

# **Barriers to e-learning in the Community Pharmacy Sector**

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## **Forward**

### **Background**

In August 1999, the Australian National Training Authority Chief Executive Officers (ANTA CEOs) endorsed the Australian Flexible Learning Framework for the National Vocation Education and Training System 2000 – 2004. The Australian Flexible Learning Framework (Framework) has been developed by the Flexible Learning Advisory Group (FLAG) and represents a strategic plan for the five-year national project allocation for flexible learning. It is designed to support both accelerated take-up of flexible learning modes and to position Australian vocational education and training as a world leader in applying new technologies to vocational education products and services.

### **Role of the Flexible Learning Advisory Group (FLAG)**

FLAG is a strategically-focused group of senior vocational education and training personnel advising ANTA CEOs, the ANTA Board, the Department of Education, Science and Training, the Australian Information and Communication Technology Education Committee, on national issues relating to the directions and priorities for flexible learning in vocational education and training, with particular reference to online technologies.

## **Executive Summary**

This project examined the barriers to e-learning of trainees in Community Pharmacy, and explored the obstacles for pharmacists to the uptake of e-learning as a realistic delivery option for their staff. The purpose of the project was to inform The Pharmacy Guild of Australia's (The Guild) Training Division on the prospect of adding an e-learning component to its suite of training products. From this research project, an e-learning strategy will be formulated, taking into account the findings and recommendations.

The first important issue investigated was that of Internet access. The research showed that it wasn't as significant a problem as first anticipated. Further, there was little difference in responses from rural or metropolitan areas. In the pharmacy sector, all pharmacies have computer hardware for the dispensing of medicines. Whether this hardware could be made available for training purposes was another matter. The majority of trainees had access to the Internet, whether at home, a friend's place or elsewhere.

The Guild utilised its member base to survey pharmacists randomly selected in all states and territories with faxed surveys. Trainees were selected from the national training database, and surveys were mailed out. The trainee sample was a mix of current and past trainees from the last two years.

Response rates were adequate with over 19% of pharmacists and 13% of trainees responding. Focus groups and some individual interviews were also conducted to provide additional qualitative material.

The barriers for employers were related to resourcing and logistical issues such as lack of space for trainees to study, and computer access. The pharmacists in general were supportive of e-learning as a training option.

The barriers for trainees were more 'content' and 'delivery' specific. Trainees were not supportive of a full e-learning model, citing such things as missing out on contact with other students, unreliable technology, being bored sitting in front of a computer screen for long periods of time, or printing out copious quantities of material to read.

Trainees preferred a blended model approach, which factored in such elements as interactive and varied learning activities, access to trainers and assessors at any time and quick turnaround of feedback.

Approximately one third of pharmacists and one third of trainees would not utilise online learning if it were available. Strategies to overcome these barriers will be developed and incorporated into any e-learning plans of The Pharmacy Guild of Australia.

The pharmacy sector represents small business. It is anticipated that this report will inform the small business and retail sector, training providers who deliver services to this sector, and VET in general.

## **Recommendations**

### **Training Providers**

Training providers considering e-learning should:

- ensure that trainees and employers support e-learning as a method of delivery, and are provided with options
- provide professional development for teachers and assessors
- utilise a blended model of delivery with a mix of face to face contact and e-learning methods
- undertake care in the selection of content for e-learning avoiding dependence on text-heavy approaches
- provide learner support, and induction programs, to assist trainees to maintain motivation, keep deadlines, and making contact with other trainees
- provide a 'help desk' for technological problems that might occur
- ensure that trainees have regular contact with trainers and assessors
- package material into 'Just-in-time' training and short duration components so students can do short bursts of study before or after work, during lunch breaks ,and
- work collaboratively with industry to provide an e-learning model tailored to suit the enterprise or industry.

## **Small Business Sector/Retail Sector**

Small businesses should be encouraged to:

- establish a learning culture within the workplace
- look at innovative ways to support learning in the workplace, including scheduled time-off either at work or at home
- support trainees in making contact with trainees in other organisations, (although this may not be a realistic option given the competitive nature of small business
- where possible provide a separate area where trainees can study, facilitating computer access and other resources
- share resources with partners (collaborative arrangements with other small businesses, not necessarily direct competitors), and
- collaborate with training providers to develop an e-learning model that works synchronously with business.

