are related to employment relationships, working conditions, workplace culture, the quality of on-job training, and employers' attitude to training.

In looking at the employment aspect, the overriding point to take into consideration is that workplaces are primarily sites of production or service delivery. This has implications for how apprentices/trainees are expected to learn on-the-job, how much time employers have to teach and support them with their learning, and the extent to which they have the capability and capacity to do this.

Also what has to be taken into consideration is the extent to which employers see completion as important. Are they more interested in staff gaining skills relevant to the workplace, rather than qualifications? As Dalziel (2010) points out in relation to training generally, employers are generally not interested in a whole programme and that courses of study for apprentices/trainees are better suited to large firms.

This research suggests that employers find it more important in some industries than others, in particular the industries that have a history of training, or where apprenticeships take a longer time to complete or where there are regulatory factors associated with having qualifications. For example, Gallacher et al., (2004) report that Scottish employers in construction were more likely than those in retail to view completion as important.

Over half of the employers interviewed for a UK study by Trinh, Colahan, Higton and Emmett, (2013) were not concerned about the apprentices' failure to complete as they thought it had little impact on their business. However, employers who were concerned were annoyed that apprentices did not complete, as they felt time had been wasted on training, and there was a cost to the business while they replaced the apprentice and subsequently there were difficulties with recruiting new staff.

'It always has a negative impact. No-one likes to see staff leave. Have to employ more staff, more training, more cost to the business, more cost to the customer (p. 68).'

Another point to consider here is the extent to which qualifications are actually needed for a job. McDonald, Alkema and Blakie (2011) found that around half (30) of the trainees they interviewed in the agriculture sector said they did not need qualifications for their job. However, they all knew they would get new skills as a result of the training and liked the idea of having a qualification.

Low wages are also cited as a reason in relation to employment and where these are set at the system level, which have been described above. However, in saying this, pay rates impact at the employment level where some trainees and apprentices see themselves as being 'cheap labour', particularly where their wages do not increase after the first year of their apprenticeships. Gallacher et al. (2004) indicated that, in the case of Modern Apprenticeships in Scotland, the 'wages and conditions provided by some employers were found to result in a low level of staff morale and to contribute to high levels of turnover' (p. 26). The Department for Business Innovation and Skills (2013) also report one of the main reasons for apprentices leaving jobs was for other or higher paid jobs.

Coupled with low wages are the actual costs of training. In Canada the CAF (2009) found over a third of non-completers said that the cost of training was a barrier for them. This factor has not come up as an issue in New Zealand studies.

Conditions at work, including the physical environment, the culture and atmosphere also impact on non-completion. Snell and Hart (2008) found that almost half of the 39 non-completing apprentices from south eastern Australia said they had problems with the workplace.

‘Out of these a third were about being ‘treated as cheap labour’... A further fifth were concerned about poor, unsafe or dangerous workplace practices, and the rest of the responses in this category covered various problems with employers ranging from ‘falling out with the boss’, poor work conditions, bullying, hours being cut or unreasonably extended, or lack of appropriate on-the-job supervision...’, (p. 51).

However, they also noted that problems with the workplace was an issue for both completers and non-completers.

Fillietaz (2011) reports on the interactions that occur in the workplace in Switzerland and how language and communications impact on apprentices’ ability to interact in workplaces, learn new knowledge and connect with colleagues, supervisors and peers. Lack of familiarity with the work environment and the particular language related to the trade means it takes time for an apprentice to feel included and part of a work team. This is compounded by the need for workplaces to meet production deadlines, which often leads to workplace instructions being ‘concise, implicit and tightly related to productive tasks’ (ibid, p. 149).

Poor quality training, or lack of it in workplaces, is cited in several pieces of research as a reason for non-completion. Snell and Hart (2008) found that 60 percent of non-completers reported taking part in training that they thought was appropriate only for new apprentices and 19 percent reported having no training at all. In Chan’s (2011) study, 11 of the 34 non-completers cited insufficient training as their reason for not completing and the Learning and Skills Council (2009) reported the lack of training and/or lack of relevant quality training was a factor related to non-completion. One of the factors contributing to this lack of training is the lack of training opportunities that arise in some workplaces to provide the variety of experiences required for apprentices’ training (CAF, 2011).

The quality of training is underpinned by the extent to which there are people in the workplace who are able, qualified and available to train and assess apprentices, and the extent to which there is encouragement and support for training and the apprentice generally (Laporte and Mueller, 2011; Kopu, 2010).

Our future tradesmen are only going to be as good as the tradesmen they work with during their apprenticeship. The quality of on-job training is vital (Kopu, 2010, p. 23).

