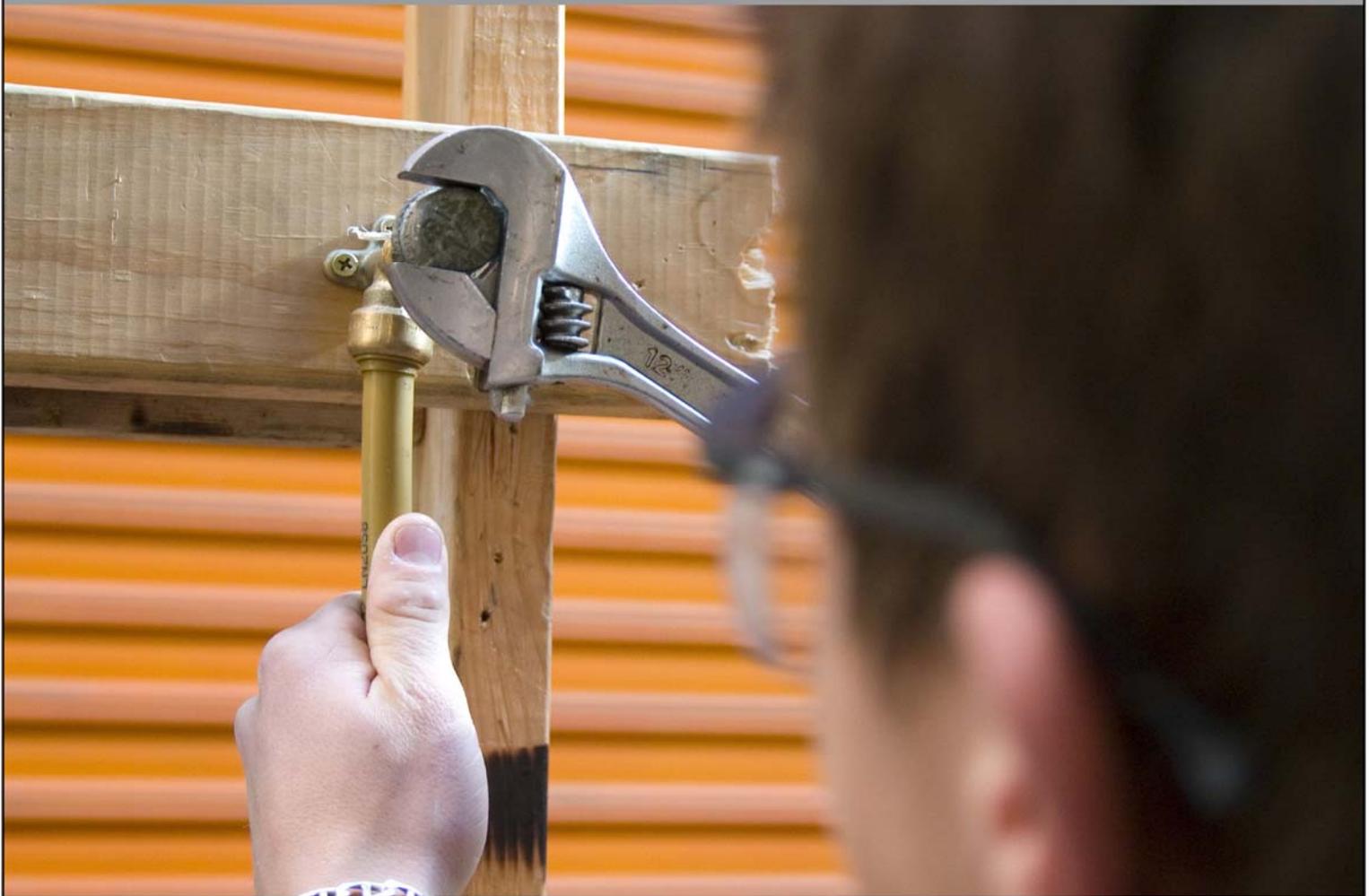


>>> Plumbing Apprenticeships: Drivers & Impediments

Industry Pathfinder Project



26th June 2008

Prepared for



Funded by



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Our gratitude extends especially to those teaching practitioners and RTO managers who managed to organise many classes of plumbing apprentices to spend time filling out the survey. For some this meant arranging time in computer labs and for other groups it meant distributing the surveys and mailing them in. We are conscious that these are busy times in apprenticeship training and are grateful to those who participated.

We would also like to extend our gratitude to the Master Plumbers Association in every State and Territory for their support in distributing the surveys to their members. The responses from plumbing employers were dramatically enhanced by the involvement of these industry groups.

And finally, we are indebted to the steering committee - a dedicated group from across Australia and New Zealand. This group, in particular, was instrumental in distributing surveys and making contact through their networks to encourage responses.



Jude Walker and Tim Powers

22 William Street
Newtown Victoria 3220
Telephone: 03 5263 2514
Fax: 03 5263 3731
www.altegis.com.au

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Steering Committee¹

Fred Baltetsch (Chair)	The Gordon Institute of TAFE (VIC)
Gary Bath	Plumbing Industry Commission (VIC)
Anne Gilleade	Department of Further Education, Employment, Science and Technology (DFEEST)
John Mahony	SkillsTech Australia (QLD)
Debbie Martindale	ITO Plumbing, Gasfitting, Drainlaying and Roofing (NZ)
Stephen Movley	The Institute of Plumbing Australia (WA)
Paul Naylor	Master Plumbers Association of NSW
Mike Quade	Construction & Property Services Industry Skills Council
Steven Robert	Department of Education, Employment and Workplace Relations
Owen Smith	TAFE Tasmania
Murray Thomas	MPA Skills (WA)

¹ The following were invited to join the Project Steering Committee but chose not be involved: Paul Brady (TAFE NSW), Gary Workman (MPA-Victoria).

Executive Summary

The purpose of this report is to identify the drivers and critical impediments to the uptake of Australian Apprenticeships in plumbing and related services. Of specific interest to this report is the issue of flexibility of plumbing training delivery.

The primary focus for this report has been on the experience and perceptions of current plumbing apprentices. Whilst this may not always highlight some of the structural impediments identified in previous reports², it does provide a 'customer centred' perspective that highlights issues that are most pertinent to those considering a plumbing apprenticeship.

Surveys were conducted with current plumbing apprentices, employers and plumbing instructors across Australia and New Zealand. The surveys explored the following topics:

- why individuals take up a plumbing apprenticeship
- who influences their decision
- where they find information on plumbing apprenticeships
- apprentices' experience with the RTO
- apprentices' experience with employers.



Plumbing apprentices have been and still remain a predominately male-dominated group. Having surveyed over 10% of all apprentices across Australia, less than 1% of current plumbing apprentices are female.

From Plumbing Apprentices:

Understanding why individuals take up a plumbing apprenticeship is an obvious first step to providing underpinning knowledge on how best to attract people into the trade.

Whilst most young people (including plumbing apprentices) may note money as a key reasons for taking up a career, the distinguishing reasons for taking on a plumbing apprenticeship involved *working outdoors*, *working with their hands* and *the opportunity to be their own boss*.

Many of the current plumbing apprentices surveyed did consider other careers before embarking upon their plumbing training. In fact, over half considered other careers - the vast majority of the other careers considered were also in the trades.

² Barriers to National Implementation of BCP03, 2006

Plumbing apprentices' main concerns when embarking upon an apprenticeship are directed at whether they have made the right choice and how to manage the process towards eventual work as a tradesperson. Remote and Regional apprentices were concerned with *handling the training while still working*. This may reflect the distance often travelled to training sites for these two groups and the time commitment to attend training in locations not always convenient. Not surprisingly, mature aged plumbing apprentices had concerns for *family commitments*. Also, for those plumbing apprentices over 39 years of age, the major concern, by far, is whether they will find an employer to do their apprenticeship with.

It is noteworthy that 31% of current plumbing apprentices have '*seriously considered*' dropping out of the apprenticeship training program. For those plumbing students that considered leaving the apprenticeship program, the top rated reasons were: *Apprentice Wages, My boss/employer, I was not enjoying the trade, Saw other jobs I was more suited to, The cost of tools and training*.

Wages appear to dominate the concerns of plumbing apprentices. Without disputing this fact, it should be noted that few apprentices appear to view their apprenticeship wages as subsidised training.

It appears that those who take up plumbing apprentices are most often surrounded by people who are encouraging and supportive in their choice. In choosing to take up a plumbing apprenticeship, individuals have been most heavily influenced by: *others in the trades* (41%), along with *parents and family* (38%).

Finding information on Apprenticeships is critical when individuals are considering a career path. When first considering a plumbing apprenticeship, 83% of current plumbing apprentices surveyed found it was *very easy* or *fairly easy* to find information. Only 17% had some difficulty in finding information.

When first looking into a plumbing apprenticeship, respondents felt the best sources of information were:

1. *other plumbers* (33%)
2. *internet* (14%)
3. *RTOs* (13%)
4. *parents* (11%).



Those sources of information on plumbing apprenticeships that were most frustrating for plumbing apprentices surveyed were: Internet (29%), Recruitment Agency (16%), TAFE/RTOs (16%), and Australian Apprenticeship Centres (13%).

On the role of Secondary School Career Advisors, over half of the apprentices surveyed found they received good information on the trades in general. However, 24% of surveyed plumbing apprentices found that *knowledge of the plumbing trade as a career* was poor or very poor.

Despite general satisfaction on careers advisors' overall performance on encouraging trades, there is still some predilection within the system to encourage University education over apprenticeships. There were also comments that inferred that trades were a fall-back position for those that weren't 'smart enough' for University. This certainly brings into question whether people are directed into plumbing apprenticeships because they are well suited to the career or because they are perceived as 'not good enough' to get into university.

On feedback regarding the training organisations, plumbing apprentices are generally satisfied with the flexibility and services of current plumbing training organisations. Within their training, current plumbing apprentices appeared to enjoy *learning and experiencing new skills* that would *provide a trade for life*. Notably different from their city counterparts, those from remote areas seemed to also enjoy: *Fellow apprentices in my group/class* and *Meeting new people*.

Although plumbing apprentices are generally satisfied with their current RTO, many suggested improvements, including:

- *Better workshops, supplies and tools*
- *Better availability of sessions*
- *Reduce the number of breaks while at school*
- *Better communication and planning of timetables*
- *Quicker course pace*
- *Increase the amount of hands-on practical work*
- *Better access to teachers during projects, assessments and class.*



In regards to apprenticeship training at RTOs, apprentices from remote areas listed travel time as their highest concern. Mature aged apprentices were much more concerned with *too much slack time while at school*.

In feedback regarding their apprenticeship employer, overwhelmingly, plumbing apprentices found their employers flexible in supporting apprentices.

When asked what aspects they enjoy most about their work the two highest responses were *learning a life skill/career* and *hands-on experience*. Plumbing apprentices from remote areas tended to rate *the people I work with* much higher than those from town and city. Interestingly, mature aged plumbing apprentices tended to enjoy *the variety of work* more, but were less enamoured with *working outdoors*.

On the topic of work experience, apprentices least enjoy: *Being left alone to do jobs I don't fully understand*, *Being treated without respect*, *Long hours*, *Not getting experience in all streams of plumbing*.

From Employers:

Employers of plumbing apprentices were also surveyed because of their critical role in the apprenticeship training scheme. They were queried about their perceptions on information sources and training organisations.

For their needs, employers feel the best source of information on plumbing apprenticeships come from: the Master Plumbers Associations (45%), Australian Apprenticeship Centres (29%), and friends in the trade (24%).

One quarter of all employers surveyed have had some difficulty in sourcing information on Australian Plumbing Apprenticeships. This is slightly higher for employers from remote or regional areas (i.e. 31%).

The top three sources of information most frustrating to employers were: *TAFE or other plumbing training schools*, *Australian Apprenticeship Centres*, and *Recruitment Agencies*.

Almost half of employers feel they do not get enough information from training organisations in regards to their apprentices.

Employers perceived that the training organisation was not very flexible. Employers were most concerned with training times and their impact on apprentice work.

Employers were asked to comment on what they would do differently, if they were running the plumbing training organisation. They offer the following:

- Better communication
- Involving employers more in training
- Greater flexibility in training times
- Maintaining currency in training content
- Reduce waiting times to enrol apprentices

In asking employers what the greatest challenges were in keeping a plumbing apprentice throughout the training, they provided:

- Generating the variety of work needed
- Low wages for apprentices
- Encouraging a healthy work ethic
- Keeping them interested and focused on finishing the Apprenticeship

From Plumbing Lecturers

Plumbing lecturers were also surveyed because of their pivotal role in providing apprentices the structured learning environment for a lifetime career in the plumbing industry.

Plumbing lecturers believed the greatest challenges they faced with 1st Year plumbing apprentices included: LL&N difficulties, lack of hand skills and the difficulty for many apprentices to transition to the adult learning environment. Further, many commented on the lack of time to properly deliver the training requirements within BCP03 and emphasise the theory components with apprentices who were more interested in practical work.

Australian Apprenticeships continue to evolve in an attempt to meet the ever growing demand for skills in the trades. However, this requires a vigilant focus on the changing drivers and impediments within the system. This report focuses on the specific feedback presented by current plumbing apprentices, employers and lecturers. Their feedback provides a wealth of information to enhance and improve the take-up of Australian Apprenticeships and further improve trade training.

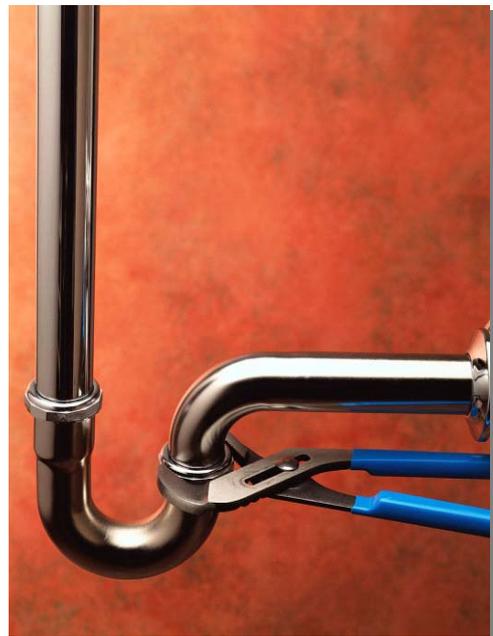


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Introduction

This report follows on from the recommendations made in previous research within the plumbing industry VET sector, which explored the status of implementation of New Apprenticeships and barriers to effective implementation of the BCP03 national Training Package during 2006.

This project comes at the invitation of the Construction and Property Services Industry Skills Council and Gordon Institute of TAFE to provide specific and focused information on the challenges currently faced by those considering an Australian Apprenticeship in plumbing and related services.

This purpose of this report is to identify the drivers and critical impediments to the uptake of Australian Apprenticeships and training in plumbing and related services. Of specific interest to this report is the issue of flexibility of plumbing training delivery.

The primary focus for this report has been on the experience and perceptions of current plumbing apprentices. Whilst this may not always highlight some of the structural impediments identified in the previous report, it does provide a 'customer centred' perspective that highlights issues that are most pertinent to those considering a plumbing apprenticeship.

It should be mentioned that the scope of this report was expanded to include New Zealand. Due to the interests on both sides of the Tasman, New Zealand has been an active participant in this project and has representation on the steering committee.

Project Methodology

This report on plumbing apprenticeship drivers and impediments has been developed primarily through the use of surveys. Surveys were conducted in order to explore the issues surrounding:

- why individuals take up a plumbing apprenticeship
- who influences their decision
- where they find information on plumbing apprenticeships
- apprentices' experiences with RTOs
- apprentices' experiences with employers.

The survey was initially trialled with students and teachers in Victoria and Western Australia. Feedback from these groups enabled the survey to be expanded and refined. Answer sets for many questions were developed from open-ended questions used in these initial trials. The survey was then distributed electronically to RTOs throughout Australia and via the Plumbing, Gasfitting and Drainlaying Industry Training Organisation in New Zealand. Response numbers were substantial:

- 1053 Current plumbing apprentices
- 274 Employers with plumbing apprentices
- 136 Plumbing teacher/tutors.

With approximately 9,827 plumbing apprentices across Australia, respondent numbers are sufficient to make observations on a national basis with a +/- 5% accuracy for comments made by plumbing apprenticeship.

In-training at 31 December 2007 by training package qualification, State/Territory	
	In-training at 31 December 2007 Australia
BCP30103 - Certificate III in Plumbing	8,863
BCP30203 - Certificate III in Plumbing (Mechanical Services)	36
BCP30303 - Certificate III in Roof Plumbing	541
BCP30403 - Certificate III in Gas Fitting	0
BCP30503 - Certificate III in Fire Protection	387
	9,827

Table 1 – In-training student numbers

** From NCVER Data, Government of Australia, 2008

The survey also collected information on where plumbing apprentices lived, collecting a survey pool with representation from:

- 48.2% City
- 36.2% Town of 20,000 or more
- 12.7% Regional country - within 100 km of a town of 20,000 or more
- 2.9% Remote country - over 100 km from a town of 20,000 or more

This dispersion within the pool of those apprentices surveyed, largely matches the current distribution of the general Australian population, as reported by the Australian Bureau of Statistics (ABS). The following chart compares the survey distribution of respondents to the general population statistics sourced from the ABS³.

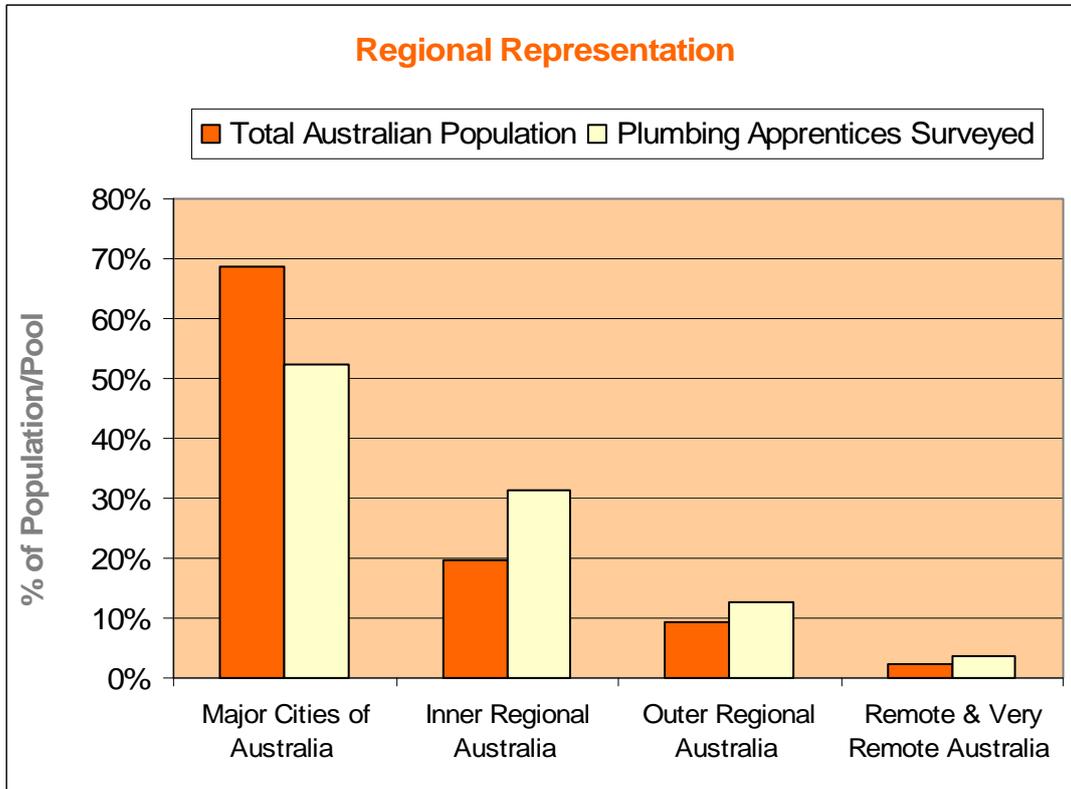


Chart 1 – Regional Representation

³ Sourced from <http://www.abs.gov.au/ausstats/abs@.nsf/mf/3218.0>

Why Individuals Take Up a Plumbing Apprenticeship

Apprenticeships continue to be the focus of government at all levels as the skills shortage increasingly impacts Australians in various industries from coast to coast.

NCVER reports that apprenticeships continue to increase, despite some media and anecdotal evidence that the economy is softening. As recently as 31 December 2007, NCVER reported that:

- there were 167 600 'traditional apprentices' in-training, up 7% from one year earlier.
- In the year ending 31 December 2007, compared with the year ending 31 December 2006:
 - commencements increased by 4% to 276 200
 - completions increased by 3% to 145 700⁴.