## **VET Policy**

Development of policy should aim to:

- encourage further research and consultation into innovative learning models that will work for the small business sector with an emphasis on minimising interference with work routines while maximising staff participation
- evaluate blended learning approaches to get a clearer picture of the effectiveness of delivery methods for different client (sector) groups
- encourage infrastructure sharing and information sharing among RTOs to support learning
- encourage a collaborative approach involving industry and training organisations within industry sectors to develop e-learning materials. This would be more cost-effective
- market, promote and encourage blended approaches to learning, particularly in New Apprenticeships, with priority towards developments that will enhance training provision into small and micro business
- explore issues in relation to consistency and sufficiency of evidence in assessments/rpl in e-learning and other flexible learning environments, ensuring that quality and consistency are maintained
- evaluate the use of toolboxes, and
- recognise e-learning/home study as a legitimate form of training for funding purposes.

## Project Background

The Guild is the peak body for the Community Pharmacy sector in Australia, with approximately 4,800 members. This represents 4,800 small to medium businesses in the retail sector. The pharmacy sector is predominantly comprised of small businesses with less than 20 employees.

The Guild delivers training to approximately 2,000 pharmacy assistants through New Apprenticeships per year nationally. Community Pharmacy is a very heavily legislated sector by nature, differentiating it from the rest of the retail sector in terms of the way business is conducted.

The Guild has a long history of distance delivery for pharmacy assistants over the last decade. The Guild developed its own accredited training courses in 1994, which have now been updated to align with the Community Pharmacy Training Package. All qualifications, from Certificate I through to Certificate IV are offered in all states and territories. Paper-based distance education is the main delivery method in all States, with in-centre (face to face) delivery also offered in Tasmania, Victoria, Queensland and South Australia (metropolitan areas only). User Choice requirements vary in each jurisdiction, particularly on the issue of workplace visits and assessor/trainer contact and support.

The Pharmacy Guild of Australia is considering a move towards e-learning, in the first instance as an integration of some training functions with e-business. This research project explores the barriers to e-learning for both employers and trainees. Identifying these barriers will inform the development of strategies that will encourage the greatest uptake of e-learning and provide the best learning outcomes. Because Guild members represent small business, it is envisaged that the outcomes of this report will inform that sector, including other small to medium retailers, as well as public and private RTOs, and government policy in relation to flexible learning for the small business sector.

The first issue explored was that of Internet access, which could be the first obvious barrier to overcome. The models of e-learning considered by the Guild require up-to-date hardware to support the interactive learning activities, and a platform to support a student management system. It was suspected that many pharmacies and trainees would not have suitable access to the Internet, or computers, that would support the learning technologies.

According to the Australian Bureau of Statistics, in November 2000 over half (56%) of Australian households had a computer and 37% of households had access to the Internet. Computer use and Internet access tended to decrease with age with little difference in levels of use between males and females regardless of age. (8147.0 *Use of Internet by Household* Australian Bureau of Statistics 2001). By 2002 this had increased to 61% of Australian households had a computer, 66% of adults used a computer and 46% of households had Internet access and 58% accessed the Internet (at home, work or elsewhere). (8146.0 *Household Use of Information Technology, Australia* Australian Bureau of Statistics 2003).

By the end of the March quarter 2003, there were over 5 million Internet subscribers, an increase of 11% since the end of the September quarter 2002, with most of the increase among households (98%). By this time there were also over 470,000 subscribers with permanent connections (satellite or DSL)

and this had increased by 65% since the previous September quarter. (8153.0 *Internet Activity, Australia* Australian Bureau of Statistics 2003). It is most likely that this trend will continue, and at a faster rate.

This project explores the issue of Internet access for pharmacists and trainees, as well as previous exposure to and expectations of e-learning. The findings of this research will inform the Guild's future e-learning strategy in terms of national roll-out, infrastructure requirements, and instructional design models.

## Methodology

The key research questions for this project were:

- What barriers exist for e-learning amongst trainees in small business?
- What employer support is there for e-learning options?
- What access barriers are there to e-learning?
- What barriers exist for employers to e-learning?
- In relation to the non-completion rates for trainees, what factors might be overcome by e-learning?
- What learning options for pharmacy staff would be most appealing for small to medium businesses?
- What are the potential benefits of e-learning to employers?

The research utilised several strategies:

- Survey and consultation with existing trainees (See appendix 1 for survey and appendix 2 for the focus questions)
- Survey and consultation with pharmacy operators (See appendix 3 for survey and appendix 4 for the interview questions)
- Consultation with past trainees who did not complete their traineeships (See appendix 5 for focus questions)
- Analysis of research already conducted that may be relevant to this project.