It is worth noting here that some employers view training as a cost to the business (Curson, 2004). She notes this is particularly the case for small to medium enterprises (SMEs) who find it difficult to cover the time off for training and the subsequent loss of production or

service time. This might go some way towards explaining why some of the research shows apprentices are more likely to complete in larger firms. In Australia, Karmel and Roberts (2012) found that employers with high numbers of apprentices had better completion rates; those with 11-25 apprentices had completion rates of 56.9 percent as opposed to those with between 2-10 apprentices, who had completion rates of 48.1 percent. They also found that employer type matters, with government employers having higher completion rates than private employers. Firm size was also a factor in Canada, where Laporte and Mueller (2011) report higher completion rates in larger firms.

However, this is not just about the numbers; it is also likely to be, as Kopu (2010) found, that large employers have a training infrastructure and a culture of learning that supports trainees. The research also suggests larger employers tend to be better placed to offer better working conditions than smaller ones. Snell and Hart (2008) reported that apprentices in Australia working for larger employers saw themselves as being in a privileged situation compared to other apprentices, and expressed 'little or no intention of leaving the training' (p. 62).

Included in the quality of training is the appropriate support that is provided in the workplace, both for training and for work. Snell and Hart (2008) concluded that, overall, apprentices and trainees require strong support if they are to complete training. Gallacher et al. (2004, p.25) noted that where employers did not 'give support, encouragement and time to young people' they were more likely to leave. In the New Zealand context, Sligo et al. (2010) found Modern Apprentices with low literacy skills needed support from employers, Modern Apprenticeship Co-ordinators and literacy tutors in order to help their completion. Support, including mentoring, coaching, pastoral care and visual learning material, for Māori and Pasifika trainees makes an important contribution to their success (Competenz, 2014; Kerehoma et al., 2013; Kopu, 2010).

### **Personal factors**

There are a number of personal factors that impact on apprentices' willingness or ability to complete their qualification. These include age, gender, ethnicity, personal circumstances, prior education level, literacy, numeracy, and employability skill levels, motivation, persistence and attitude. These individual factors on their own are unlikely to contribute to non-completion; rather these factors are likely to interact with each other and with the employer and system factors.

Age has considerable impact on non-completion. Younger apprentices are less likely to complete than older ones (Malatest, 2008; Mahoney, 2009, 2012; Kopu, 2010; CAF, 2011; Trinh, Colahan, Higton and Emmett, 2013; Competenz, 2014). They also leave traineeships/apprenticeships more quickly than older people (Mahoney, 2009). In the UK, industries such as engineering, manufacturing, construction, and agriculture have lower completion rates. The researchers (Trinh et al., 2013) concluded this could be attributed to younger apprentices (16-18 year olds) in these industries and the longer duration of the training programmes. In New Zealand younger people are also more likely than older people to be enrolled in longer-term traineeships/apprenticeships, i.e. those that run over three-four years (Mahoney, 2009). In addition, the rate of participation by younger people has

increased and that of older people (over 45) has declined in New Zealand over the last five years (MoE, 2014).

So what is it about being young that contributes to this? Firstly, the younger generation has a range of career options open to them and are interested in exploring these and looking out for other opportunities (Kopu, 2010; CAF, 2011; Bednarz, 2014). Chan's (2011) study exemplifies this where of the 34 non-completers all but five had gone on to other training or jobs in the trade or to other trades. Just under half of these had cited poor training as their reason for not completing their original qualification.

The CAF (2011) thinking aligns with this. Here the researchers concluded young people are much more likely to explore a range of job opportunities and moving on to new things is not a negative for them. In addition to this, young people lack experience of the world of work and may find what they have chosen does not suit them or they do not have the right background to deal with the study requirements. Perhaps, combined with this, as reported by the LCS (2009), is the short-term thinking of younger people who are willing to take other higher-paid job opportunities as they come along without thinking about the longer-term consequences related to earnings.

In her work on Modern Apprentices, Kopu (2010) talks about the 'Gen Y' factor, the range of options that young people now have open to them, the variety of career pathways that are possible, and the likelihood of young people having short careers and more of them. Not only has the world of options increased for younger trainees there was the view from employers that the 'Gen Y' attitude and commitment to work was lacking or contradictory to what employers expected in the workplace.

Jeffcoat and Jeffcoat (2006) found that employers of Modern Apprentices held the same view as that cited above, in that young people were often not prepared to "*stick at things*", or that they just wanted to have a better work-life balance and as a result were not prepared to work as hard as might be required. Added to this, employers commented that Modern Apprentices were not interested in improving their career opportunities and were not prepared to commit to an industry or career.