The plumbing industry is impacted by this trend and there is an increasing demand on staff and facilities that deliver plumbing and related services training in most States and Territories.

Understanding why individuals take up a plumbing apprenticeship is an obvious first step to providing underpinning knowledge on how best to attract people into the trade.

Gender

Plumbing apprentices have been and still remain a predominately male-dominated group. Having surveyed over 10% of all apprentices across Australia, less than 1% of current plumbing apprentices are female. This represents a critical impediment to the skills shortage.

Notably, this issue is also a concern in other countries. Miller (2005) discusses the persistent segregation of construction, plumbing and engineering apprenticeships in the U.K. and the contribution this makes to ongoing severe skills shortages in these areas. Contributing to this problem is the lack of information given to young people, particularly girls, at secondary school level (p. 290-291) and the 'social and attitudinal barriers (which) remain a major obstruction to those seeking to challenge gender segregation. (A) survey ... revealed that traditional attitudes regarding the "proper" jobs for women and men, social stereotypes and the poor image of (these) sectors were seen as making it difficult to promote apprenticeships in these sectors' (p. 294). Miller believes that 'employers are key to success of the apprenticeship programme and attempts to improve representation of minority groups' (p. 295).

⁴ http://www.ncver.edu.au/statistics/aats/quarter/dec2007/sum_dec07.pdf

Drivers & Motivators

Plumbing apprentices take on an apprenticeship for a variety of reasons. However, when plumbing apprentices across Australia and New Zealand were asked to list their reasons for taking up a plumbing apprenticeship (i.e. they were asked to list their top three reasons), the following answers emerged:

1. Money
2. Working outdoors
3. I like working with my hands
4. The opportunity to be my own boss
5. The variety of work.

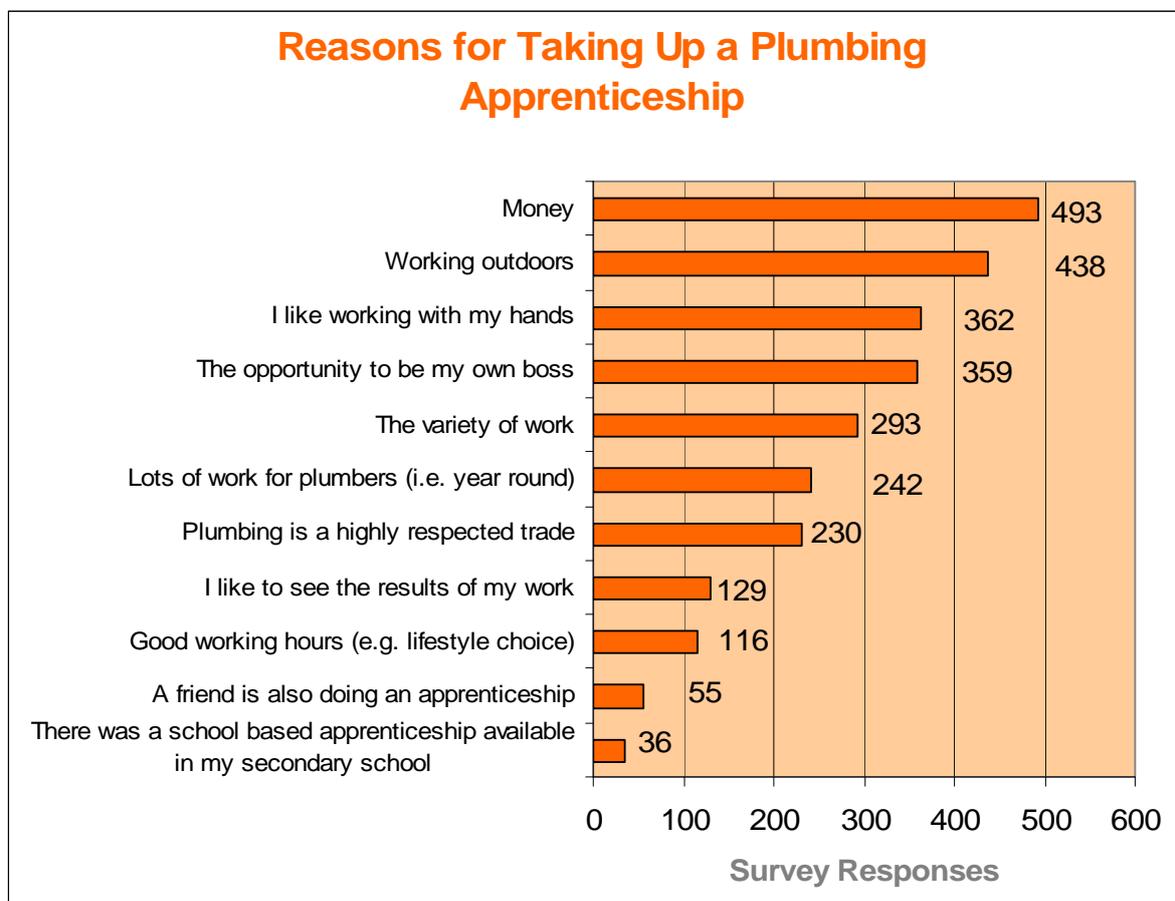


Chart 2 – Reasons for Taking Up a Plumbing Apprenticeship

Of the plumbing apprentices surveyed, one in six highlights money as the key driver. However, working outdoors clearly is important to this group. In the survey, apprentices were asked to list their top three reasons for taking on a plumbing apprenticeship. When reviewing the top answers for their first choice, it is interesting to note that money was not their first choice:

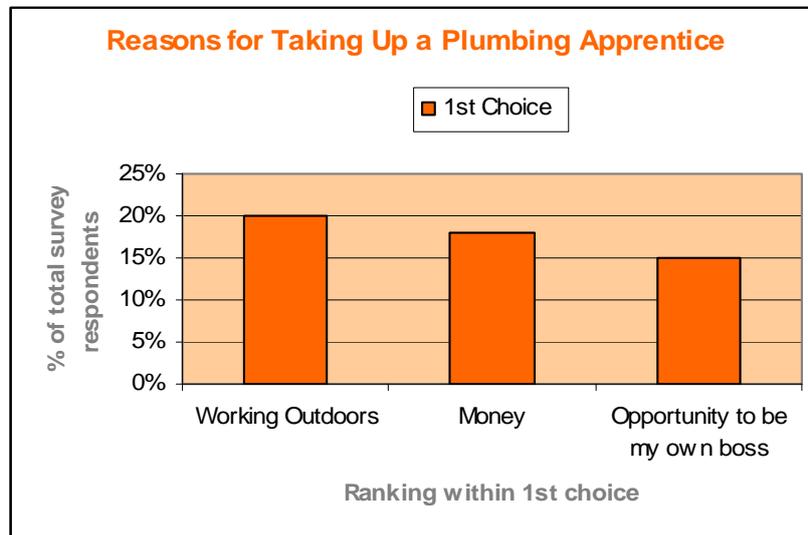


Chart 3 – Reasons for Taking Up a Plumbing Apprenticeship (1st Choice)

Understanding the key drivers behind why individuals choose to become plumbing apprentices is important as it can inform how best to interact and inform those now considering a plumbing apprenticeship.

For this reason, we also asked plumbing teachers and employers of plumbing apprentices what they perceived as the main reasons today's plumbing apprentices chose this profession. Whilst plumbing teachers mirrored the answers above, the employers of plumbing apprentices tended to place more emphasis on a couple of different aspects of the trade:

1. Money
2. Plumbing is a highly respected trade
3. Lots of work for plumbers (i.e. year round).

These answers tend to focus on employers' experience and broader view of the career. Whilst this is not completely lost on young apprentices, they tend to be driven by personal items that are more short term.

Of particular note are some of the drivers that did not score very highly on surveys from plumbing apprentices, including:

- 1% - There was a school based apprenticeship available in my school
- 2% - A friend is also doing an apprenticeship
- 4% - Good working hours (e.g. lifestyle choice).

What Do New Apprentices Worry About?

The majority of plumbing apprentices are young adults with 84% of respondents under the age of 24.

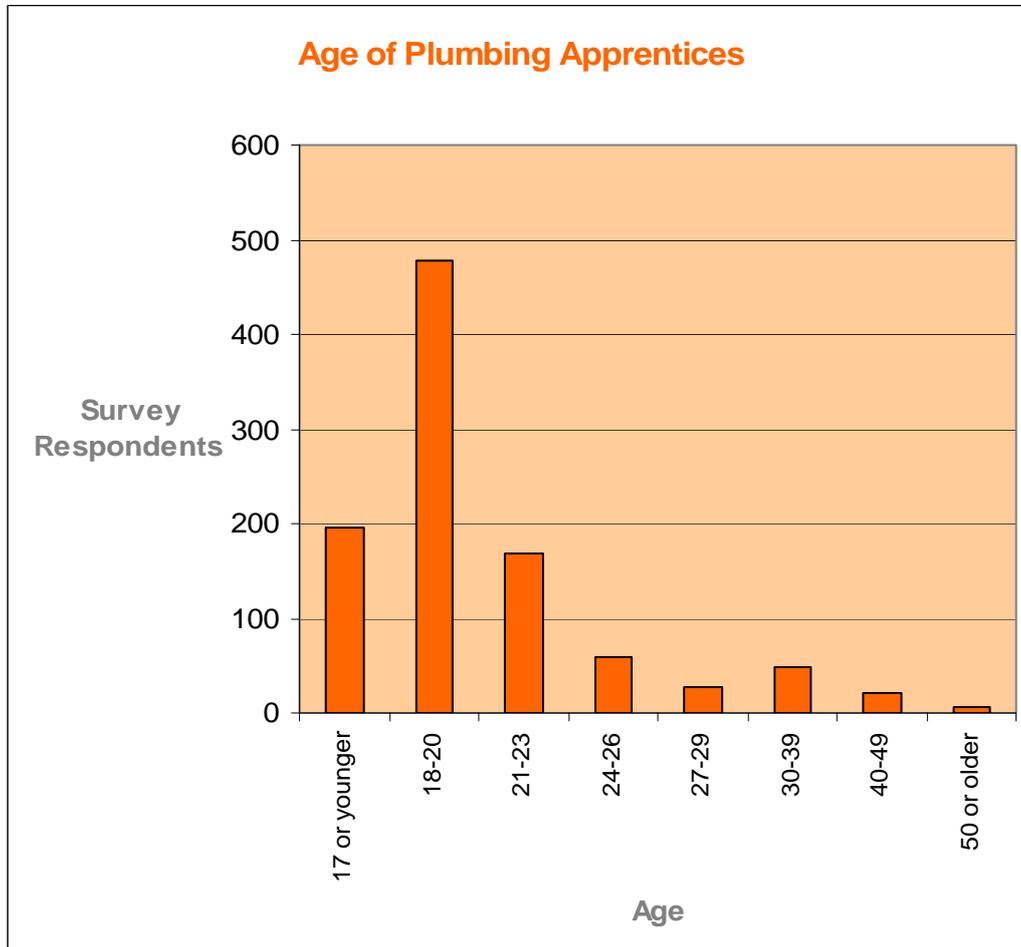


Chart 4 – Age of Plumbing Apprentices

They naturally have worries and concerns similar to any young person embarking upon their career. Their main concerns were directed at whether they had made the right choice and how to manage the process towards eventual work as a tradesperson.

When asked about their biggest worries or concerns when they first considered taking up a plumbing apprenticeship, the top four answers were:

1. Is plumbing really for me?
2. Will I find an employer to do my apprenticeship with?
3. Will I enjoy the training?
4. Will I find work as a plumber when finished?

Apprentices from remote areas (i.e. over 100 km away from a town of 20,000 or more) were less concerned with finding an employer to do their apprenticeship with. This would suggest that many from remote areas have already lined up an employer before they consider their apprenticeship. Although this question was not asked directly, it is interesting to note that of the 50 plumbing apprentices from remote areas, not a single person was concerned about 'Will I find work as a plumber when I finish?'

For those apprentices from remote areas, the top four concerns were:

1. Is plumbing really for me
2. Will I enjoy the training
3. Can I handle the training while still working
4. Will the schoolwork be too difficult?

Regional apprentices (i.e. those within 100 km of a town of 20,000 or more) were similarly concerned with handling the training while still working. This may reflect the distance often travelled to training sites for these two groups and the time commitment to attend training in locations not always convenient.

Comments from apprentices in remote and regional areas, include:

'...have to catch up blocks throughout the year for stuff you have missed, coming at night is not helpful, especially if you live very far away down the coast.'

'Run this course closer to my house.'

This quote comes from an employer in a remote area:

'It makes it hard [for] country kids who are not near a training school, have to work all day, travel hours to night school, come home and turn up for work the next day.'

Not surprisingly, mature aged plumbing apprentices scored highly on their concerns for family commitments. Also, for those plumbing apprentices over 39 years of age, the major concern by far is whether they will find an employer to do their apprenticeship with. For those over 39 years of age, this concern was held by 50% of respondents and was double the score for their second most prevalent concern.

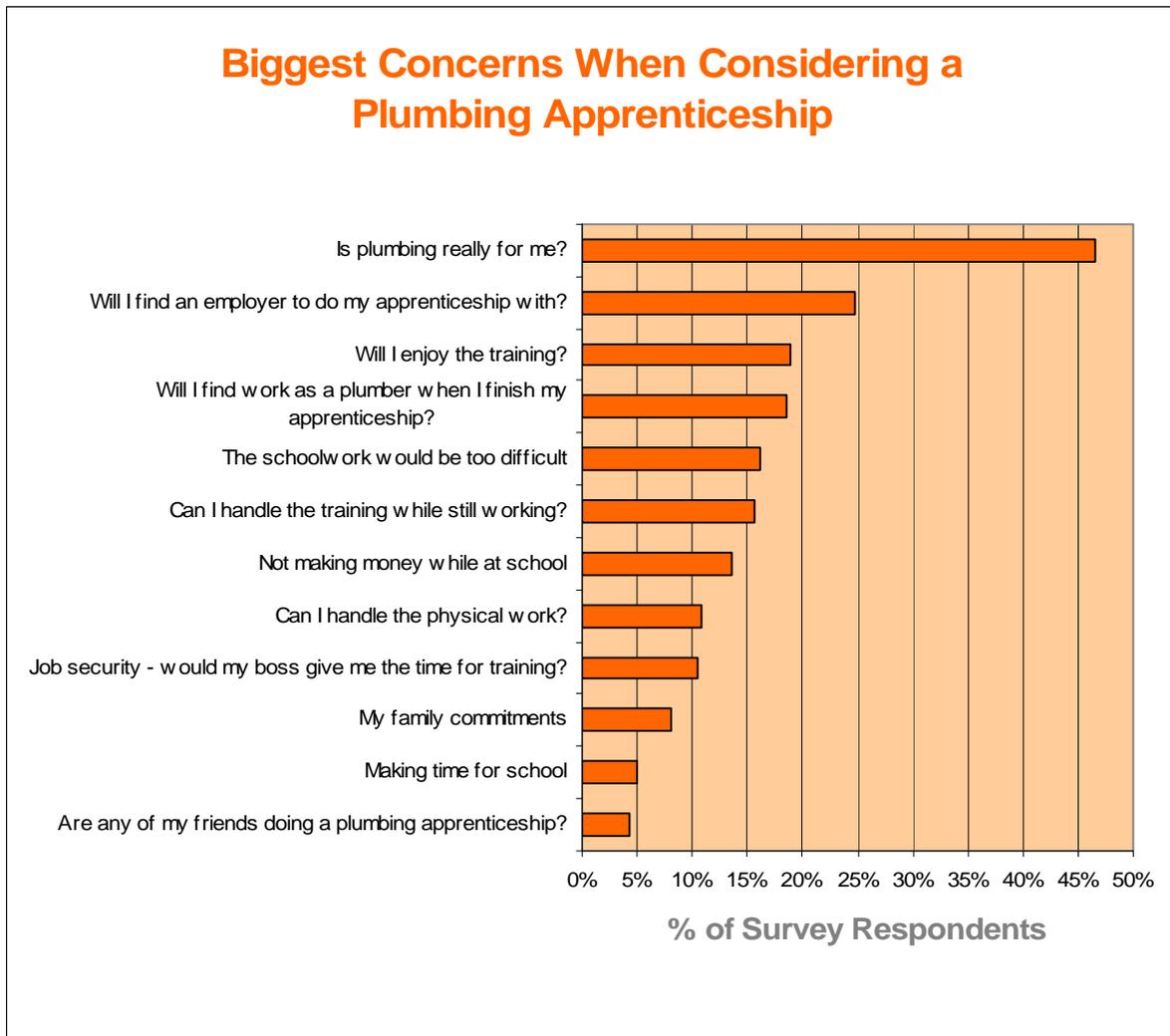


Chart 5 – Biggest Concerns When Considering a Plumbing Apprenticeship

Many current plumbing students have considered other careers before entering a plumbing apprenticeship. In fact, for 53% of the current plumbing apprentices surveyed, plumbing was *not* their first choice.

For mature aged apprentices, this is not a surprise as they have had a variety of jobs in various fields before embarking upon their plumbing apprenticeship. However, even when reviewing the responses for all plumbing apprentices under the age of 24, almost half of them stated that plumbing was not their first choice for a career.

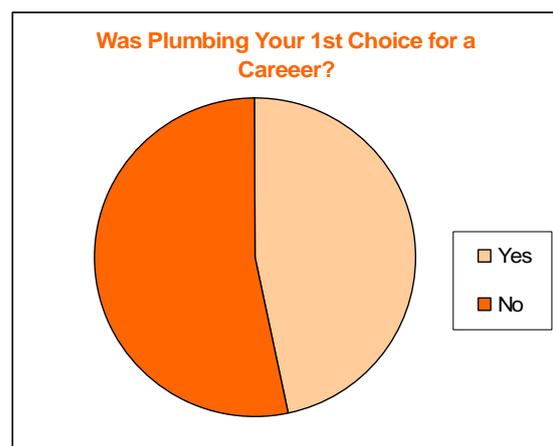


Chart 6 – Was Plumbing Your 1st Career Choice?

When questioned about what other careers they had considered, the vast majority of careers listed were in other trades. An electrician was the career most often cited by about 20% of those plumbing apprentices surveyed.

This is an interesting choice and may very well reflect the respect garnered by those trades that are licensed. The other trades that were represented in answers included general building, carpentry, air conditioning, plasterer, bricklaying and tiling.

Although the construction industry was by far the highest representation in this question, there were a few other careers that registered across the survey. They included auto mechanics and related fields, army, police and fire brigade.

Staying the Course

There is much in the media about the attrition rate in trade training, but there is conflicting information regarding plumbing training. Anecdotal evidence gathered during the forums with RTOs across Australia suggests that completion rates are 90% or better in the plumbing schools. However, NCVER data shows an attrition rate of 49%.

Comparing Commencement with Cancellations/withdrawals 12 months ending 31 December 2007 by training package qualification, State/Territory		
	Commencements	Cancellations / Withdrawals
BCP20103 - Certificate II in Drainage	10	12
BCP20203 - Certificate II in Metal Roofing and Cladding	0	1
BCP30103 - Certificate III in Plumbing	4,540	2,217
BCP30203 - Certificate III in Plumbing (Mechanical Services)	17	0
BCP30303 - Certificate III in Roof Plumbing	354	223
BCP30403 - Certificate III in Gas Fitting	0	0
BCP30503 - Certificate III in Fire Protection	200	54
	5121	2507
		49%

Table 2 – Comparing Commencements with Cancellations

* Table information from NCVER records

We suspect this has much to do with how ‘transfers’ and ‘suspensions’ are recorded, when compared to actual cancellations. There is a great deal of apprentice turnover with employers during the apprenticeship period. Poaching is rampant. A quick glance at the weekend newspaper will attest to many employers searching out 2nd, 3rd and 4th year apprentices with the draw of higher wages. Our suspicion is that many of these transfers are counted as withdrawals and commencements. However, this is an area for future research to confirm.

It is noteworthy that many plumbing apprentices do consider leaving the apprenticeship program. In fact, of those plumbing apprentices surveyed, fully 31% have ‘seriously considered’ dropping out of the apprenticeship training program. Further, the consideration appears to grow as the apprentice progresses through their training program.