1500 member pharmacies were randomly selected from the Guild's member database to survey through fax stream. In the past, Guild members have responded well to regular surveys on health and other issues, so it was felt a high response rate could be expected. State and territory branches cooperated in arranging individual interviews with pharmacists in Cairns, Brisbane, Sydney, Canberra, Adelaide, Hobart and regional Tasmania.

The Guild's training database was accessed for information on current and past trainees (going back to early 2001). The surveys were mailed out to trainees with a covering letter. Focus group discussions were conducted with three classes of in-centre trainees in Victoria and Queensland. Phone interviews were conducted with trainees who have withdrawn from training. Though non-completers were difficult to contact, by the end of this project, 25 had been interviewed.

The initial focus of the surveys and consultations was to establish the current knowledge and attitudes towards e-learning and what they expected e-learning

to involve. This question incorporated the use of prompted responses. Further questions centred on access to computers and the Internet, level of workplace support for training, potential effects on workplaces and preferences in delivery as well as gathering basic demographic data. The surveys also invited comment on personal reasons for being supportive or otherwise of e-learning as a delivery method.

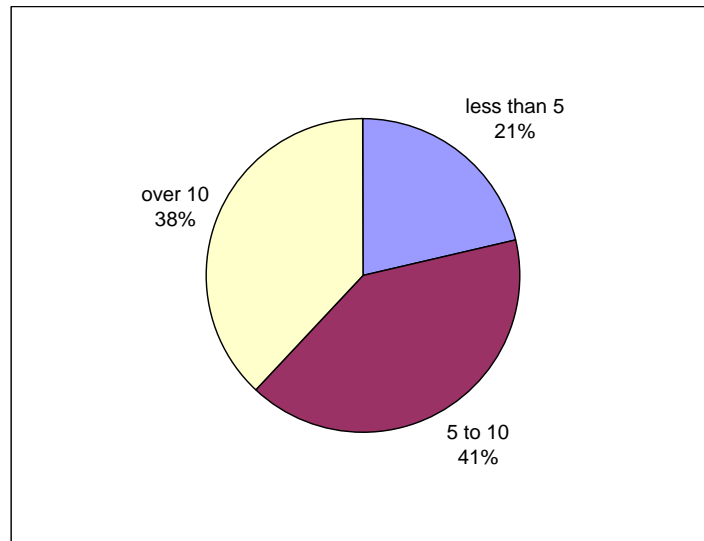
## Findings: Analysis of Pharmacist Data

### General and Demographic

A total of 1500 survey forms were distributed to a random sample of pharmacists across Australia (approximately one third of all members of The Pharmacy Guild of Australia) via fax stream. The Guild received 291 responses, giving a return rate of 19.4%. The raw data from the survey may be found in appendix 6.

The bulk of respondents were over 45 years of age (46.5%) with 38.7% between 30 and 45 and 14.8% under 30. The respondents were largely male at 68.9%. Most respondents work in pharmacies with 5 or more staff (actual, not full time equivalents) with 40.5% having 5 to 10 staff and 38.1% having more than 10. The balance i.e. 21.3% is in pharmacies with fewer than 5 staff.

**Figure 1: Responses by Pharmacy Size (in relation to Staffing)**



Only 55% of small businesses in Australia employ staff with an average level of 4.9 employees with 18% of small businesses employing more than 5 staff. In this sense the respondents represent the employing sector of small business, which is usually the main focus of training effort nationally.

The responses state by state are closely aligned with the membership base, although NSW appears to have a higher response rate in relation to the membership. This could be for a number of reasons: stronger member

involvement, a higher level of interest in training or a stronger tradition in replying to Guild surveys.

Breakdown of response rates by state are:

**Table 1: Pharmacist Responses by State**

State	Level of Response	
	Number of responses	% of responses
New South Wales & ACT	96	33.0
Victoria	50	17.2
Queensland	64	22
South Australia	24	8.2
Western Australia & NT	22	7.6
Tasmania	20	6.9

Of those responding, 55.84% were from postcode areas classed as Metropolitan and 44.16% from rural or regional centres. It should be noted that those from the Australian Capital Territory are included in NSW figures as metropolitan postcodes.

A high percentage (83.7%) has an Internet connection at the pharmacy with 74.8% of these being through dial-up. This is consistent with the ABS figures, which indicate that by the end of 2001 over 84% of businesses had computers and 69% had Internet access with a further 22% having a web presence. While only 46% of large businesses depended on dial-up connections, 88% of micro-businesses depended on them. (*8129.0 Business Use of Information Technology, Australia* Australian Bureau of Statistics 2003).