It's often just young people, they don't stick at things or sometimes they get into our industry and realise that it's just not for them or it's too hard, or they don't want to work weekends. (Employer of Modern Apprentices) (Jeffcoat and Jeffcoat, 2006, p. 84).

While holding the same view about work-life balance, the Modern Apprentices non-completers saw it from a different perspective. They wanted more balance in their lives and didn't view this as a negative thing.

I'm not a Modern Apprentice at the moment, but I haven't left – I just want to have a break from studying and stuff for a while – you know, have a life. (Terminated Modern Apprentice) (Jeffcoat and Jeffcoat, 2006, p.81).

Bednarz (2014) also found literature about younger people's approach to apprenticeships and their ability to make a long-term commitment.

Keeping the kids on track for the entire 4-year term is the hardest challenge we find. It seems difficult for many of them to keep up the effort and attitude required to get them through all the site and school training. (Walker & Powers 2008, p.64, cited in Bednarz, 2014, p. 27)

Sometimes personal or family matters get in the way and apprentices either rank these more highly than their apprenticeships or these are factors beyond their control, e.g. problems at home, deciding to move locations (Jeffcoat and Jeffcoat, 2006; LCS, 2009). The LCS (2009) also adds personal attributes, such as poor communication skills, lack of time management and lack of interest in doing well as reasons for non-completion.

Employers in the UK interviewed by Trinh et al. (2013) gave changing personal circumstances as the most common reason for non-completion, followed by issues with the apprentices themselves, such as being disinterested, finding it difficult to balance work and training, and their lack of ability or failure to meet the training standard, being the most common reasons.

Readiness or ability to undertake the study requirements is also covered in the research. Apprentices are sometimes employed before they sign on to study and Kopu (2010) reported that Modern Apprenticeship Co-ordinators often found that young people were not able to complete the requirements of their programme of study. (Note this may no longer be the case with the 90-day trial period now operating in New Zealand). Also industry training organisations are using research-informed approaches to assist trainees and apprentices to complete (Alkema and McDonald, 2014; Competenz, 2014; Styles, Farrell, Petersen, 2014).

Associated with readiness are previous qualification levels and existing skills, particularly related to literacy and numeracy (Competenz, 2014; Vaughan, 2012; Smith, Walker and Brennan Kemmis, 2011; LCS, 2009). The Ministry of Education (2014) notes that qualification completion rates have improved from 33 percent in 2010 to 36 percent in 2013 and cites improved qualifications at entry level as a possible contributor to this. McDonald et al. (2011) found that trainees in the agriculture sector with lower level entry qualifications were more likely than those with higher entry level qualifications to say that it was difficult to keep going with their training.

In the literature, gender was seldom cited as a reason for non-completion. However, Bessey and Backes-Gellner (2008) reported gender was an issue for females in male-dominated industries and vice versa in Germany. Compounding this could be pay rates. One of the issues raised in a UNESCO report (2012) is that female apprentices in the UK are paid, on average, 21 percent less than males and their wage benefits on completion are 4 percent as compared to 20 percent for a male undertaking the same apprenticeships.

Participation in industry training by Māori and Pasifika people has declined since 2010, with Māori participation going from 11 down to 7.4 percent and Pasifika from 27 to 12 percent. While ethnicity is often cited as a contributing factor to non-completion, a recent study by Competenz (2014) reported that Māori and Pasifika trainees completed qualifications at the same rate as other trainees/apprentices. The study concludes that ethnicity is not 'on its

own' a contributing factor to non-completion; rather it is interwoven with other factors, such as the qualification a learner is enrolled for and their prior qualification. This finding is dissimilar to that reported by Mahoney (2009), who found that completion rates for Māori and Pasifika were lower than for European, even when controlling for factors such as age, qualification and industry.

Mahoney (2012) placed non-completers into two categories: those who completed fewer than 50 percent of the required credits (30 percent of all industry trainees) and those who gained no credits at all (24 percent of all industry trainees). Here he found that while younger trainees were more likely to be in the former group, in that they completed some credits, there was no age association for those in the group that completed no credits. A possible reason Mahoney gives for this is that employers and employees are interested in skill gain rather than qualifications. Another factor to consider here is that older people may value qualifications less as they have curriculum vitae that attest to their skills and experience (Mahoney, 2009).

## Conclusion

While the focus of this scan was on the reasons for non-completion of qualifications, the perspectives of those who do not complete are not widely represented in this small body of research. It seems that non-completers are more talked 'about' than talked 'to'. This is probably not surprising, given that Ryan, McDonald and Alkema (2011) found that of the 44 New Zealand workplace-based training studies they reviewed, only 10 had included conversations with trainees, let alone those who had not completed. The authors point out that it can be logistically difficult to get to trainees in workplaces, so getting to non-completers, who may no longer be in the same workplace or in the industry training system, is likely to be more challenging.