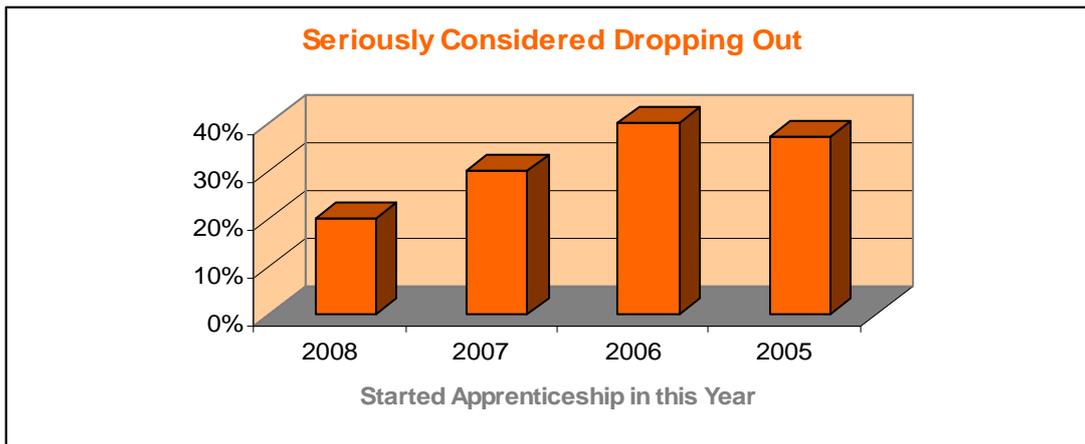


Chart 7 – Seriously Considered Dropping Out

Whilst we make no statement that this is any different from other training programs (and emphasise the perceived low attrition rate for plumbing apprentices), we were very interested in some of the reasons why they considered leaving the apprenticeship program.

For those plumbing students that considered leaving the apprenticeship program, the top five answers were:

1. Apprentice Wages
2. My boss/employer
3. I was not enjoying the trade
4. Saw other jobs I was more suited to
5. The cost of tools and training

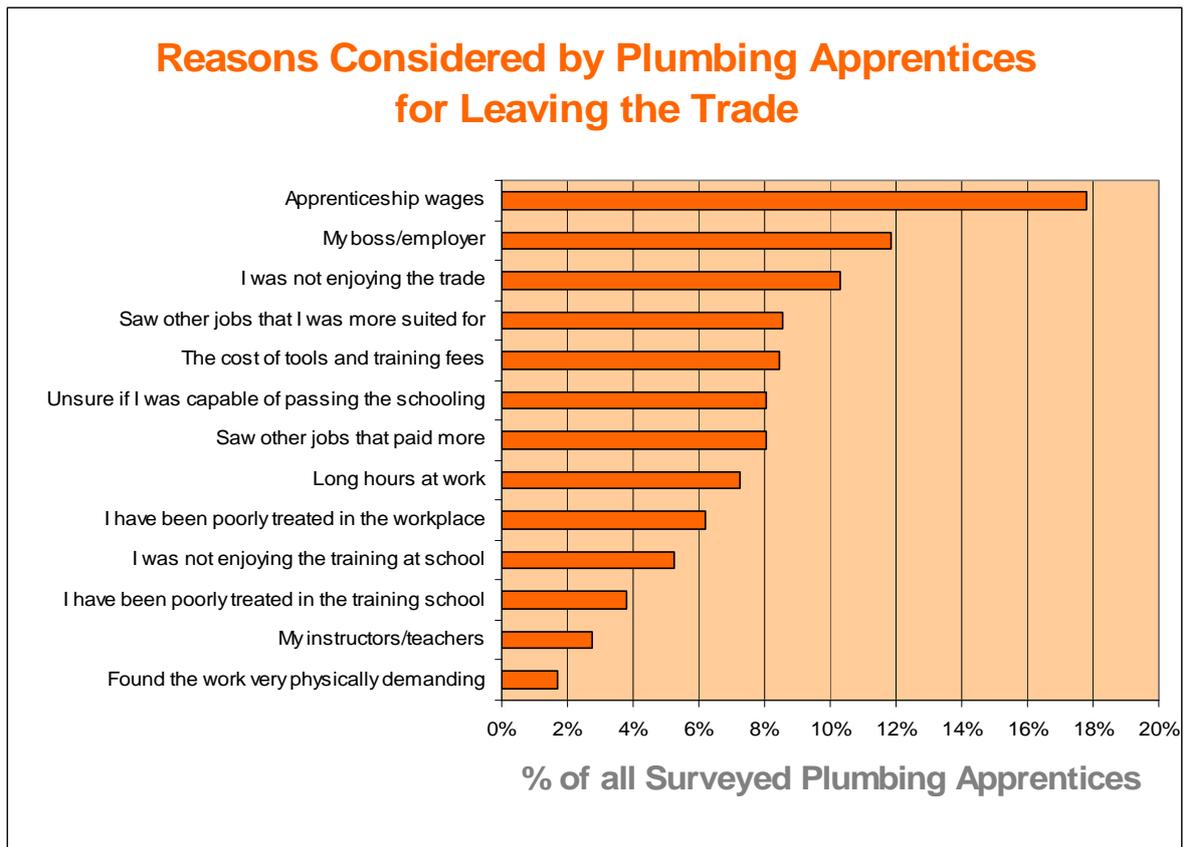


Chart 8 – Reasons Considered for Leaving the Trade

Wages also dominated answers from mature aged apprentices and regional responses. In fact, regional responses seemed to consider more strongly *other jobs that paid more* as the main reason they considered leaving the apprenticeship program.

Wages appear to dominate the concerns of plumbing apprentices. Without disputing this fact, it should be noted that few apprentices appear to view their apprenticeship wages as subsidised training. For those that attend university training, there is no premise to argue for higher wages, and students are more fully aware of the cost of training. Perhaps because of the on-the-job training aspect of apprenticeships, the full cost of the training is not fully evident to apprentices. This leads apprentices to compare their wages to other plumbers on-site that are doing the same work, without factoring in the valuable experience and training they are receiving.

Whilst we did not have access to those who have left the apprenticeship program, we did surmise that the current plumbing apprentices would be aware and very closely attuned to the reasons why any of their colleagues have left the apprenticeship scheme. In actual fact, we found that 46% of the current plumbing apprentices surveyed knew someone who had started the plumbing apprenticeship but had decided not to finish.

When asked why they had left the program, the survey respondents reported the following reasons:

1. Lost interest
2. Unhappy with employer
3. Apprentice wages
4. Saw other jobs that paid more
5. Lost their job.

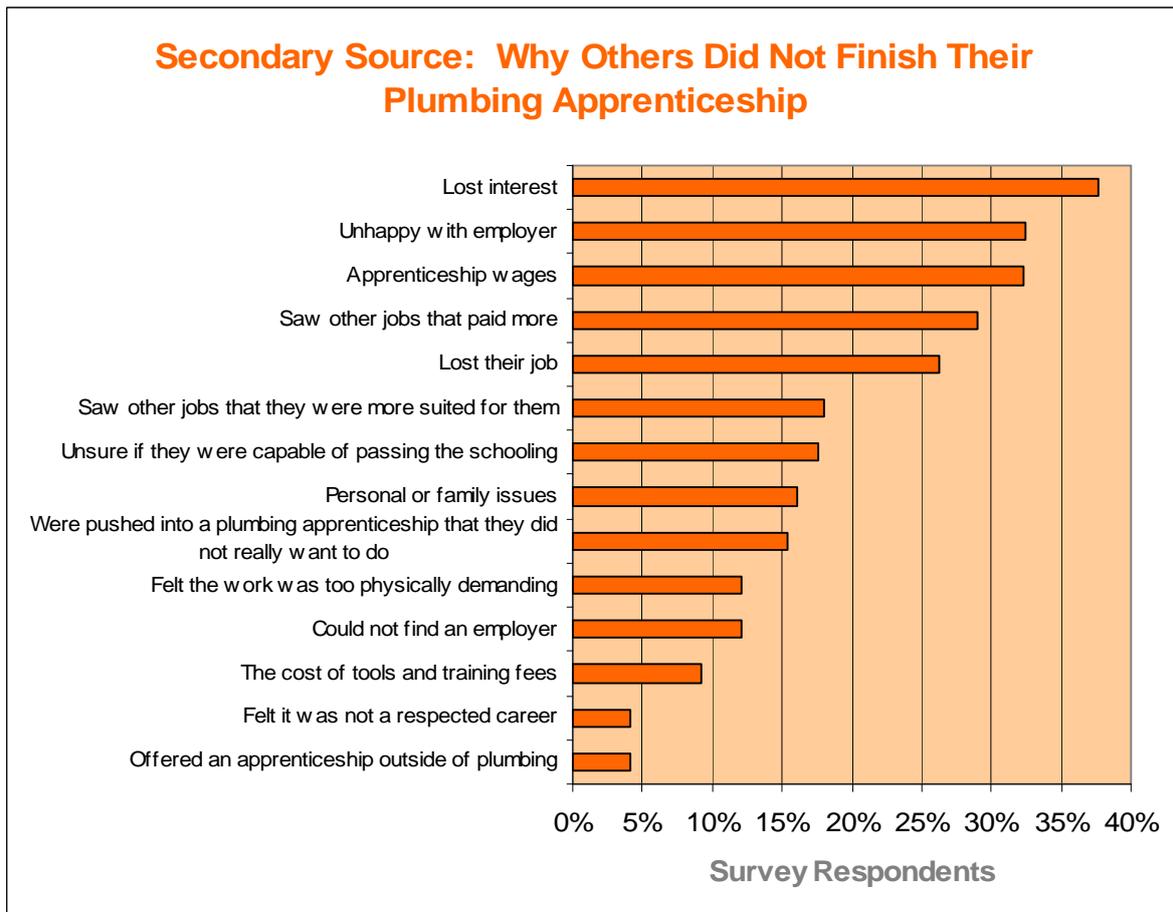


Chart 9 – Why Others Did Not Finish

Teachers also responded to a similar question and mirrored many of the key issues above. However, teachers did seem particularly sensitive to those who *were pushed into the plumbing apprenticeship that they did not really want to do*. This rated as the fourth highest answer in teachers' opinion.

Who Influences Decisions on Apprenticeship Take-up?

There are many individuals, groups and organisations that endeavour to influence the decisions people make on careers. Awareness of options is important. But how that information is sought out and from whom individuals seek information is critical to understanding why individuals choose apprenticeships.

Within this section we explore some of the perceived influencers for plumbing apprentices. Whilst we will consider information sources in another section, we will explore in this section the important role of secondary school career advisors and their influence on plumbing apprentices.

Who Influenced Your Choice?

Choosing a career is a daunting task. It is a choice not lightly taken, especially where there is a lengthy training program involved. Often enough, people look to discuss these major decisions with someone whom they respect or feel is well informed on the subject. We were interested to find out from current plumbing apprentices who they felt were influential in their choosing to become a plumbing apprentice. The top five answers from over 1000 plumbing apprentices surveyed were:

1. Parent or guardian
2. A plumber they know
3. Friends in an apprenticeship or trade
4. Other family members
5. A tradesperson other than a plumber.

When reviewing all surveys for the most influential people, two dominant groups emerged. The current group of plumbing apprentices have been most heavily influenced by:

- those in the trades (41%), along with
- parents and family (38%).

For those groups that were considered 'Not Very Influential' by plumbing apprentices, the following ranking emerged:

1. Job network providers (14%)
2. Secondary school teachers/career advisors (12%)
3. TAFE teachers (12%)
4. Friends not working in the trade (12%)

When we asked plumbing teachers this same question, they were relatively in tune with who was currently influencing the decisions of plumbing apprentices.

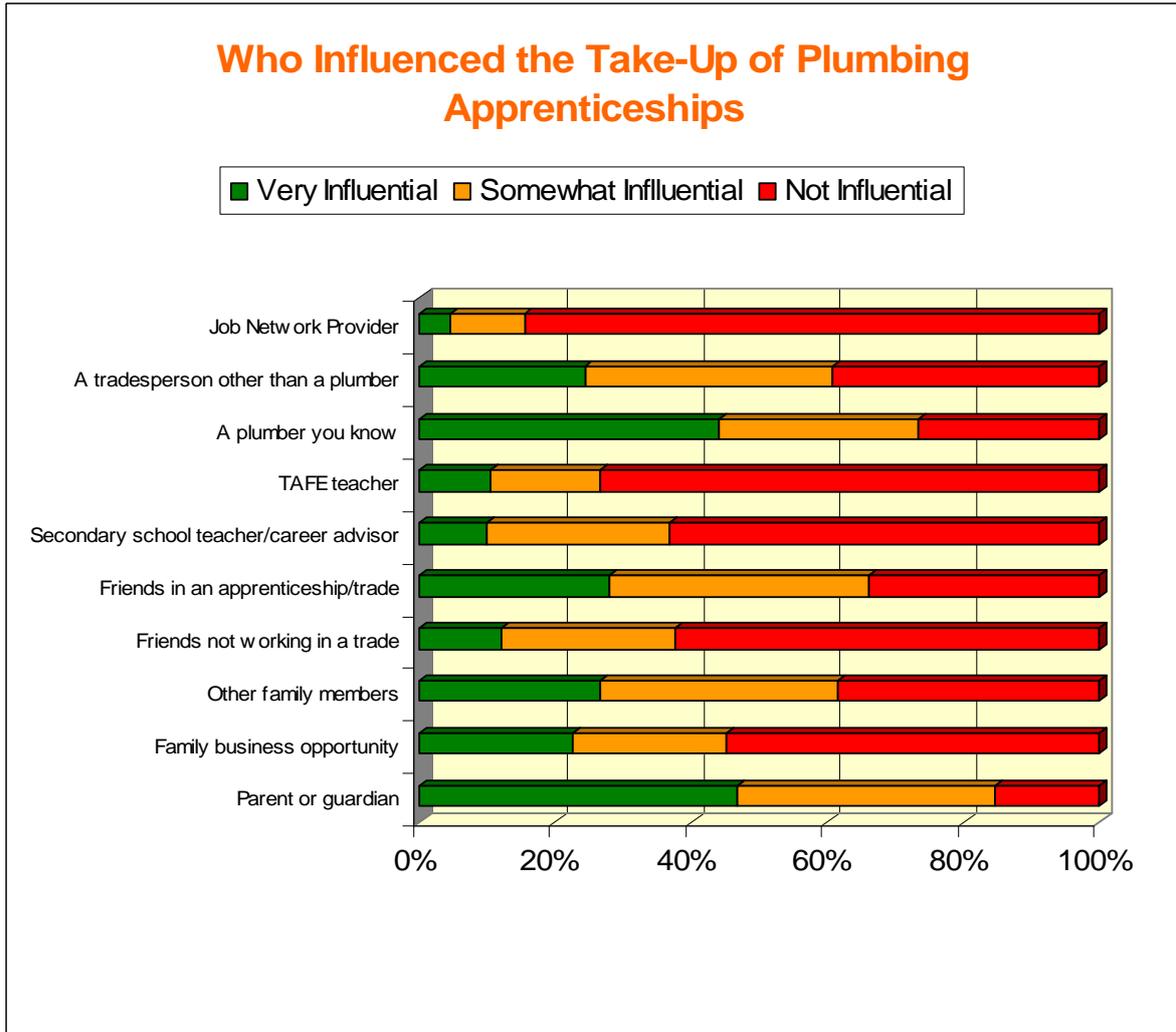


Chart 10 – Who Influenced Current Apprentices

Secondary School Careers Advisors

We were particularly interested in exploring the experience of current plumbing apprentices with their secondary school careers advisors, as many career decisions are started in this arena. Secondary school careers advisors are a key resource for many young people and are a valued part of the education system. Therefore, it is not a surprise that over three-quarters of those surveyed were aware that they had a careers advisor in the secondary school they attended.

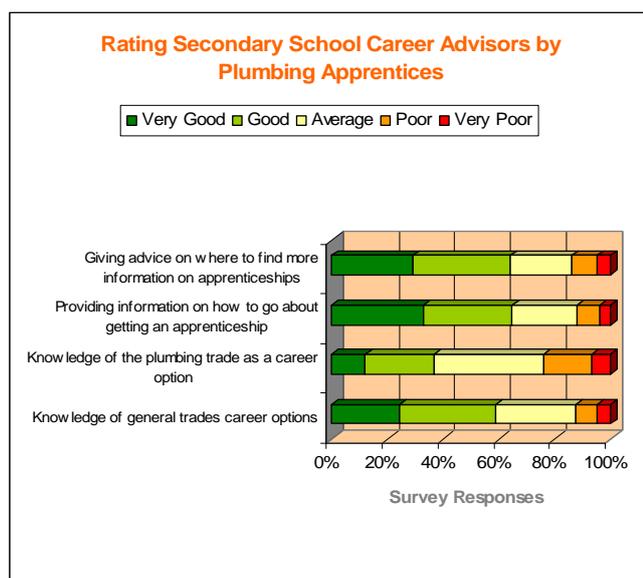


Chart 11 – Rating Career Advisors

When asking the apprentices to rate the advice and information on apprenticeship related topics, over 50% of the respondents found the secondary school advisors to be very good or good on the following categories:

- *Providing information on how to go about getting an apprenticeship*
- *Giving advice on where to find more information on apprenticeships*
- *Knowledge of general trades career options.*

Of particular note, 24% of surveyed plumbing apprentices found that *knowledge of the plumbing trade as a career* was poor or very poor. We acknowledge that it is a challenge for careers advisors to be fully informed about all career options. However, general plumbers and roof plumbers are identified by the Australian Government as skill shortage occupations through the Department of Education, Employment and Workplace Relations (DEEWR) National Skills Needs List and the Department of Immigration and Citizenship (DIC) Migration Occupations In Demand List, and we would expect that careers advisors would ensure that they understood these occupations.

Regional and remote plumbing apprentices generally rated careers advisors more positively with scores of 60% and 70% respectively on the same three bullet points above. However, regional apprentices also were concerned about the knowledge of plumbing trade as a career (28% scored this category as poor or very poor).

Of particular interest for this project was whether school careers advisors were encouraging or discouraging pathways into the trades. Our findings suggest that the current plumbing apprentices found secondary school career advisors encouraging the trades. In fact 78% of plumbing apprentices felt that their careers advisors were encouraging about the trades in general. With regards to plumbing apprenticeships, 57% of current plumbing apprentices found their careers advisor to be encouraging.

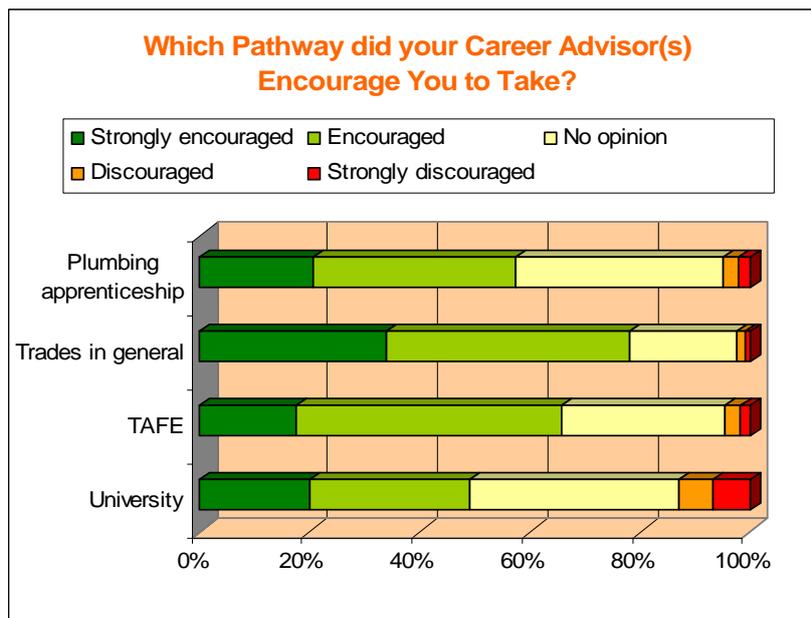


Chart 12 – Which Pathways Were Encouraged?

It must be noted that we were only surveying those that had actually entered the plumbing apprenticeship scheme as opposed to those that did not. A number of respondents to this question also identified that they had already decided on an apprenticeship before seeing the careers advisor. However, we were encouraged that the career advisors were supportive of apprenticeships and certainly not discouraging.

In fact, we found that the advice from secondary school career advisors was considered and generally found a receptive audience with current plumbing apprentices. We asked the apprentices why they felt they were encouraged or discouraged by their careers advisors in the above mentioned pathways. The themes that emerged from comments submitted included:

- Trades are a good option
- Career advisor are encouraging individuals into appropriate areas
- Trade are presented as a fall-back position to Uni
- Trade training is often viewed as way out of secondary school when students are not enjoying their secondary school experience.