The level of connection was slightly higher among regional pharmacists responding at 90% while only 81% of metropolitan pharmacies were connected. In both instances, 75% of connections were dial-up with 25% being DSL in regional areas and 21% DSL in metropolitan centres with the balance being via cable or satellite. Larger pharmacies were more likely to have DSL or better connections with only 66.3% depending on dial-up.

Among the trainees surveyed, 84.5% reported an Internet connection at work, with 90.5% of those having a dial up connection. It is not clear whether this means that the trainee's pharmacies have a slightly different profile or that trainees do not know in some instances if there is an Internet connection in the pharmacy.

## Pharmacists' Experience of e-learning

Most respondents had no direct experience of e-learning (76.1%) with the small number who have, mostly rating it as positive or better (66.7%). The other third rated their experience with online learning as negative or extremely negative (23 or 33.3%) in total. This could be indicative of the age range of respondents ie it is more likely that younger people have had more exposure to e-learning.

## Workplace Support

Both pharmacists and trainees were asked about workplace support for training; pharmacists in terms of what they would be willing to provide and trainees in what they hoped or expected would be provided. The table below indicates the responses

**Table 2: Levels of Workplace Support**

Potential Workplace Support			
Type of Support	Pharmacists		Trainees
	Willing to provide support	Not willing to provide support	Expected level of support
Study Space	59.6%	40.4%	48%*
Internet Access	79.1%	20.9%	68.4%
Home release	38.8%	61.2%	46.85
Assist with difficulties	78.9%	21.1%	92.1%
Coaching	85.3%	14.7%	91.1%
Computer access (plus maybe after hours)	56.2% 24.7%	19.1%	48%*

\*Trainees were asked whether they expected a study space and computer access as a single question.

Interestingly on most points, pharmacists indicated a greater willingness to provide assistance than was expected by trainees. The exception was the matter of release to undertake study at home during work hours.

Pharmacists were asked to indicate the degree of computer access they would be willing to provide. Of the 172 who responded, 55.8% said they would provide up to three hours of computer access per week in the workplace. One in four (25%) would grant up to 2 hours, 8.7% noted they would provide up to 10 hours per week and 4.1% would provide more. One respondent was willing to provide unlimited access.

In all instances, pharmacies with more than 10 employees were more willing to provide workplace assistance than small pharmacies. For example, 67.6% of those from larger pharmacies were willing to provide a study space compared with 51.8% of small pharmacies. There is only a fractional difference in relation to home release (39.3% in small compared to 40.4% in large), coaching (81.8% compared to 89.7%) and other assistance (78.6% in small and 80.2% in large). The most significant difference was in relation to computer access: 62.4% in large pharmacies and 49.2% in small. These differences reflect the effective availability in time and general resources that are generated in larger units of any size.

This indicates in general terms overall support by employers for the 'notion' of e-learning, however, with qualifiers, as stated below.

## Reactions to e-learning as a potential learning option

The support for e-learning as a potential training approach for staff was overwhelmingly supported with a 68.8% positive response, almost the same as for trainees. Equally important 31.2% indicated they would not opt for e-

learning. There were 25 who did not respond to the question at all. Only 6 respondents provided comments and these were evenly spread with some supporting face to face or some combination that suits the individual. Overall support for e-learning as a method was slightly higher in regional centres at 72% compared with 68% in metropolitan centres. The level of support was consistent across workplaces with 69% of small workplaces supportive, those with 5-10 employees being 66% in support and larger workplaces showing 72% support.

These statistics indicate that 31.2% of employers would not opt for e-learning; therefore alternative delivery methods would still need to be offered. This is consistent with the current thinking about a blended model for e-learning. Issues of access and equity are embedded in this notion of blended learning. With a third of employers resisting e-learning, training providers intending to implement a full e-learning model as a viable option for small business employers, will need to think carefully and should perhaps look more closely at a blended model.

Very few pharmacists view on-line learning as the best method of training with only 3.8% opting for purely on-line delivery. Over one third (36.8%) prefer face-to-face training in-centre. Only 8.3% see self-paced distance learning using workbooks as the best method. The majority at 51.0% see some combination of methods as the best course to pursue. In these responses there are some minor differences between regional and metropolitan respondents. Metropolitan respondents were slightly more likely to support e-learning as a sole option (5% compared to 3.8%), more likely to prefer face-to-face delivery (40% compared to 31%), less likely to support distance methods (7% compared to 9%). A combination of approaches was highly favoured by all, with regional respondents more clearly supportive (56% compared to 49%).