Overall, what the literature shows is that non-completion involves a complex mix of factors. It is the interplay between the system, the employer and the individual trainee that leads to the success or otherwise of workplace-based training. The literature in this scan based its conclusions on statistical data, the perspectives of employers, completers and non-completers, with the latter being the least-heard voice. So what can be concluded from this literature scan?

- Completion matters - for returns to the individual, the employer and government.
- There is a range of factors associated with non-completion and these play out at the system, employer and apprentice/trainee levels.
- No single factor appears to contribute to non-completion. Rather, it is the interplay of factors that results in non-completion, with variation occurring between countries, contexts and industries.

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## Appendix One: Research Approaches

Alkema, A. & McDonald, H. (2014).	Literature scan; document analysis; pre- and post- training programme interviews with eight aged care workers and their managers
Bednarz, A. (2014).	Literature review
Bessey, D. & Backes-Gellner, U. (2008).	Data analysis
Canadian Apprenticeship Forum. (2011).	Data analysis and group discussions with 148 apprenticeship stakeholders (employers, government officials, training instructors, etc)
Centre for Economics and Business Research. (2013).	Data analysis
Chan, S. (2011).	Face-to-face and telephone interviews and focus groups with 251 apprentices
Crichton, S. (2009).	Data analysis
Curson, R. (2004).	Literature review; interviews with ITOs
Dalziel, P. (2010).	Survey of 72 Small and Medium-Sized Enterprises (SMES)
Deloitte Access Economics. (2011).	Literature review; data analysis
Department of Business Innovation and Skills. (2014).	Data analysis
Filliettaz, L. (2010).	Workplace case studies
Gallacher, J., Whittaker, S. & Crossan, B. (2004).	Data analysis; 127 interviews with 35 stakeholders (sector organisations, training providers, employers, completers and non-completers)
Jeffcoat, S. & Jeffcoat, M. (2006).	
Karmel, T. & Roberts, D. (2012).	Data analysis
Kerehoma, C., Connor, J., Garrow, L. Young, C. (2013).	Focus groups with 35 stakeholders; 184 interviews with 34 learners over a seven-month period
Kopu, B. (2010).	Surveys and interviews with 15 Modern Apprenticeship Co-ordinators

Jeffcoat, S. & Jeffcoat, M. (2006).	2284 computer assisted telephone interviews with apprentices, completers, non-completers and employers; 85 in-depth phone interviews including apprentices and ITO representatives
Laporte, C. & Mueller, R. (2011).	Data analysis
Learning and Skills Council. (2009).	Literature review; data analysis; stakeholder workshop
Low Pay Commission. (2013).	Data analysis
Mahoney, P. (2009).	Data analysis
Mahoney, P. (2012).	Data analysis
Mahoney, P., Park, Z. & Smyth, R. (2013).	Data analysis
Malatest, R. & Associates Ltd. (2008).	Telephone interviews with more than 843 employers/sponsors, 1,175 active apprentices, 673 completers and 893 non-completers (3,584 respondents)
McDonald, H., Alkema, A. & Blakie, J. (2011).	Telephone interviews with 59 trainees
Ministry of Education. (2014).	Data analysis
National Council for Vocational and Educational Research. (2014).	Data analysis
National Council for Vocational and Educational Research. (2014).	Data analysis
Ryan, R., McDonald, H. & Alkema, A. (2011).	Literature review
Sligo, F., Tilley, E., Murray, N., Watson, B., Comrie, M. & Vaccarino, F. (2010).	Data analysis; interviews at 14 case study sites with apprentices, employers, training co-ordinators and literacy tutors
Smith, E., Walker, A. & Brennan Kemmis, R. (2011).	Telephone interviews with 12 stakeholders; four surveys with 705 trainees/apprentices; nine company case studies
Snell & Hart. (2008).	Interviews with 100 apprentices
Speckesser and Behling. (2013).	Descriptive analysis; and econometric analysis

Styles, M., Farrell, M. & Petersen, L. (2014).	Case study of 15 trainees and their mentors; 10 training advisers; 2 specialist support staff
The Treasury. (2013).	Data analysis
Trinh, T., Colahan, M., Higton, J. & Emmett, R. (2013).	Telephone interviews with 4009 apprentices
UNESCO. (2012).	Descriptive analysis
Vaughan, K. (2012).	Literature-based discussion paper