Quotes from plumbing apprentices included:

'They did a test on what certain subjects we liked and it said [I was] best suited for a trade.'

'Because he knew I was good at physical work.'

'They encouraged things that could benefit us long term on what would best suit us.'

'Because they knew me and they knew what I liked and what my interests are.'

'Plumbing is a respected trade.'

'He encouraged TAFE and trades strongly over uni. He thought the schools hyped up the hsc and uni.'

'They want what's best for you.'

'The careers advisor would have seen what courses I was undertaking at college and knew that I wasn't planning to go to university, so they then encouraged me to partake in a different line of work. I always knew I was going to finish college and become a plumber so they mainly just guided me on to what I needed to do to get into the trade i.e. Open days at CIT's, MBA group training, CITEA group training and work experience.'

'I believe I was encouraged to do a trade, due to the fact that there is a need for tradesmen at the current time and that it was another option to gain qualifications other than higher schooling.'

However, despite a generally satisfied response to careers advisors' overall performance on encouraging trades, there is still some predilection within the system to encourage University education over apprenticeships. We found a significant number of comments on the topic from the current apprentices, including:

'Wanted everyone to go to Uni.'

'Private school looked down on not going to Uni.'

'She thought Uni was most important.'

'Didn't look at trades or doing an apprenticeship at all - only got pushed to go to university. Don't know if it was because I went to a private school which was very heavily based on enter scores.'

There were also comments that inferred that trades were a fall-back position for those that weren't 'smart enough' for University. This certainly brings into question whether people are directed into plumbing apprentices because they are well suited to the career or because they are perceived as 'not good enough' to get into university. Survey comments included:

'They tried to keep my options open so I could find a job if Uni wasn't for me.'

'They said I was smarter than a trade.'

'They encouraged trades due to the fact that my school work was bad ...'

Perceptions on Plumbing Career Choices

There has been a great deal of effort and attention by governments at all levels and industry to promote the trades as a career of choice. This has not always been the case as some of the quotes above attest. However, it is noteworthy that for those individuals who have taken up a plumbing apprenticeship, they were most often encouraged into the trade as an appropriate and advantageous career by their secondary school careers advisors.

'Quite often within our consultations, there was reference to the need for improving the image of the industry and how apprenticeship training should play a role in that process. Often the trades are viewed as "dirty, lacking career opportunities and pay poor wages"¹. This view is aggravated by parental and media bias, poor career advice and the prevalent view that the trades are taken up by low academic achievers¹. In recognition of this, governments at all levels have reflected the need to promote the trades as a career of choice, rather than a 'second choice' for students who are not academically inclined.'

From 2006 Report entitled: Barriers to National Implementation of BCPO3 (National Training Package)

In this section, we were interested in finding out how those people close to the current plumbing apprentices responded when they first found out about their career choice. Were they supportive of that choice? Or did they feel it was not the right choice and discourage them from taking up a plumbing apprenticeship? Whilst we surveyed only current plumbing apprentices who had already made their choice, we were interested in how their parents, friends and those close to them tried to influence their decision.

In the end, we found that the people who are close to those surveyed were supportive and encouraging in their choice to take up a plumbing apprenticeship. When asked how the following groups responded when the apprentices first told them they were taking up a plumbing apprenticeship, the following came back:

- 94% of parents and guardians were very or somewhat encouraging
- 92% of other family members were very or somewhat encouraging
- 90% of their close friends were very or somewhat encouraging
- 75% of their spouses or partners were very or somewhat encouraging
- 62% of secondary school teachers/career advisors were very or somewhat encouraging.

Further, it is encouraging to note that few within these influential groups were discouraging in any major way. Survey respondents reported that only:

- 2% of parents and guardians were very or somewhat discouraging
- 2% of other family members were very or somewhat discouraging
- 2% of their close friends were very or somewhat discouraging
- 3% of their spouses or partners were very or somewhat discouraging
- 5% of secondary school teachers/career advisors were very or somewhat discouraging

Although this has not been compared to a group who chose not to take up plumbing apprenticeships, these results do point to an important finding. Past research has found that the trades are often viewed as “dirty, lacking career opportunities and pay poor wages”⁵. This view has often been aggravated by parental and media bias, poor career advice and the prevalent view that the trades are taken up by low academic achievers⁶.

Taken against this backdrop, it appears that those who take up plumbing apprentices are most often surrounded by those who are encouraging and supportive in their choice.

⁵ Priest 2003, DEWRS 1999

⁶ DSF 2003, DEST 2003

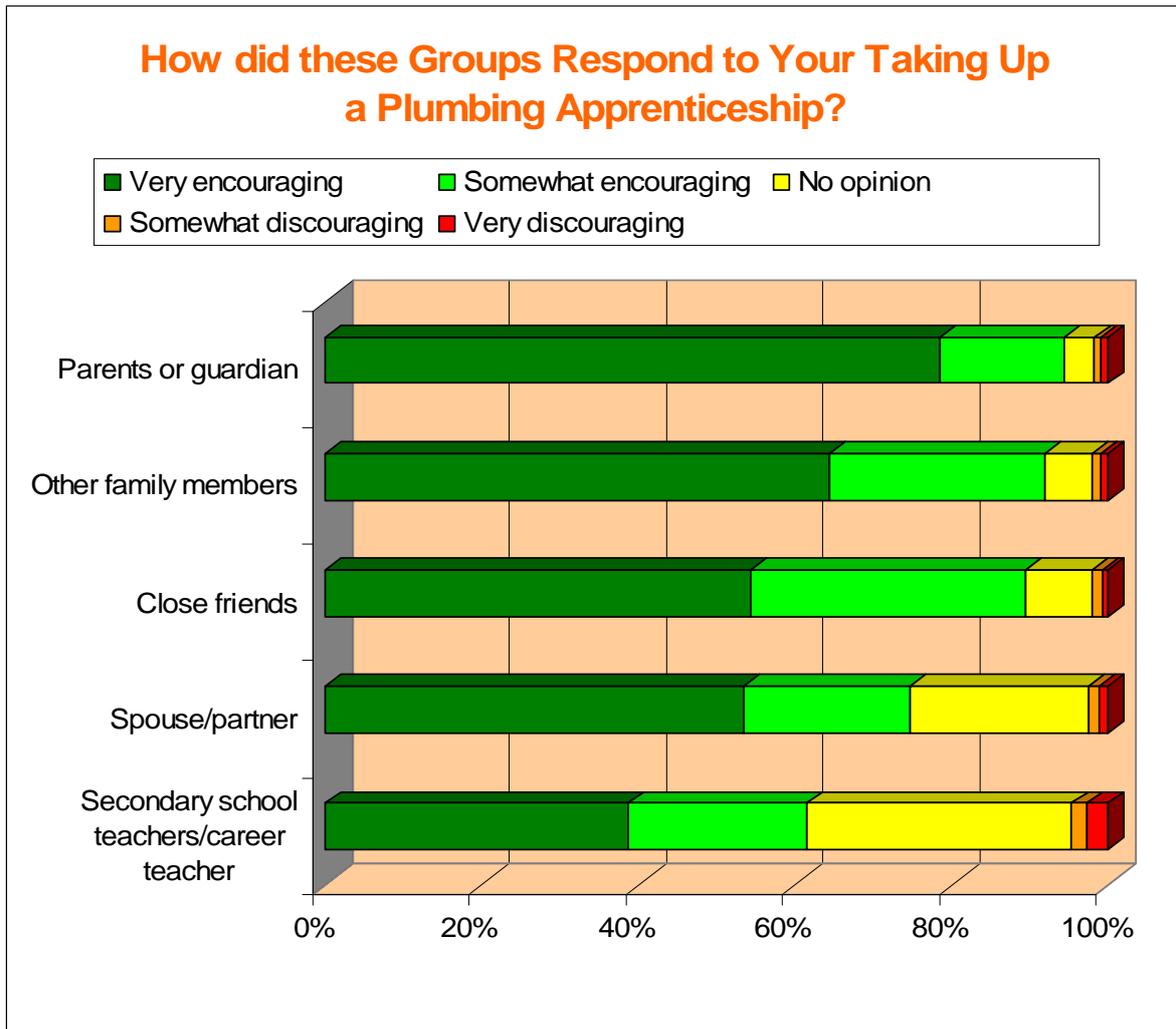


Chart 13 – Response to Plumbing Apprenticeship

Getting the Right Information on Plumbing Apprenticeships

Information on apprenticeships can be found in a variety of places and there are a number of organisations that use various means of delivering this information. Within this section, we explore where plumbing apprentices go looking for that information and whether they were satisfied with the information received.

We are particularly interested in why they found certain sources of information useful or, in certain situations, why they found the source of information frustrating.

Research conducted by the Department of Employment and Workplace Relations with employers from a range of industries⁷ found that 75% of hiring decisions are made because of a personal connection. This begs the question of whether individuals have the appropriate information to manage their careers or simply take the most convenient choices.

Finding Information

In general, plumbing apprentices found that it was relatively easy to find information about plumbing apprenticeships. The survey endeavoured to explore the initial journey in sourcing information during the time when individuals first considered a plumbing apprenticeship.

When first considering a plumbing apprenticeship, 83% of survey respondents found it was very easy or fairly easy to find information. Only 17% had some difficulty in finding information. There was little difference experienced by those living in remote areas or by mature aged apprentices.

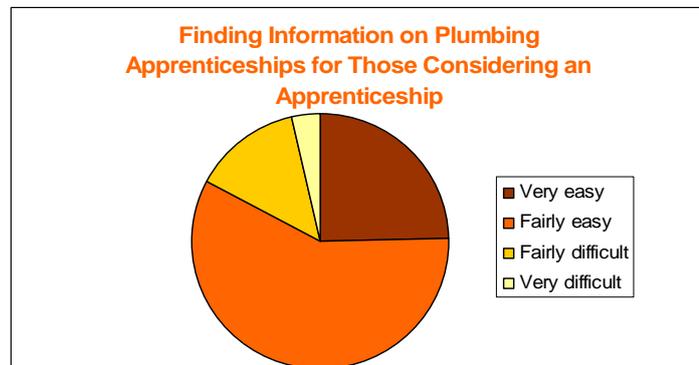


Chart 14 – Finding Information on Apprenticeship

Knowing where plumbing apprentices first go for information when they are considering a plumbing apprenticeship is important as this will suggest what areas are best to support and expand with regards to information about apprenticeships. Plumbing apprentices were asked where they first went looking for information on plumbing apprenticeships. The following top five answers emerged:

1. Other plumbers (27%)
2. Internet (13%)
3. Parents (11%)
4. Secondary school career advisors (10%)
5. Friends (10%).

⁷ DEWR *Regional Skills Research 2006 Report*

Organisations that were noteworthy for being particularly low were:

- Plumbing supply companies (1%)
- Recruitment agencies (3%)
- Australian Apprenticeship Centres (5%).

It is also interesting to note that, although feedback on the support by secondary school careers advisors was mainly positive, only 10% of respondents identified that they had sought information from this source when first seeking information.

A small number of respondents provided 'other' categories not listed. Most focused on their boss or employer approaching them and therefore providing information. Others commented that sometimes a relative had provided them with information.

Apprentices from remote areas provided similar pathways for information but notably did not have the internet as high on their list for information (i.e. internet was 8th on their list of first sources of information).

The first source of information has proven very influential to the group of apprentices surveyed. Although there is frustration under some sources of information, most plumbing apprentices were very satisfied with their initial source of information (See Graph below). Notably, the vast majority of respondents rated their first source of information as the 'best' source of information.

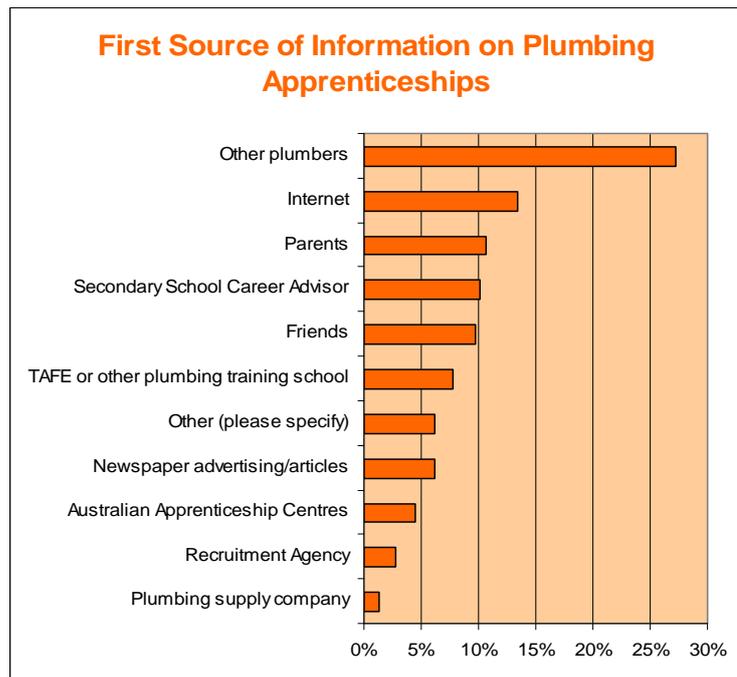


Chart 15 – 1st Source of Information on Apprenticeship

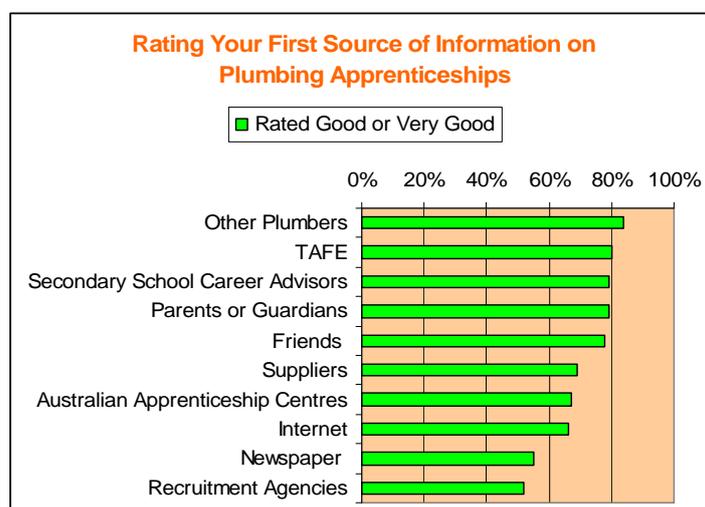


Chart 16 – Rating Your 1st Source of Information on Apprenticeships

In an attempt to map out pathways in sourcing information, the grid below reveals where apprentices went for more information *after* their initial source of information.

Initial Source of Information	Source of Information Most Frequently Used After Initial Source
<i>Other Plumbers</i>	→ <i>Other Plumbers</i>
<i>TAFE</i>	→ <i>Internet</i>
<i>Secondary School Career Advisors</i>	→ <i>Internet</i>
<i>Parents or Guardians</i>	→ <i>Parents</i>
<i>Friends</i>	→ <i>Other Plumbers</i>
<i>Suppliers</i>	→ <i>Internet</i>
<i>AAC</i>	→ <i>Internet & Plumbers (tied)</i>
<i>Internet</i>	→ <i>Other Plumbers</i>
<i>Newspapers</i>	→ <i>Internet</i>
<i>Recruitment Agencies</i>	→ <i>Internet</i>

Table 3 – Mapping from 1st to 2nd Source of Information

The dominant sources from this information mapping are the two categories:

- other plumbers, and
- the internet.

In fact, for all current plumbing apprentices, the top five sources used *after* their initial search for information on plumbing apprenticeships are⁸:

- Other plumbers (35%)
- Internet (29%)
- Australian Apprenticeship Centres (22%)
- Friends (20%)
- Parents (18%).

Notably for remote apprentices, the highest source of information after the initial search was the internet. Just over one-third of remote plumbing apprentices used the internet as a source of information after their initial source. Interestingly, this was closely followed by the Australian Apprenticeship Centres, which would have involved a substantial drive of at least 100 km for this cohort.

⁸ Multiple choices were allowed in this survey question. Therefore, the percentage totals will be greater than 100%

Best Sources

Plumbing apprentices were asked to highlight the single best source of information based upon their experience. The top rated sources were:

- Other plumbers (33%)
- Internet (14%)
- TAFE and RTOs (13%)
- Parents (11%).

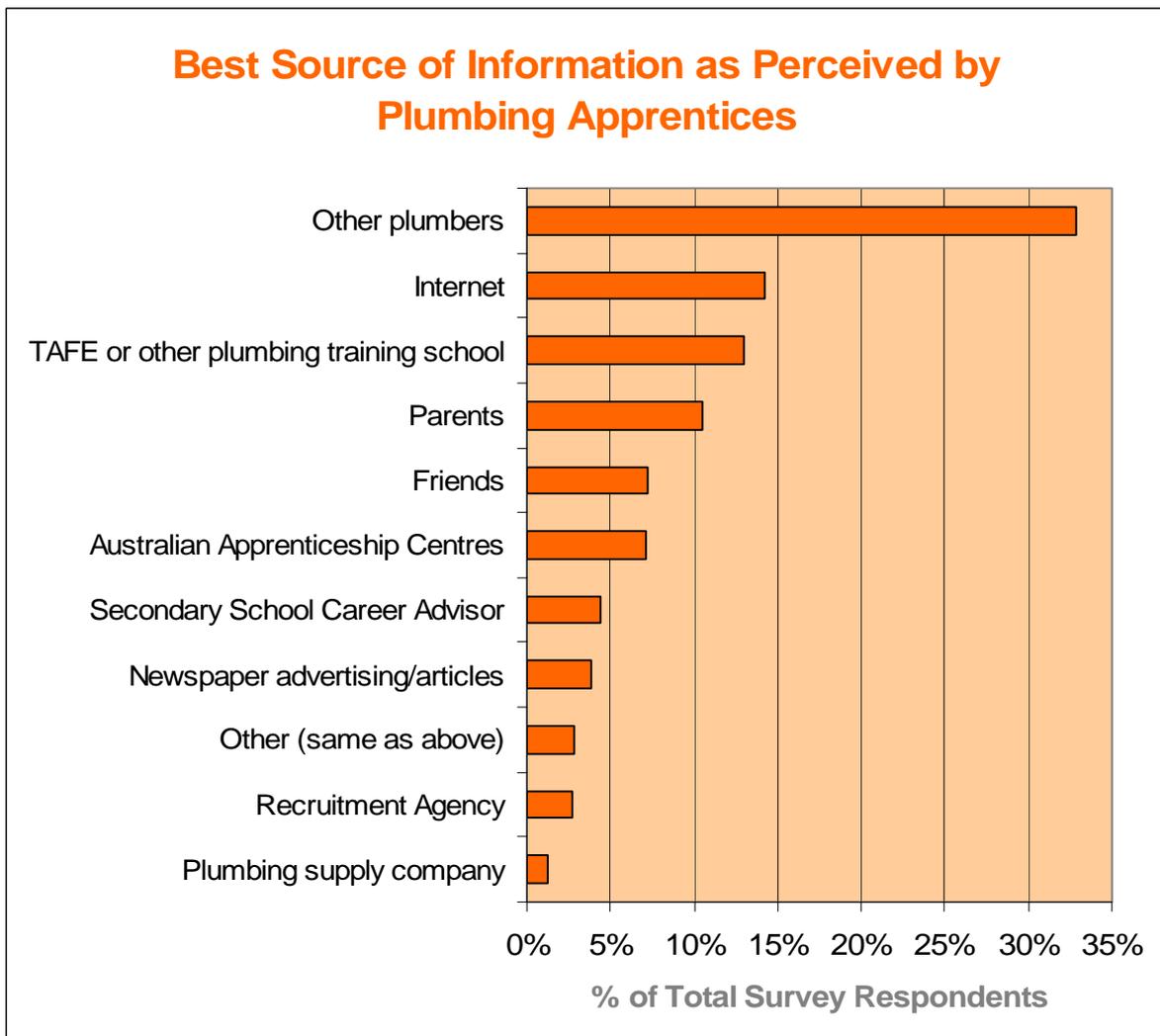


Chart 17 – Best Source of Information (Apprentices)

The following provides some feedback on each of these sources by those who found them to be the best source of information for their needs.

TAFE or other plumbing training schools - As a source of information, this category was highlighted for its information on training and specific knowledge on timing of training periods. Apprentices that found this to be the best category pointed to the accuracy of information on the various streams and qualifications available.

'Good information.'

'Pointed me in the right direction.'

'Knew about mid-year entry.'

'Info on training was accurate and what the work would be like.'

'Widest range of info.'

'Had all the fields you could look into and knew what they were on about.'

Internet - Those that highlighted the internet as the best source of information on plumbing apprenticeship commented on the ease of access and the large amount of information available to them.

'TAFE website told [me] all I needed to know about starting TAFE and apprenticeships.'

'Could look at several places at once - [the] job search [was] extremely helpful.'

'It had different sites that described what was involved in the apprenticeship and the different streams of work I could eventually go down.'

Other Plumbers - This group was described as particularly useful because they were informed and had an interest in sorting the information out for apprentices. They were also a respected source of information due to their own experience in the trade - in essence, they were believable.

'Boss encouraged me with everything he's achieved through trade.'

'They have a good understanding of trade.'

'Because they told me what the job [was] like and what you will do in the course.'

'Gave me the biggest insight and contacts.'

'Because they have been down the same track and know most of what I wanted to know.'

'Because there's nothing in the education system about promoting plumbing.'

Recruitment Agencies - Those that noted recruitment agencies as the best source of information commented that they had lots of paper based material available.

'They filled me in on all the details, all the processes you need to go through to get an apprenticeship.'

'They got me a job after about 4 months.'

'They sent me a booklet explaining everything.'

Secondary School Career Advisors - For those plumbing apprentices that found career advisors to be the best source of information, they revealed that the career advisors had a good understanding of industry and the various job options available. Although there was a great deal of information, they were a big help in making it easier to sift through everything.

'Because she had a general knowledge of the industry and helped me out with information in pamphlets and the internet.'

'He found most of the information for me.'

'Had a lot of information about plumbing and what to do to make a career out of it.'

Plumbing Suppliers - This group was well respected as a source of information for some apprentices because they are dealing with plumbers every day and have a sound knowledge of the plumbing trade and apprenticeship program. For many within this group of respondents, it was apparent from their comments that they had worked with a plumbing supply firm in the past. It is very likely that this influenced their choice in taking up the trade.

'Because they know about plumbing and apprenticeships.'

'Because they deal with the trade every day.'

Friends - For those survey respondents that chose friends as their best source of information for plumbing apprenticeships, it was interesting to note that over 80% of the friends referred to in their comments were actually in the plumbing trade, other related trades or had a family member in the trade.

Newspaper - Where newspapers were chosen as the best source of information, the apprentices commented on the ease of use and convenience. For some, it allowed them to make calls to plumbing employers who advertised in the newspaper to find someone who was interested in taking on an apprentice.

'That's how I got the job.'

'Because I got the job straight up.'

'Because I called up plumbers and [asked if they knew] where I could get a job.'

Parents - Parents were highlighted by apprentices as being organised and having the apprentice's interest at heart. Of particular note was that over 50% of the apprentices who highlighted parents as the best source of information had a father who was a plumber.

Australian Apprenticeship Centres - Those survey respondents that chose the Australian Apprenticeship Centres as the best source of information commented on their ability to provide good information on the trades as well as sound direction. They were also quite satisfied with the outline of information on what was required for the plumbing apprenticeship. Notably, mature aged plumbing apprentices tended to rate the Australian Apprenticeship Centres higher than their younger cohort.

'They told me what I had to know and where to go to learn my trade.'

'I found out good information through this source.'

'Good outline of what was involved.'

'Because they know about plumbing and apprenticeships.'

'Sent out information within a couple of days.'

'Specific information about apprenticeships.'

Sources of Information That Are Frustrating

Plumbing apprentices were asked to highlight those sources of information on plumbing apprenticeships that were most frustrating for them. The sources most frustrating to this group were:

- Internet (29%)
- Recruitment Agency (16%)
- TAFE and RTOs (16%)
- Australian Apprenticeship Centres (13%).

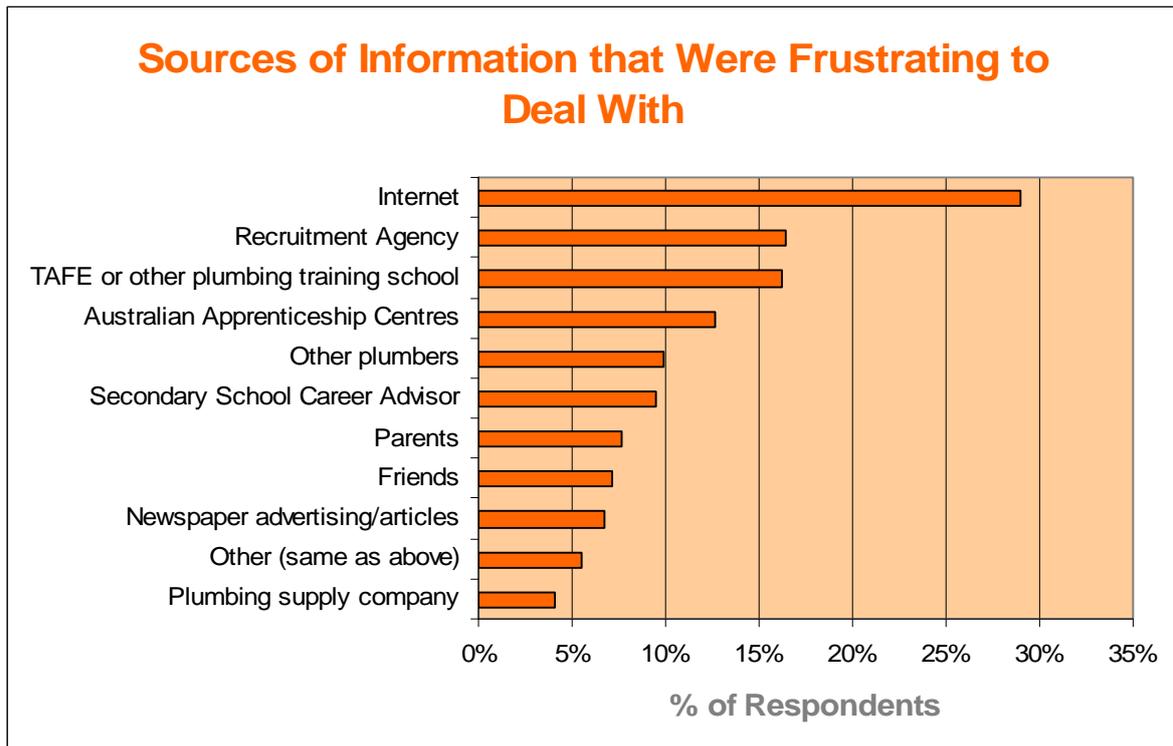


Chart 18 – Frustrating Source of Information (Apprentices)

Whilst similar in focus, 41% of plumbing apprentices from remote areas found the internet as a source of information for plumbing apprentices to be the most frustrating. Although the internet was not typically their first choice for information, it was used by 33% as their second source of information - the highest category for this group as their second source.

The following provides some feedback on each of these sources by those who found them to be the most frustrating source of information for their needs.

TAFE or other plumbing training schools - As a source of information, RTOs were presented as 'behind the times', and not very good at communicating the processes required by plumbing apprenticeships (e.g. enrolling process). They were also described by some apprentices as disinterested in mature aged student.

'Initially unhelpful with enrolment.'

'Hard to get information out of them.'

'There's so many people who know next to nothing about what you're asking.'

'Not really interested in mature age student.'

Internet - The frustration with the internet involved finding useful information in amongst too much information. At times, the plumbing apprentices that responded to the survey found the information not specific to their actual needs, out of date and full of jargon with which they were not familiar with at the time. Many that found the internet to be the most frustrating source of information formed this opinion due to a lack of response to their enquiries made over the internet.

- 'Too much information to sort through.'*
- 'Not many sites with information.'*
- 'Too hard to find the right stuff a lot of the time.'*
- 'Poorly made websites [with] too much jargon.'*
- 'Couldn't find workplaces requiring applications.'*
- 'Some contact details weren't present or wrong.'*
- 'Because they didn't have the information I wanted.'*
- 'Hard to find good websites.'*
- 'Not clear in finding answers to my questions.'*
- 'Nobody would respond.'*

Other Plumbers - Those that found plumbers the most frustrating to deal with as a source of information about plumbing apprenticeships commented on reasons that pertained to personality conflicts, passing on inaccurate information and the lack of timely responses.

- 'They wouldn't get back to me.'*
- 'Hard to get an unbiased opinion.'*
- 'Because it was nearly the start of the New Year and they said they already have apprentices but I could start with them in 6 months.'*
- 'When I wanted to start, it was too late in the year - most plumbers were already hiring apprentices.'*
- 'Weren't interested [in] talking to younger generation.'*

Recruitment Agencies - For those plumbing apprentices that found recruitment agencies the most frustrating source of information, they felt that those organisations were more concerned with 'the numbers' than individual needs. In the opinion of some apprentices, they tended to focus on particular niches that attracted funding. Others described recruitment agencies as unreliable and difficult to keep in contact with.

- 'Don't care if you get a job or not. I was with a recruitment agency for 4 years and they didn't find me any jobs.'*
- 'They also put low income families 1st even [if] they don't have an interest.'*
- 'Not really interested in mature age student.'*
- 'Never completed their job properly.'*
- 'They are only concerned about finding a job even if it isn't what you want.'*

'Never able to contact them.'

'Because I didn't hear from them once and I was with them for a year - biggest waste of time.'

'They don't seem to care and are only interested in counting the money and keeping you in an apprenticeship, as long as possible.'

'Because you're only one out of 100 people going for the same thing.'

Secondary School Careers Advisors - Those plumbing apprentices that chose this group as the most frustrating to deal with felt that careers counsellors were unaware of the details on plumbing apprenticeships and were more focused on the university pathway.

'Because they always thought I could do something better.'

'Lack of knowledge of trades as a career option; heavily university orientated.'

'Seemed very preoccupied - seemed as though I was having to do all the chasing up of sources.'

'No idea about plumbing.'

'Didn't supply much information for trades; mainly university.'

Plumbing Suppliers - Plumbing suppliers appeared to some apprentices as disinterested. Some plumbing apprentices acknowledged that these organisations do not have a formal role to provide information on plumbing apprenticeships.

Friends - For those plumbing apprentices that found their friends to be the most frustrating source of information, they reflected that this group didn't always have the facts right. Often information was based on rumours and they didn't always explain things correctly. They also acknowledged that some friends put too much pressure on them - as well meaning as they meant to be.

'They didn't explain correctly; hard to understand.'

'They had no idea where to start.'

Newspaper - Newspapers were found to be limited in the amount of information presented and far too slow for those who were most frustrated by this source of information. Often jobs were already gone by the time prospective apprentices called or they never received a reply from their enquiries.

'Many jobs were taken.'

'Not specific enough in details.'

'The information wasn't accurate.'

'Can't ask a newspaper a question can you?'

'Only wanted 2nd, 3rd or 4th year students.'

'Didn't really get that much information about the job and what the company was all about, until after the job interview.'

'Because when you applied for jobs you didn't always get a reply.'

Parents - For those plumbing apprentices that found parents to be the most frustrating source of information on apprenticeships, they felt that parents put too much pressure on them, at times. For some apprentices, they questioned whether parents really understood whether a plumbing apprenticeship was the right direction for them or if they were supportive enough.

'They wanted me to go where I didn't want to go.'

'They didn't know if that's what I really wanted in life.'

'They don't know anything about plumbing.'

Australian Apprenticeship Centres - Those that found the Australian Apprenticeship Centres the most frustrating source of information on plumbing apprenticeships felt that the Centres were directing people into the 'high needs' trades, and not necessarily focusing on the individual needs of the client. Others were frustrated by service personnel that they felt were 'uninterested in you' and uninformed on plumbing apprenticeships.

'They were not trying to get a job lined up for me - they were trying me on whatever trade was going at the time.'

'Apprenticeship Centre had no idea.'

'Only passed on pamphlets to me. Didn't show much interest in helping.'

'Because they took ages to sign me up.'

'Public service...public hindrance...paperwork for paperwork...make it easier please!!'

'Took too long to help- didn't really look after me.'

'They are just office workers that have no idea what it's like.'

'My options were not fully discussed with me when I was first signed up!!!!'

Apprentice Perceptions on Plumbing Training Organisations

Registered Training Organisations (RTOs) that deliver plumbing training have a great deal of impact on the take-up of apprenticeships. They are, by the nature of their role, involved very early in the apprenticeship process. Most new plumbing apprentices are fresh out of secondary school and often fill the role as ambassador to the trade with friends who are still in secondary school. How the RTOs perform their role is important. But it must also be acknowledged that how the current plumbing apprentices perceive the RTO's performance is also likely to impact the future take-up of plumbing apprentices. The reputation of the industry is impacted greatly by this.

Flexibility of Plumbing Training Organisations

Plumbing apprentices are generally satisfied with the flexibility of current plumbing training organisations, on access to help from teachers and the general timing of their classes and blocks. However, those plumbing apprentices from remote areas were more concerned with flexibility on their timing of schedules and fitting it around work commitments.

'If you have to miss a block of TAFE, and if you can't make it to night [class] you have to come back the next year or repeat the entire subject.'

'Due to the large number of students and new training package, there has been little room for flexibility. This has included not being able to complete the courses inside of my four year apprenticeship ...'

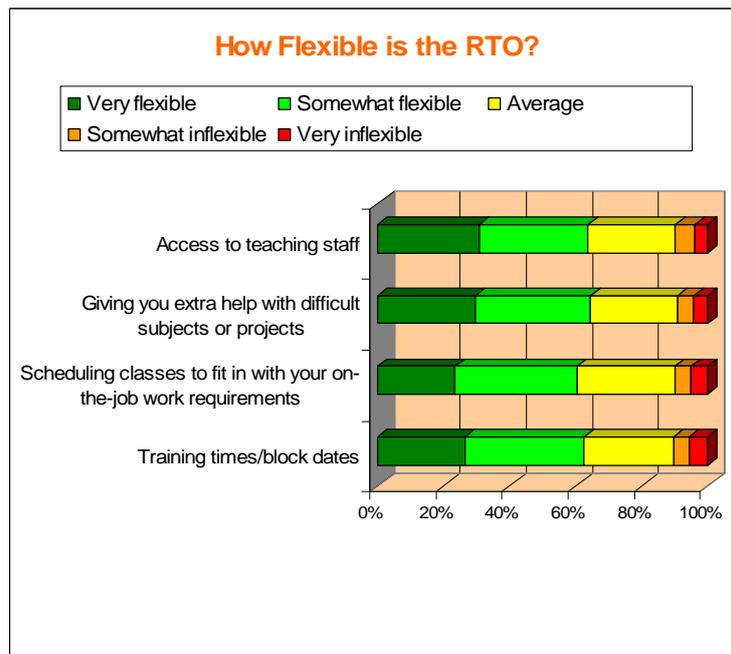


Chart 19 – How Flexible is the RTO?

Performance Feedback

When asked about a range of supporting services, communication, teaching styles, and facilities, it appears that plumbing apprentices were generally satisfied. There was little that differentiated answers from age groups or remote & regional apprentices.

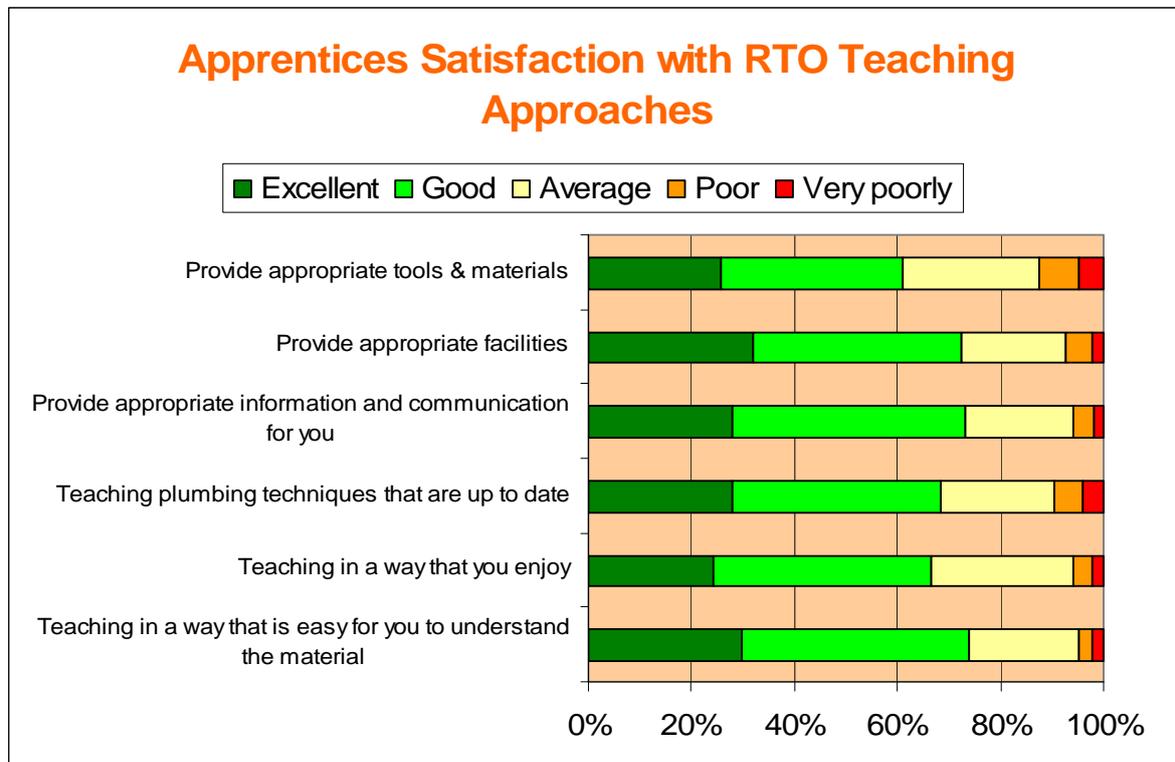


Chart 20 – Apprentices Satisfaction Rating on RTO

Current plumbing apprentices were asked what they enjoyed most about their plumbing training. Most appeared to enjoy learning and experiencing new skills that would provide a trade for life. The most highly rated answers from over 1000 plumbing apprentices surveyed across Australia and New Zealand were:

1. Learning new skills every day
2. Learning a life skill/career
3. The hands-on experience
4. Working outside
5. The variety of work
6. Learning how to do things to a professional standard.

Plumbing apprentices from remote areas tended to have similar preferences to the list above. However, two different categories scored much higher in this group. For those from remote areas, they also enjoyed:

- Fellow apprentices in my group/class (2nd highest score for remote cohort)
- Meeting new people (4th highest score for remote cohort).

Training Aspects Least Enjoyed

As a licensed trade, plumbing training is challenging. Whilst the work can be physically demanding, there is also a great deal of theory that is important to protect the health of the community. In this section we explore some of the perceived challenges faced by current plumbing apprentices within their training regime. Whilst we expected to hear about the challenges of the theory components, we also found apprentices were dissatisfied with many processes within RTOs.

When asked to list three aspects they enjoyed least about their plumbing training, the most frequently cited topics were:

1. Digging holes (37% of respondents)
2. The cost of training (35%)
3. Long days (35%)
4. Too much reading (32%)
5. Travel time to training (24%)
6. Understanding the by-laws (18%)
7. Being taught things I already know (16%)
8. Waiting for teachers to check work (16%)
9. Technical requirements for drawing and sketching (12%)
10. Too much slack time while waiting at school (11%).

The top five items listed above, were listed as the first choice of concern for 56% of all plumbing apprentices surveyed. Not surprisingly, apprentices from remote areas listed travel time as their highest concern. Mature aged apprentices followed similar patterns to the larger group but with a couple of differences. Mature aged apprentices were less concerned about the amount of reading and yet, were much more concerned with *too much slack time while at school*.

If You Were Running the RTO ...

Whilst we acknowledge that current plumbing apprentices generally believe the training organisations they attend are doing a good job, we asked plumbing apprentices what they would do differently if they were running the plumbing institute/school. The following represents the themes that emerged from this question.

First, it must be noted that the largest single theme of answers was 'nothing - doing fine'. This represented 37% of all comments submitted. Whilst this helps to put the other comments within a context, the following themes and quotes are still helpful.

Better workshops, supplies and tools - Plumbing apprentices that responded to the survey commented on varying level of facilities and the funding constraints on supplies and tools.

'Bring resources up to date. Increase funding to appropriate levels where completing a task isn't compromised due to a lack of or outdated materials.'

'Spend more money on tools and materials.'

'Need better tools to do quality projects.'

'I would get more and better tools so you don't have to keep chasing them.'

'Upgrade facilities. Provide more locations and training facilities.'

'Get better equipment, smaller classes for more one on one time with teacher...'

Better availability of sessions - Most of the concern presented by plumbing apprentices on this topic revolved around the need for catch-up sessions for missed days.

'Have catch up blocks throughout the year for stuff you have missed; coming at night is not helpful, especially if you live very far away down the coast.'

'Options for days to do your course if you miss a day for an appropriate reason.'

Reduce the number of breaks while at school - A large number of apprentices commented on the high number of breaks during their school day. Many felt there were too many and that they went for too long. The strong preference is for fewer breaks. For some, this means they can fit in more studies while others suggest a shorter school day.

'I would start at 8am and finish at 2.30pm, instead of having loads of breaks.'

'Give less breaks and get to the point; not learning while dilly dallying about doing nothing, could be at work for the day.'

'I would be making the breaks shorter so we don't have to waste time doing nothing. This also means changing the finishing time from 4.45pm to around 4pm.'

'Shorten breaks to finish earlier.'

'Take the afternoon tea break out and finish at four pm.'

'Only have two breaks a day - three [are] too many.'

'Shorter breaks; shorter days.'

Better communication and planning of timetables - Some plumbing apprentices noted that they were not always aware of when their training blocks/day releases were scheduled, nor were they completely aware of the topics to be covered. For some apprentices, this is a frustrating situation.

'Have the training blocks all organised so you know when you are coming.'

'Have a timetable of what is been taught each week, and give that to every student at the beginning of every semester.'

Quicker course pace - A number of plumbing apprentices were keen to get their training to occur at a faster pace and felt somewhat constrained to have to wait around for the next training session.

'Put the block courses closer together.'

'Get rid of the speed humps.'

'I would advance classes for Apprentices that were above their class levels [and] fast track them in areas.'

Increase the amount of hands-on practical work - The responses from plumbing apprentices also emphasised their preference to do more practical work within their training. However, this appears to emanate more from the fact that they enjoy the practical work over the theory components.

'Make the training more hands on.'

'Combine a lot more prac work with the theory work to make an even more interesting day.'

'Less writing [and] more roofing.'

'I would make the first block more interesting and interactive. Less paper work and more hands on.'

Better access to teachers during projects, assessments and class - Survey responses revealed that many felt they did not have adequate access to teachers during projects and assessments. Many find themselves waiting for teachers to check projects and assessments and this is clearly frustrating them.

'I would employ a few more plumbing teachers to be in the workshop so that there was more access to a teacher when one is needed.'

'Hire more teachers.'

'Have more teachers in the class to assist the students with questions or problems they may have.'

'More teachers [for] one on one ...'

'Increase staff so less waiting around for students.'

'Employ more staff so that there is no time wasted waiting for teacher when they are understaffed.'

'Get teachers to help out more instead of just going on and leaving people behind just because half the class understands.'

'Give [apprentices] a better chance to pass. They pay to come and learn. Some teachers want to give the whole strict fail routine all the time. If we fail there might be a reason. Lack of understanding. We're here to learn. Not pay to get told we fail.'

'After completing tests, run through errors or incorrect answers to give indication where [we are] going wrong.'

'More teachers on hand to help with students, and ease the time it takes for students to get their work checked. Keep classes on singular projects at any one time, instead of people doing practical assignments all over the place.'

Apprentice Perceptions on Employers

Understanding the experience of current plumbing apprentices with their on-the-job aspect of the apprenticeship, is a key component in identifying drivers and impediments. The survey touches on this subject by asking how easy it was to find an employer as well as those aspects of the job that plumbing apprentices enjoyed the most and least.

Finding an Employer

Stories abound regarding skills shortage, so it is probably no surprise to find that the vast majority of those apprentices surveyed found it easy to find an employer (or group scheme) to do their plumbing apprenticeship with. However, even within a group that is already doing their apprenticeship, one in five had some difficulty in finding a plumbing employer to take them on.

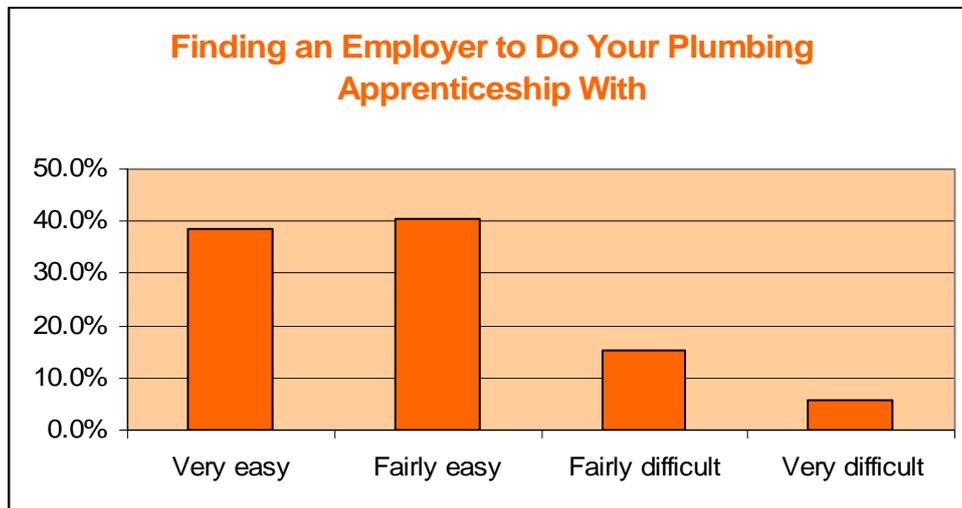


Chart 21 – Finding an Employer for Your Apprenticeship

Employer Flexibility

Overwhelmingly, plumbing apprentices found their employers flexible in supporting apprentices by teaching a variety of skills, answering questions and ensuring they attend trade school. Employers scored over 80% on flexibility for all the topics surveyed.

However, plumbing teachers perceived that employers were slightly less flexible when it came to providing a variety of jobs. For many small plumbing employers and/or those that specialise in a particular stream, this can be a challenge.

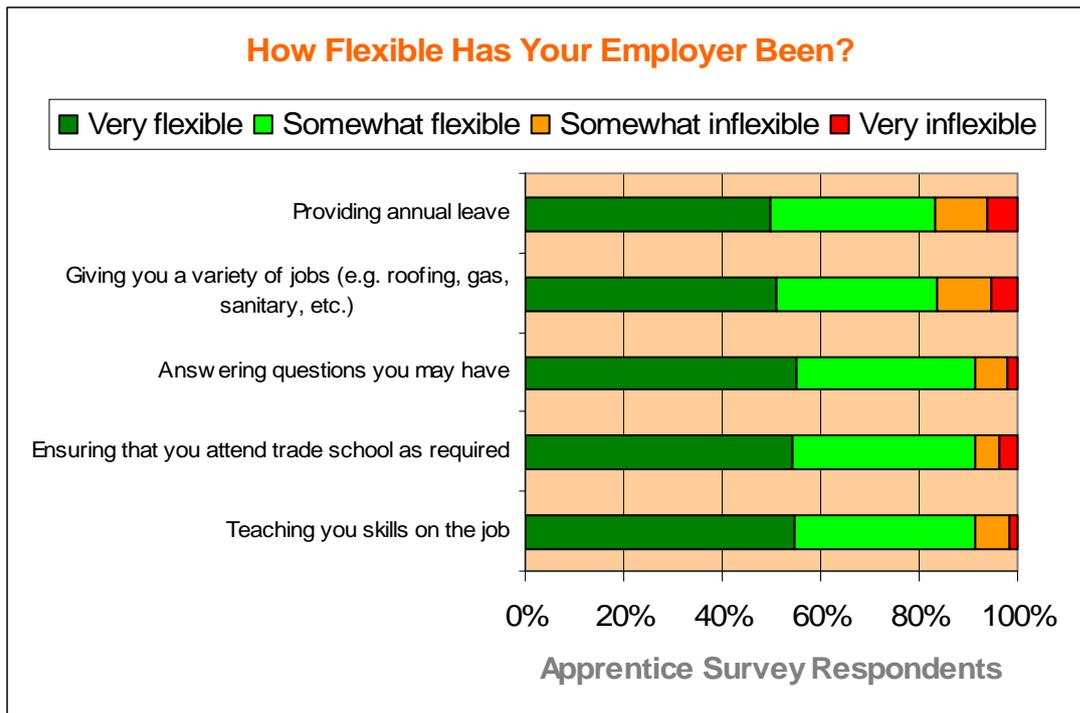


Chart 22 – How Flexible has Your Employer Been?

When asked what aspects they enjoy most about their work experience, plumbing apprentices rated the following as their top ten:

1. Learning a life skill/career
2. Hands on experience
3. Learning new skills every day
4. Seeing the results of my work
5. Financial freedom
6. Learning to do things professionally
7. Working outdoors
8. The variety of work
9. Learning from my boss/employer
10. The people I work with.

The first two aspects stood out the most - *learning a life skill/career* and *hands-on experience*. Just over 50% of all apprentices chose one of these two as the aspect they enjoyed the most.

Plumbing apprentices from remote areas tended to rate *the people I work with* much higher than the others (i.e. this rated as their second highest choice). Interestingly, mature aged plumbing apprentices tended to enjoy *the variety of work* more, but were less enamoured with *working outdoors*.

Work Aspects Least Enjoyed

Apprentices were also queried about the aspects they least enjoyed regarding their work experience. The highest rated answers were:

1. Being left alone to do jobs I don't fully understand
2. Being treated without respect
3. Long hours
4. Not getting experience in all streams of plumbing
5. Physical labour like digging holes
6. The weather.



Chart 23 – Aspects Enjoyed Least About Your Work Experience

Employer Survey Feedback

Employers form the backbone of the apprenticeship program. They spend more time with the apprentice during their apprenticeship program than any other individual. Their ability to appropriately support a plumbing apprentice and provide meaningful learning experiences is at the heart of an effective apprenticeship program.

To that end, employers from across Australia and New Zealand were surveyed in order to gain their perspective on the following topics:

- the information available to employers on Australian Apprenticeship,
- employer perceptions on the training organisations delivering plumbing training, and
- employer perceptions on attracting and keeping plumbing apprentices.

With the help of industry representative organisations, 274 employers of plumbing apprentices responded to the survey.

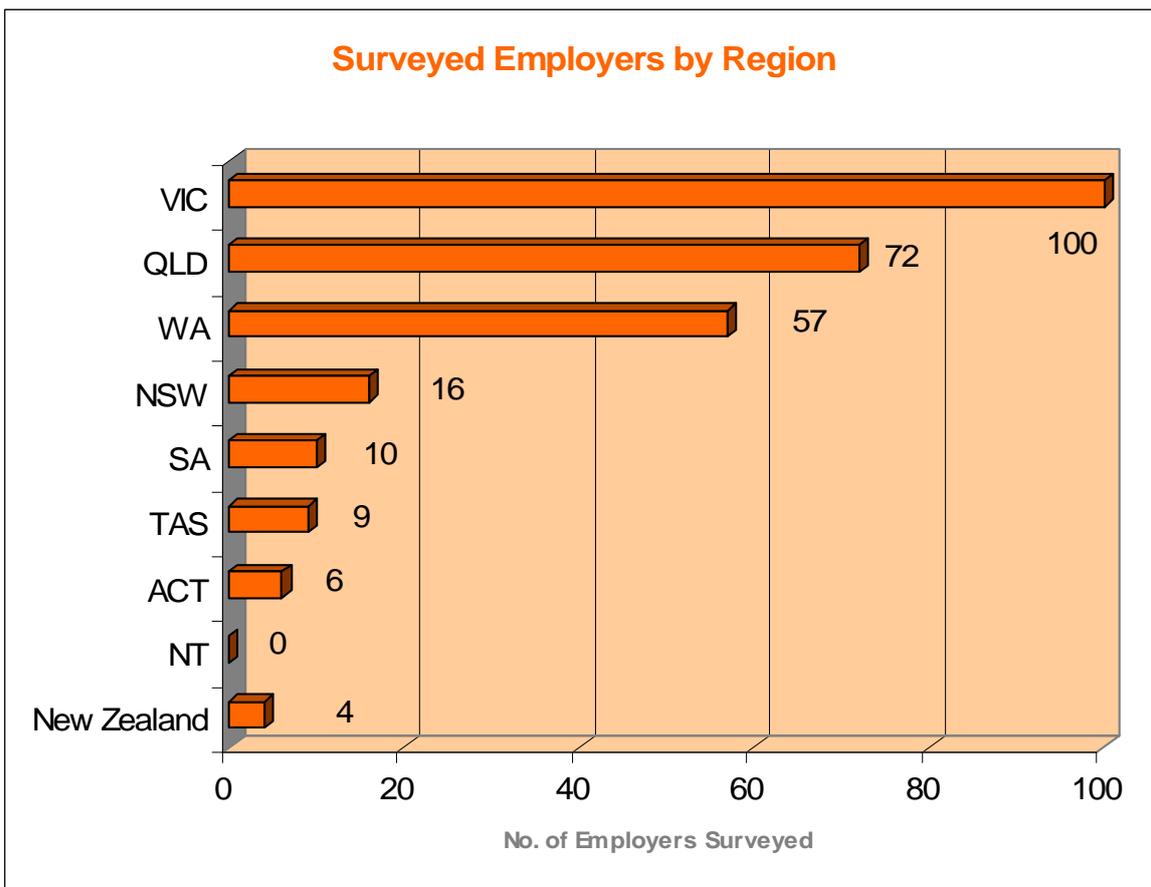


Chart 24 – Surveyed Employers by Region

Finding Information on Australian Apprenticeships

Generally, employers have found it easy to find information on the Australian Apprenticeship scheme. In fact, 75% find it easy or very easy to find information. However, at the other end of the scale, 25% have had some difficulty in sourcing information on Australian Plumbing Apprenticeships. This is slightly higher for employers from remote or regional areas (i.e. 31%).

Whilst employers may source their information on Apprenticeships from a number of different sources, three sources of information stand out as being used more than others.

Most often, employers of plumbing apprentices will source their information from:

1. the Master Plumbers Association within their State,
2. the Australian Apprenticeship Centre, or
3. a Registered Training Organisation (RTO).

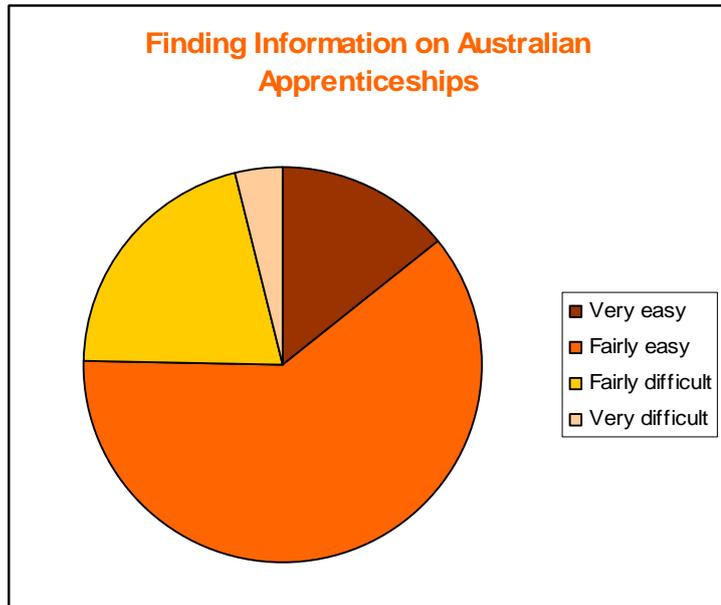


Chart 25 – Employers' Satisfaction in Finding Information on Apprenticeship

The chart below, describes where employers usually source information on plumbing Apprenticeships.

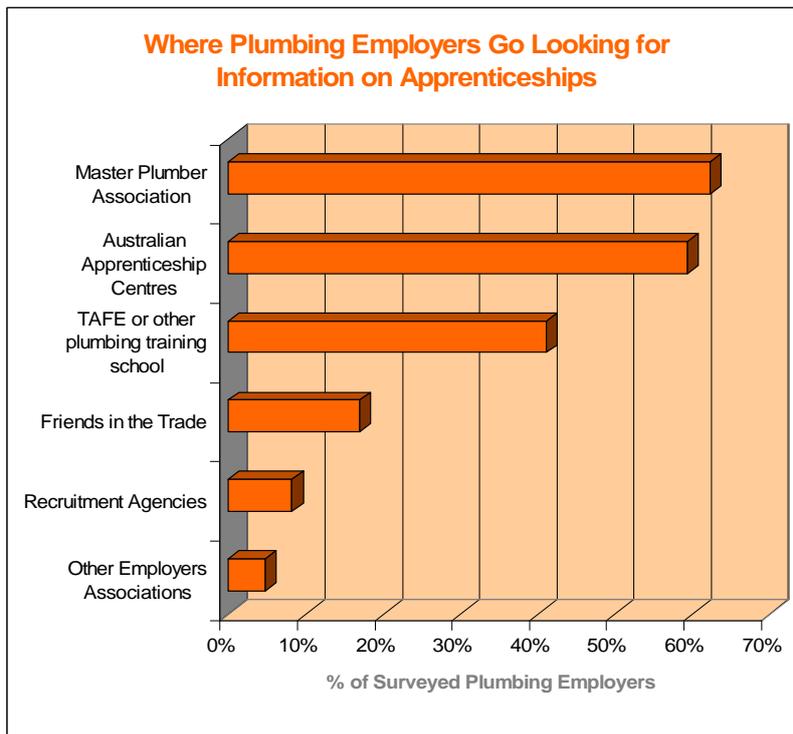


Chart 26 – Where Plumbing Employers Go Looking for Information on Apprenticeships

Finding the Best Information

When asked which of these sources is the *best source* of information for employers, three sources stand out. They are:

1. Master Plumbers Association (45%)
2. Australian Apprenticeship Centres (29%)
3. Friends in the trade (24%).

It is interesting to note, that while 41% of employers used TAFE and other training organisations as a source of information, only 6% recorded this group as the best source of information.

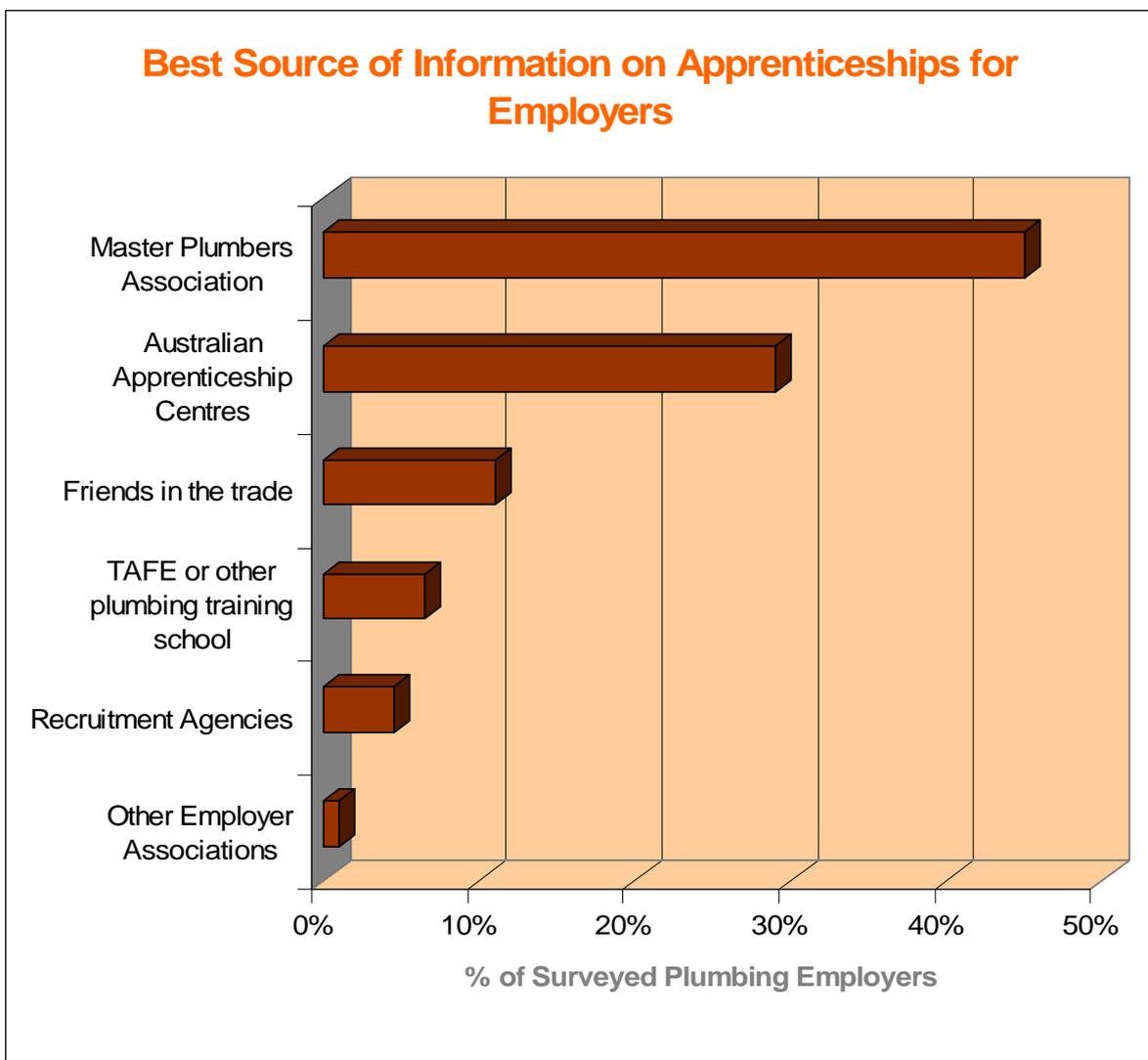


Chart 27 – Employers’ Best Source of Information on Apprenticeship

The following section provides some of the themes and feedback from employers on the three best sources of information for employers on plumbing Apprenticeships.

Master Plumbers Association - As a source of information for the Australian Apprenticeship program, employers found the Master Plumbers Associations convenient, responsive and up to date. Because the MPAs are registered training organisations in their own right, many employers expect and receive accurate and detailed information in a format that is appropriate for the industry.

'As an industry body I feel I can rely on their information.'

'They got the information plus will return calls.'

'Accurate information and prompt response.'

'They do not bog us down in red tape.'

'They speak in a language we can understand.'

'They have experience with Apprentices through their own Training Scheme.'

Australian Apprenticeship Centres - Those employers that found the Australian Apprenticeship Centres the best source of information on plumbing Apprenticeships found the Centres easy to access and helpful in organising the paperwork and processes. They felt the Centres were well informed, had the answers and were generally very helpful. However, it appears from comments in the survey, what employers enjoy most is the site visits by Centre staff and the personal contact.

'They have all the correct information.'

'The staff are very helpful - it's their role.'

'No fuss. We find the apprentice that suits us and the centre organises the rest.'

'The centre sends a rep once a week to the area so personal contact is available.'

'They came to us to help set up the apprenticeship and they had all the information at hand.'

Friends in the Trade - Employers that find friends in the trade as being the best source of information feel that networking and talking to those in the trade is a comfortable and meaningful way to communicate and get answers. However, there is also a strong sense that finding information from friends in the trade is a result of bad experiences with other formal sources of information on Apprenticeships.

'It's what they know and who they know (networking).'

'Real answers.'

'Dealing with people in industry have broader knowledge from various contacts.'

'The agencies muck around and it is too difficult to get a straight answer. Every agency is pushing its own barrow and no one is heading in the same direction.'

'Ring master plumbers and TAFE and they never return your calls.'

Information Sources that are Frustrating to Employers

We were equally interested to find out what sources of information were frustrating employers in their search for information on Australian Apprenticeships.

The top three sources most frustrating to employers of plumbing Apprentices were:

1. TAFE or other plumbing training schools
2. Australian Apprenticeship Centres
3. Recruitment Agencies.

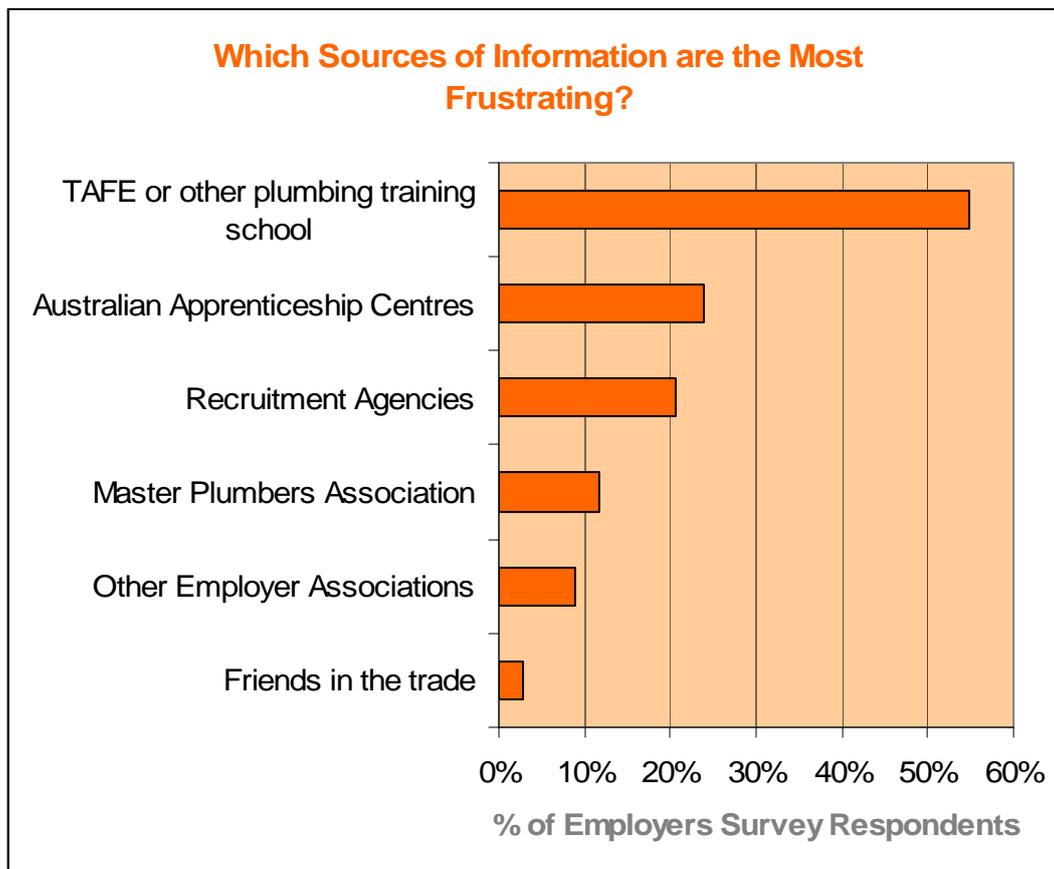


Chart 28 – Employers' Frustrating Sources of Information on Apprenticeship

The following provides some feedback from employers on the top three sources of information that were frustrating to employers. Each of these categories represented more than 20% of employers who responded to the survey.

TAFE or other training schools - For those employers who chose this category, comments focused on the difficulty of communication within a large institution. The largest number of comments centred around the difficulty in getting a hold of the right person, or getting a response. Further sources of frustration came from slow responses or experiencing RTO staff that simply did not have the right answers.

'Finding the right person to talk to, don't ring you back, can't get the right information.'

'Almost impossible to contact within [a] reasonable time.'

'TAFE - no one know what is happening, staff & campus keep changing, no staff to do training plans.'

'They are slow, constantly change their plans ... give you a different story every time.'

'No point of contact and very little information supplied by these people.'

'Confusion as to when or if courses are offered.'

'When you phone a TAFE you can never seem to find the correct person to speak to and if you make the mistake of trying to call again there is an extremely slim chance you will be able to talk to the same person you did previously so you must go through the whole inquiry process again.'

'Usually get a different answer from different people.'

In a related survey question posed to all employers, almost 50% feel they do not get enough information from training organisations in regards to their apprentices. Whilst 41% feel they get adequate information from RTOs, the majority of employers feel:

- there is too much focus on lateness and attendance in current communication,
- they receive conflicting information from RTO staff,
- some information is all too often inaccurate, and
- employers would like to see more communication from the RTO.

'Need to know more about their progress.'

'Would like to receive information earlier and have it provided proactively rather than having to chase it on occasions.'

'Like to get more information on what skills etc they are covering.'

'We need as much info as possible, to be able to keep the progress going; it's no good having to ask the apprentice where he's up to because without feedback from a tutor we are in the dark - we only get one side of the story.'

Employers were asked to rate the quality of information from RTOs. In so doing, 41% of employers felt the quality of information was good or very good, 22% felt it was poor or very poor and 37% believed it was average.

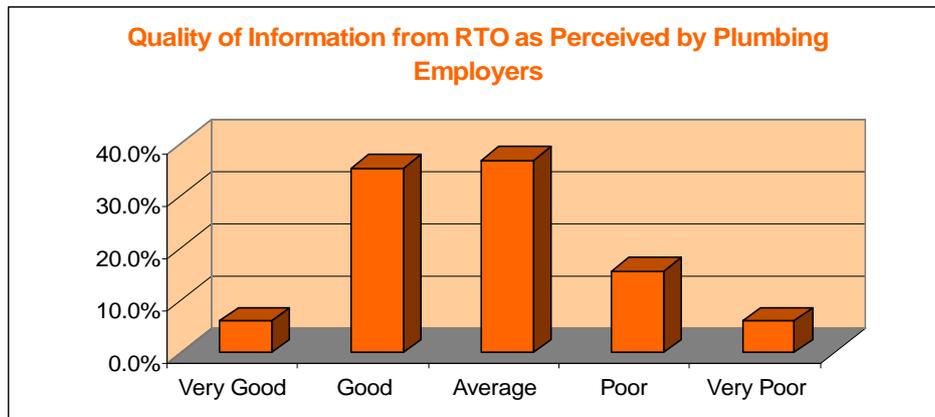


Chart 29 – Quality of Information from RTOs for Employers

Australian Apprenticeship Centres - Employers who were frustrated in sourcing information from the Australian Apprenticeship Centres commented on the difficulty in contacting the right person or having Centre staff respond to their calls. Further, there was frustration with inconsistent information that was not always correct or reliable, in the eyes of the employer. And finally, many employers complained of the excessive amount of paperwork and terminology.

'Finding the right person to talk to, don't ring you back, can't get the right information.'

'Changing requirements and terminology.'

'Making contact with the right person. Obtaining reliable, correct information especially in regard to progress at TAFE.'

'Not keeping in touch with employers with regards to payments for employing apprentices, I have now lost 3 payments due to the lack of paper work not filled in or sent by the Apprenticeship Centres.'

'Too many forms to fill out and get authorised and too many departments requiring information from other departments holding up information and processing of paperwork.'

'Paper work and forms too complex and time consuming to fill out.'

'Usually get a different answer from different people.'

'Information is not consistent and all blame each other for not having info.'

Recruitment Agencies - Employers were quite specific in stating that their frustration with Recruitment Agencies as a source of information derives from the strong focus on making money at the expense of apprentices' needs (i.e. in the opinion of employers). Employers who responded, felt that recruitment agencies did not fully understand apprenticeship needs and were simply driven to sign up people, whether they were suited for the trade or not.

'Tell you what you want to hear so as get someone a job to which they are sometimes not suited and are not the right person for a plumbing apprenticeship.'

'They are most interested in their bottom line.'

'Not worried about the apprentice only about the money.'

'They all have their own agendas.'

How Employers Perceive Training Organisations

Employers of plumbing apprentices rated their current relationship with the training organisation where they currently have plumbing apprentices attending. The responses revealed that while 44% felt the relationship was good or very good, 36% felt it was average and 20% felt it was poor or very poor.



Chart 30 – Rating the Relationship with RTOs

When asked about the flexibility of training organisations, employers perceived that the training organisation was not very flexible. Employers were most concerned with training times and their impact on apprentice work. Comments from employers included:

'You just get what you can when you can and be grateful for that.'

'TAFE set the times for class based on enrolments not work requirements.'

'No thought is given to how many apprentices are employed and it is not uncommon for two to be on course at the same time even though they are at different stages.'

'TAFE'S attitude is we will do it when they want to and no consideration to the differing commencements or clients' requirements.'

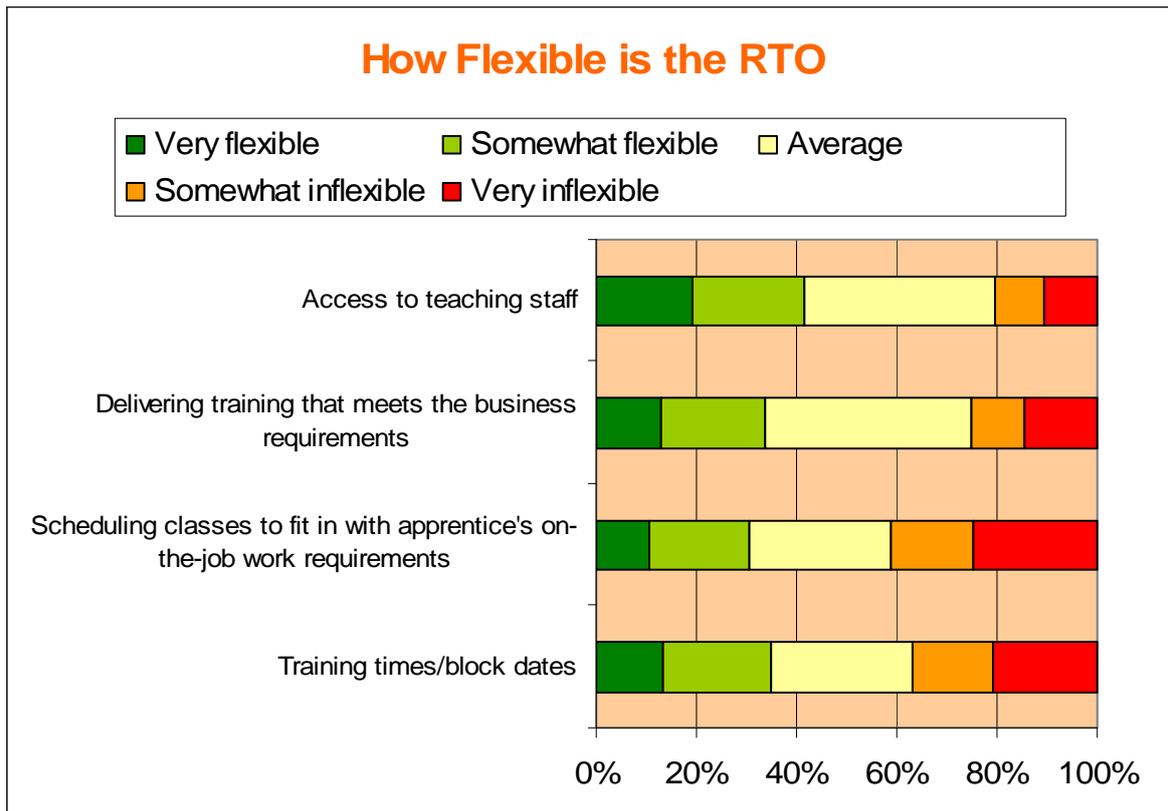


Chart 31 – How Flexible is the RTO

If You Were Running the RTO

Employers were asked to comment on what they would do differently, if they were running the plumbing training organisation. The following themes emerged from the employer surveyed responses:

Better Communication - Employers emphasise the importance of two-way information flow and a better process for communication. At present, employers feel there is a lack of information about the progress of apprentices. Employers would like better information and designated individuals within the RTO with whom they can communicate.

'Supply contact details to all employers and assign a person to take queries.'

'... arrange some form of communication between TAFE and employer, even by email. Give information about attitudes and performance during year, and what they may need extra help on. We would like more info on what they've learnt and achieved in class, even each semester.'

'Find time to inform the employer of the progress of the student on a regular basis.'

'I would provide comprehensive task oriented feedback to the employer - don't make generic sweeping statements - tell me what the kid needs more knowledge in and where he hasn't performed so that as an employer I can do my bit. Also tell me what he did well.'

Involvement in Training - Employers acknowledge that they have a part to play in the training regime of their apprentices. In fact, employers suggest a greater involvement on their part involving some on-the-job practical work and assessment. Some suggest that this could shorten the apprentice's time at the RTO.

'Would involve the employer in some capacity with the training, e.g. have workplace modules to be completed and ask what the weaknesses are on site that the school could help improve.'

'Have a better relationship with the apprentices' employers. Have some prac work completed on the job site.'

'More on the job assessment to shorten the time at TAFE.'

'Introduce a Profiling System to monitor on job activities to ensure all areas are covered during the apprenticeship.'

'I would arrange a training session for employers, to allow them to understand the changes in training - get them onside and show them that this is a partnership in vocation training for a profession. They need to know what is expected of them as "joint trainers" of a valuable resource. Employers also need to "get inside the minds of apprentices" so they can better assist them in their chosen vocation. It's not just a job.'

Greater Flexibility in Training Times - Employers would like to see a wider choice on training times throughout the year. For small operators and large, there is concern as to the timing of training dates and their impact on the business.

'Greater flexibility of hours ... allow weekend catch-up classes.'

'Have more choices of training dates, times and frequency.'

'Have more classes available throughout the year as our Apprentice is always scheduled at our busiest time and school said that blocks can't be changed as they are full.'

'As there is only myself and the apprentice to take the apprentice away from the work place for a month at a time for training at school, makes it very difficult. So maybe I would change the structure of their schooling hours.'

'Take into account scheduling for block dates if companies have multiple apprentices so they are not off at the same time. If they have finished course work ahead of schedule return them to the employer as opposed to getting them to do menial tasks at the training centre while they are still being paid by the employer.'

'I would also look at having a mixture of day release and block release method of training and plan more training in the winter months (wet weather).'

Maintaining Currency in Training Content - There is some concern from a few employers as to the currency of some training. There are a number of references regarding trainers focusing too much on old skills and not enough on current methods and materials now being used in industry.

'Deliver a curriculum that reflects current day practices and materials being used and ensure they have the skills required to do this. Ensure teachers have open channels with the manufacturer to achieve these objectives.'

'Ensure training is up to date and not teaching methods no longer used in the trade.'

Reduce Waiting Times to Enrol Apprentices - There is noticeable frustration from employers of plumbing apprentices in regards to finding space at training organisations to enrol their apprentice. There is also some acknowledgement of the resourcing constraints experienced by many Institutes.

'Make more classes!!!!!!'

'Make provisions to accommodate more students. There has been such a big push to get kids into trades over the last few years, yet they don't have the facilities to teach them. My last apprentice had the same problem. Very frustrating for both employer and employee.'

'The whole system is suffering a lack of teaching staff so until, that is addressed there is not much can be done differently.'

'Address the financial/human resource issues associated with the inability to provide apprentice training within a reasonable time of commencement.'

Challenges in Keeping Apprentices

An employer is often challenged not so much in finding employees, but rather, finding the right one. This is very much the feedback we received from plumbing industry employers.

'Finding an apprentice is easy. Finding a good apprentice is very difficult. It can take me a year to find a good one.'

'Easy to find but very hard to find a good one.'

In asking employers what the greatest challenges were in keeping a plumbing apprentice throughout the training, the following themes and comments were provided:

Generating the variety of work needed - Many employers are challenged to provide the variety of work to plumbing apprentices in order to support their training at the RTO.

'Finding a variety of tasks that they may require in later times, while they are doing their time'

'Being able to give them a variety of work in order to use what they have learned at trade school.'

'Trying to get enough variety of plumbing work to expose them to the full range of plumbing work they need to support their training. E.g. Regional areas don't provide much exposure to multi story plumbing or gas work.'

Low wages for Apprentices - Employers have commented on the perceived low wages for plumbing apprentices. However, some employers reflect that for many young apprentices, this is the first time they have had a steady income. At times, the challenge is handling the new responsibility of discretionary income and budgeting.

'The low wages for the first couple of years is tough for them.'

'Better rates of pay.'

'Plumbing apprentices are paid a substantial amount these days. This sudden availability of money (and hence "credit") places pressure on these apprentices to borrow.'

'The pull of the city. The large construction jobs lure apprentices with high pay and EBA's. Smaller companies, such as mine end-up paying high rates to compete with the big boys.'

'1st year wages are very poor; they compare what their mates are getting working in Coles.'

'Wages for mature aged apprentices. We tried this and it was a huge mess.'

Encouraging a Healthy Work Ethic - Some plumbing employers feel that their plumbing apprentices need to develop a stronger work ethic. Employers note the hard work involved in the trade and how some apprentices struggle with this or simply do not meet the demands of their employer.

'Hard to make kids realise that plumbing is sometimes hard work.'

'Managing their changing attitudes as they journey from teenager to adult.'

'Their understanding of working hard.'

'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. Attitude seems to be the biggest problem.'

Keeping them interested and focused on finishing the Apprenticeship - Keeping apprentices interested in the trade is often mentioned by employers as a challenge. Some comments refer to the natural distractions that young people experience. However, other employers acknowledge that they have a part to play in providing challenging work so they don't get bored.

'Keeping them interested of what they are doing.'

'Cars, Alcohol/Drugs, Women, Motivation, these are distractions, the belief that the world owes them a living one week in and they know it all. I find variety is the key rotating the apprentice to work with different tradesmen on various sites doing a variety of different jobs.'

'Not allowing the employer to take advantage of them as slave labour and getting bored.'

'Keeping the challenges up to them as they progress through their time.'

'Keeping them motivated & interested through the middle years while they have so many other distractions. If you can maintain motivation & interest then they eventually become strong contributors to our company.'

Plumbing Instructor Survey Feedback

Plumbing instructors carry the responsibility of ensuring that plumbing apprentices receive the appropriate training and underpinning knowledge that supports a lifetime career in the trade. Their ability to inspire and successfully prepare apprentices for the trade underpins the reputation and future capabilities of the plumbing industry.

With this in mind, plumbing instructors from across Australia and New Zealand were surveyed in order to better understand:

- whether instructor perceptions of the drivers and impediments of plumbing apprentices were in line with the actual responses of apprentices, and
- the current challenges of plumbing instructors when dealing with 1st year apprentices. We felt this area would have the greatest impact and noteworthy comments for Apprenticeships, especially within a trade that (anecdotally) has a low attrition rate.

With the help of NPSTAG representatives, lead teachers, education managers and plumbing instructors in various RTOs, 136 plumbing instructors responded to the survey.

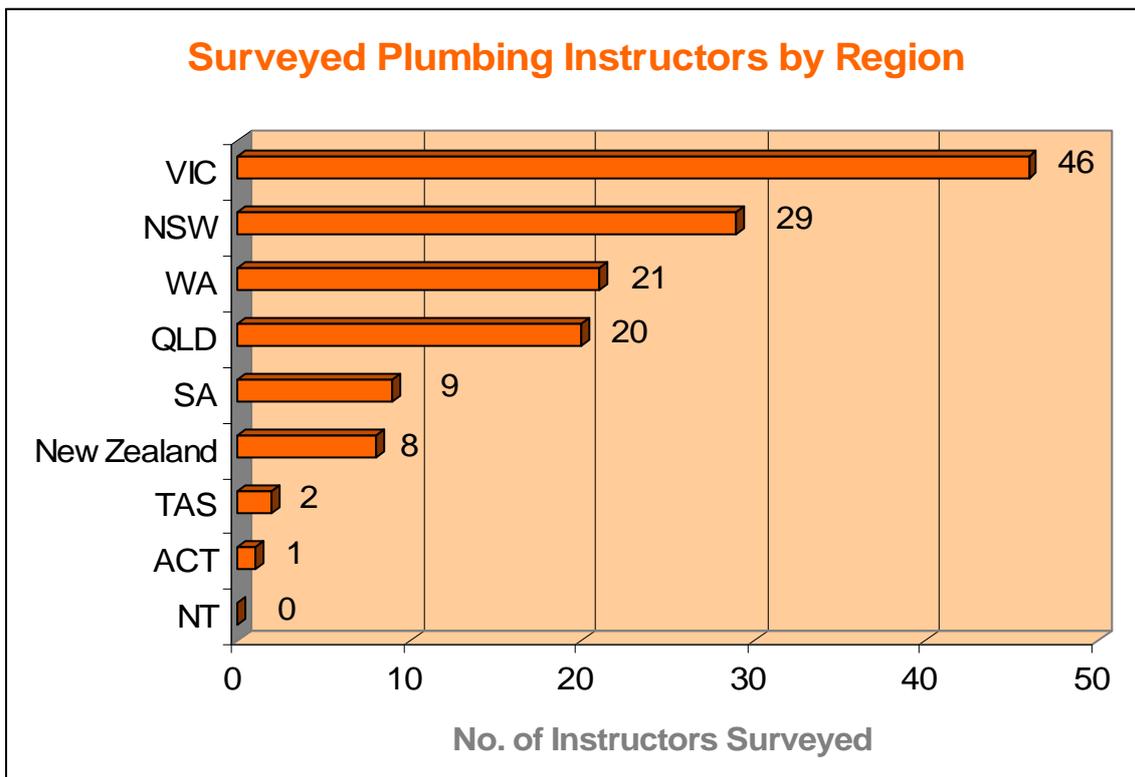


Chart 32 – Surveyed Plumbing Instructors by Region

Understanding the Apprentice

Within the survey, we were very interested to know if the perceptions of drivers and impediments held by current plumbing apprentices were fully understood by plumbing instructors. We were interested to know if instructors' perceptions were in any way different from apprentices'. Differences in perception could very well lead to misunderstandings and impediments to current and future apprenticeships.

With this in mind, we posed a number of survey questions that were similar to those answered by plumbing apprentices. Some examples included:

- What are the top three reasons most people take up a plumbing apprenticeship?
- Who is usually most influential in their choosing to become a plumbing apprentice?
- What are the biggest worries or concerns most apprentices have when they first consider taking up a plumbing apprenticeship?

The results of these questions, found that plumbing instructors were very much in tune with the current perceptions of plumbing apprentices. That is to say, the results of these questions matched very closely the results from the plumbing apprentices surveyed.

The plumbing instructors have a very sound understanding of why individuals take up plumbing apprenticeship, who is most influential, and what are the major concerns for new apprentices. This bodes well for the RTOs currently delivering plumbing training.

Plumbing Instructor Challenges with 1st Year Apprentices

Notwithstanding a sound understanding of current plumbing apprentices, plumbing instructors are challenged on many fronts when delivering training. In asking plumbing instructors to comment on their challenges with 1st year apprentices, we were interested in exploring the common topics highlighted by respondents across Australia and New Zealand. The following themes emerged from this survey question:

TAFE vs. School - Many instructors felt that 1st year apprentices did not fully understand or comprehend that the TAFE learning environment is different from secondary school. A number of apprentices have difficulty transitioning to the adult learning environment of apprenticeship training. From the instructors' point of view, many apprentices need to take on more responsibility for their learning requirements and outcomes.

'Getting them out of school mode and into [the] real world; ownership of their own learning.'

'Removing the high school attitude of behaviour in the classroom or workshop.'

'Altering the mindset of school leavers to understand their responsibilities as members of the workforce in general and the plumbing industry in particular.'

'Having new apprentices realise that they are now responsible for their learning progress.'

'Getting the student to change his attitude from being at school to being at TAFE and accepting the responsibilities of self motivated learning and to understand the scope of learning required as an apprentice.'

'... they still have school mentality and not that plumbing is their livelihood.'

'It is adult learning not secondary school. They are paid to attend and will need to achieve competency to pass each module.'

'Making them aware of the scope of work that plumbers undertake and the realisation that TAFE is an adult learning environment and as such requires a more mature approach to accepting the responsibility for their learning/success.'

'Converting from a school based attitude to a work based attitude, i.e. responsibility for actions and learning.'

LL&N Issues - For many plumbing instructors, they are challenged by the prevalence of low LL&N (i.e. Language, Literacy and Numeracy) capabilities of apprentices entering training. There is a strong view that these skills should have been picked up in secondary school. Further, many instructors report that plumbing apprentices do not enter plumbing training with an understanding of the literacy and numeracy skills required. Some feel that this has caused many apprentices to have difficulty with the training package. Others feel that these LL&N issues hold up many other capable apprentices in their training and slow the whole process down.

One of the challenges for the publicly funded RTOs is that there is no aptitude test that highlights the skills and preparation required for successful apprenticeship training in the plumbing industry. A number of survey respondents highlight this issue.

'A lack of significant basic education i.e. basic maths, English, ability to comprehend.'

'Literacy and numeracy problems some apprentices have by not completing higher levels of secondary school. Not realising plumbers need to understand maths, physics and chemistry make up quite a high percentage of theory in the plumbing sector. Parents and/or guardians will push their child towards a plumbing trade due to them not being capable to continue school and onto university etc and don't understand the true nature of training levels required to make it as a plumbing apprentice.'

'They lack the fundamentals that should have been taught at high school.'

'Lack of basic education such as year 9 level maths & English.'

'Lack of reading and writing skills, poor arithmetic skills and lack of appreciation as to the skill levels required.'

'Apprentices' poor literacy and numeracy skills compared to the difficulty of the training package they undertake.'

'Lack of basic school knowledge, i.e. spelling and maths.'

'Lack of education to be able to grasp the required basic understanding of numeracy, literacy. No aptitude test given prior to apprentice being offered an apprenticeship has left us the trade teacher trying to turn "pig skin into silk" therefore putting others in the class (who are up to a satisfactory education level to handle the training) at a disadvantage and our training behind schedule, due to the numeracy/literacy level of some students were not addressed before an apprenticeship was offered ...'

'Lack of basic knowledge as there are no pre-requisite educational subject levels required.'

Lack of Hand Skills - Similar to above, many plumbing instructors lament the fact that the current plumbing apprentices entering training do not have the hand skills they once had when there was a stronger emphasis on technical courses in secondary school. This requires a need to start with the very elementary basic hand skills during the first year of training.

'Developing hand skills.'

'Going back to a very basic level. Most new apprentices have had no hands on experience in secondary school.'

'Lack of hand skills.'

'Lack of formal basic training, (technical drawing, sheet metal and wood work, and use of hand tools), as was provided in the technical schools of the past.'

Challenge of BCP03 - A number of plumbing instructors find that there is not enough time to properly deliver the training contained within BCP03. They feel there is not enough delivery time allowed for the basic concepts and hand skills, nor is there appropriate time to practice. Some also believe that part of the problem is the complexity of the course, which may allude to the sheer number of units (i.e. up to 96 in some States) and the level of specialisation now contained within BCP03.

'The students struggle with the amount of material we have to cover in such a limited number of delivery hours. We are finding that this is also starting to compromise the quality of there learning.'

'Generally not enough time to properly train to a good level of competence as you have to start at the most basic level.'

'A realistic timetable to build the underpinning hand skills and basic concepts.'

'The ability to cope with competency based training due to skill level of apprentices and the complexity of the course.'

'Insufficient time to complete the training package and individual competencies.'

Delivering the common BCP03 Plumbing competencies in the time allocated as their is no additional time for practice or tutorials.'

Disinterest in Theory - There is a challenge for many instructors to successfully instil in the apprentice how important the theory lessons are to the practical world. This is further hampered by apprentices who would prefer to do more practical work in training and do not always fully appreciate, or enjoy, the need for theory lessons and underpinning knowledge.

'... the apprentice often does not transfer theoretical lessons into the prac room, it is important to ensure that theory and prac are integrated to get that understanding of relevance or the apprentice sees theory as a waste of time.'

'Students are surprised at the amount of theory instruction.'

'Theory lessons. They expect to be doing practical only.'

'Preconceived ideas of how to do plumbing properly/lack of theoretical knowledge passed on from the tradesman.'

'Getting them to realise that they need to know more than just the practical application but have an understanding of using standards, codes and manufactures' information and how to apply it.'

'Getting the apprentice to understand the responsibilities of a plumber and the amount of education needed to gain a qualification.'

'Not aware of the underpinning knowledge (study) that is associated with the trade.'

Keeping Apprentices Motivated and Focused - A great deal of effort by plumbing instructors is spent on motivating plumbing apprentices to keep with their studies. As a result, many instructors contemplate how best to engage apprentices in their learning and maintain their interest in the apprenticeship. Often plumbing instructors must mentor apprentices to help build their confidence as they progress through their training over the whole apprenticeship time.

'Keeping them focused and getting them used to not being at school. Convincing them that 4 years is not a long time.'

'Implementing motivation and drive, bringing out the best in them in regards to confidence and their ability to do good work.'

'Understanding their educational background and learning methodology.'

'The greatest challenge as a teacher is getting the apprentices to realise they all have the ability understand and complete their trade calculations.'

'To teach apprentices their course in a way that engages them in their learning.'

'Keeping them interested in what they are being taught.'

Drivers and Impediments

The following section presents the drivers and impediments to Australian Apprenticeships as it pertains to plumbing apprentices. The points have been collated from the previous sections of the report.

Drivers and Motivators

The points presented here represent the drivers, motivators and general preferences of plumbing apprentices surveyed across Australia and New Zealand.

- Whilst most young people may note money as a key driver, the distinguishing drivers for plumbing apprentices involved *working outdoors*, *working with their hands* and *the opportunity to be their own boss*.
- When questioned about what other careers they had considered, the vast majority of careers listed were in other trades.
- In choosing to take up a plumbing apprenticeship, individuals have been most heavily influenced by: others in the trades (41%), along with parents and family (38%).
- 78% of plumbing apprentices felt that their Secondary School Careers Advisors were encouraging about the trades in general. Surveyed respondents felt that the Career Advisors encouraged them into the plumbing trade because:
 - Trades are a good option.
 - This is an appropriate choice for the individual concerned.
- It appears that those who take up plumbing apprentices are most often surrounded by people who are encouraging and supportive in their choice.
- When first considering a plumbing apprenticeship, 83% of survey respondents found it was *very easy* or *fairly easy* to find information. Only 17% had some difficulty in finding information.
- Plumbing apprentices were asked where they first went looking for information on plumbing apprenticeships. The following top five answers emerged: *Other plumbers* (27%), *Internet* (13%), *Parents* (11%), *Secondary school career advisors* (10%), *Friends* (10%)
- The 2nd source of information was most often the *internet* and *other plumbers*.
- When first looking into a plumbing apprenticeship, respondents felt the best sources of information were:
 - *other plumbers* (33%) - more than double the second highest rated source.
 - *internet* (14%)
 - *RTOs* (13%)
 - *parents* (11%).

- Plumbing apprentices are generally satisfied with the flexibility and services of current plumbing training organisations. However, those plumbing apprentices from remote areas were more concerned with flexibility on their timing of schedules and fitting it around work commitments.
- Within their training, current plumbing apprentices appeared to enjoy *learning and experiencing new skills* that would *provide a trade for life*.
- Notably different from their city counterparts, those from remote areas, seemed to enjoy:
 - *Fellow apprentices in my group/class* (2nd highest score for remote cohort)
 - *Meeting new people* (4th highest score for remote cohort).
- Overwhelmingly, plumbing apprentices found their employers flexible in supporting apprentices.
- When asked what aspects they enjoy most about their work the two highest responses were *learning a life skill/career* and *hands-on experience*. Just over 50% of all apprentices chose one of these two as the aspect they enjoyed the most
 - Plumbing apprentices from remote areas tended to rate *the people I work with* much higher than the others (i.e. this rated as their second highest choice). Interestingly, mature aged plumbing apprentices tended to enjoy *the variety of work* more, but were less enamoured with *working outdoors*.
- For their needs, employers feel the *best source* of information come from: the Master Plumbers Associations (45%), Australian Apprenticeship Centres (29%), and friends in the trade (24%).

Impediments

The following points present the identified impediments and areas of concern as found in the survey results from current plumbing apprentices.

- Less than 1% of current plumbing apprentices are female.
- Plumbing apprentices' main concerns when embarking upon an apprenticeship are directed at whether they had made the right choice and how to manage the process towards eventual work as a tradesperson. Of the top three concerns, two relate to whether they have chosen the right career that they will enjoy.
- Remote and Regional apprentices were concerned with *handling the training while still working*. This may reflect the distance often travelled to training sites for these two groups and the time commitment to attend training in locations not always convenient.
- Not surprisingly, mature aged plumbing apprentices had concerns for *family commitments*. Also, for those plumbing apprentices over 39 years of age, the major concern by far is whether they will find an employer with whom to do their apprenticeship.
- It is noteworthy that 31% have '*seriously considered*' dropping out of the apprenticeship training program. For those plumbing students that considered leaving the apprenticeship program, the top five highest responses were: *Apprentice Wages*, *My boss/employer*, *I was not enjoying the trade*, *Saw other jobs I was more suited to*, *The cost of tools and training*.

- *Wages* appear to dominate the concerns of plumbing apprentices. Without disputing this fact, it should be noted that few apprentices appear to view their apprenticeship wages as subsidised training.
- The survey respondents reported that most people who leave the Apprenticeship program leave for the following reasons: *Lost interest, Unhappy with employer, Apprentice wages, Saw other jobs that paid more, Lost their job.*
- Plumbing lecturers did seem particularly sensitive to those who left the Apprenticeship program because they *were pushed into the plumbing apprenticeship that they did not really want to do.* This rated as the fourth highest answer in teachers' opinion.
- On the role of Secondary School Career Advisors, 24% of surveyed plumbing apprentices found that *knowledge of the plumbing trade as a career* was poor or very poor.
- Despite general satisfaction on careers advisors' overall performance on encouraging trades, there is still some predilection within the system to encourage University education over apprenticeships. There were also comments that inferred that trades were a fall-back position for those that weren't 'smart enough' for University. This certainly brings into question whether people are directed into plumbing apprentices because they are well suited to the career or because they are perceived as 'not good enough' to get into university.
- Those sources of information on plumbing apprenticeships that were most frustrating for plumbing apprentices surveyed were: Internet (29%), Recruitment Agency (16%), TAFE and RTOs (16%), Australian Apprenticeship Centres (13%)
- In regards to apprenticeship training at RTOs, apprentices from remote areas listed travel time as their highest concern.
- Mature aged apprentices were much more concerned with *too much slack time while at school.*
- Although plumbing apprentices are generally satisfied with their current RTO, others suggested improvements were required, including:
 - *Better workshops, supplies and tools*
 - *Better availability of sessions*
 - *Reduce the number of breaks while at school*
 - *Better communication and planning of timetables*
 - *Quicker course pace*
 - *Increase the amount of hands-on practical work*
 - *Better access to teachers during projects, assessments and class.*
- Even within a group of current plumbing apprentices, one in five had some difficulty in finding a plumbing employer to take them on.
- Plumbing teachers perceived that employers were slightly less flexible when it came to providing a variety of jobs. For many small plumbing employers and/or those that specialise in a particular stream, this can be a challenge.
- On the topic of work experience, apprentices least enjoy: *Being left alone to do jobs I don't fully understand, Being treated without respect, Long hours, Not getting experience in all streams of plumbing.*

Employers of plumbing apprentices were also surveyed. Their role in the apprenticeship program is critical to success. The following comments derive from comments employers made in the survey.

- 25% have had some difficulty in sourcing information on Australian Plumbing Apprenticeships. This is slightly higher for employers from remote or regional areas (i.e. 31%).
- It is interesting to note, that while 41% of employers used RTOs as a source of information, only 6% recorded this group as the best source of information.
- The top three sources of information most frustrating to employers were: *TAFE or other plumbing training schools, Australian Apprenticeship Centres, Recruitment Agencies.*
- Almost 50% of employers feel they do not get enough information from training organisations in regards to their apprentices.
- Employers perceived that the training organisation was not very flexible. Employers were most concerned with training times and their impact on apprentice work.
- Employers were asked to comment on what they would do differently, if they were running the plumbing training organisation. They offer the following:
 - Better communication
 - Involving employers more in training
 - Greater flexibility in training times
 - Maintaining currency in training content
 - Reduce waiting times to enrol apprentices
- In asking employers what the greatest challenges were in keeping a plumbing apprentice throughout the training, they provided:
 - Generating the variety of work needed
 - Low wages for apprentices
 - Encouraging a healthy work ethic
 - Keeping them interested and focused on finishing the Apprenticeship.

Plumbing lecturers were also surveyed. Training organisations provide apprentices the structured learning environment for a lifetime career in the plumbing industry. The following comments derive from comments plumbing lecturers made in the survey.

- A number of apprentices have difficulty transitioning to the adult learning environment of apprenticeship training.
- Plumbing apprentices do not enter plumbing training with the literacy and numeracy skills required.
- Current plumbing apprentices entering training do not have the hand skills they once had when there was a stronger emphasis on technical courses in secondary school.
- There is not enough time to properly deliver the training contained within BCP03.
- There is a challenge for many instructors to successfully instil in the apprentice how important the theory lessons are to the practical world.

Conclusion

The drivers and impediments to Australian Apprenticeships within the plumbing industry have highlighted a number of factors at work within the industry. Whilst there is a growing commitment to the trades within the community, there still remain many challenges.

This report highlights those issues that attract individuals to plumbing apprenticeships and those issues which are frustrating them. Further, it is important to note who is influencing our current applicants to the trades and how they go about finding information on this career choice. The specific feedback presented by survey respondents provides a wealth of information to enhance and improve support for apprenticeships.