**Table 3: Pharmacists Preferences in Delivery**

Delivery mode	Pharmacist Responses		
	Overall%	Metro%	Regional%
Solely on-line	3.8	5.0	3.8
Face-to-face	36.8	40.0	31.0
Distance learning	8.3	7.0	9.0
Combination	51.0	49.0	56.0

Generally speaking pharmacy training in regional areas is less likely to involve face-to-face delivery and is currently more dependent on distance learning using self-paced workbooks.

It should be noted that in many rural and remote areas, face-to-face training is not a viable option, and that if distance education was not offered there would be many pharmacy assistants who would not be able to access training at all. E-learning can provide the Guild with a chance to value-add to what is already in place. Again these statistics support the notion of a blended model for the future.

Many pharmacists see strong positives in an e-learning approach, seeing it as potentially providing better communication with the training provider (62.8%), better learning experiences (69.0%) and likely to improve interaction between

trainees and trainers (58.3%). However it was noted by 55.5% of respondents that e-learning could be too intrusive in daily work with 27.6% strongly agreeing with the proposition, while 44.5% believed that this would not be the case.

**Table 4: Pharmacists Perceptions of Impact**

Proposition	Level of Disagreement		Total	Level of Agreement		Total
	Strong Disagree	Disagree		Agree	Strong Agree	
Requires pharmacy assistants to learn new skills not relevant to my business	21.2%	48.4%	69.6%	20.8%	9.5%	30.3%
Will demand too high a financial outlay for pharmacies	15.5%	49.8%	65.3%	27.9%	6.7%	34.6%
Demands too much time, space and extra resources	11.3%	40.5%	51.8%	27.5%	20.8%	48.3%
Could improve interaction between trainees and trainers	8.8%	32.9%	41.7%	45.9%	12.4%	58.3%
Will be too intrusive in daily work	7.4%	37.1%	44.5%	27.9%	27.6%	55.5%
Could provide better communication with training provider	7.1%	30.1%	37.2%	50.0%	12.8%	62.8%
Could provide better learning experiences	6.3%	24.6%	30.9%	54.2%	14.8%	69.0%

The survey also explored a number of potential negative features of an e-learning approach including the requirement for new skills, cost and general resources. Only 30% of the pharmacists surveyed agreed with the proposition that staff would have to learn new skills not relevant to the business, and 34.6% agreed that e-learning would require too high a financial outlay. In relation to the proposal that e-learning may demand too much time, space and additional resources, attitudes were fairly evenly split with 51.8% disagreeing and 48.3% agreeing.

It is encouraging for the Guild that overall, pharmacists surveyed value training and feel that e-learning could improve interaction and communication with their training providers, and provide a better learning experience. The issues relating to time, space, resources and intrusiveness will need to be addressed in the overall training strategy.

These issues are common to small business owners. Allowing a staff member time out to complete their training is not always possible or practical, particularly where they do not have a separate 'study area' out of view of the customers. If staff, and particularly trainees who are learning on-the-job, require study time, a workable solution needs to be found.

The Guild has several issues to address from these findings:

- Explore a blended model of e-learning and paper-based methods
- Maintain, and possibly expand in-centre training (face to face)
- Ensure that training does not interfere with daily work
- Research time, space and resourcing issues in workplaces

## Focus Groups and Interviews

One focus group and 28 individual interviews were conducted with pharmacists in both regional and metropolitan areas of Australia to further explore questions posed in the formal written survey and to question them more thoroughly on their attitude to e-learning.

Initially sessions focussed on exploring impressions of e-learning with the standard impression being a static website accessed using a username and password. Users would then download documents and complete assignments that could be either posted or emailed to the RTO.

Participants were then asked whether they considered online chat and web cam technology to be appropriate learning tools. The overwhelming response was positive; they would be appropriate but concerns were expressed about the interruptions to pharmacy routine and use of the Internet, and these would need to be addressed. In addition, employers were concerned about the overall supervision and wanted a reasonably structured approach with both workplace and online facilitation/supervision. Many requested some form of on-line activity report to verify trainee involvement both inside and outside the workplace.

All interviewees had the hardware to support e-learning but not all had the physical space for trainees to use a computer for longer than a short time, as computers tended to be in high traffic areas; usually in or close to the dispensary. In cases where there was more than one computer, the second often acted as a server. Pharmacists were prepared to obtain the hardware if it was a requirement for the traineeship; encouraging in itself. This may not be the case across small business generally.

Where employers thought it might be difficult to allow access to a terminal during the day for a trainee, all but one said that if the trainee had the necessary technology at home, they would support the trainee going home to study. One noted that their decision would have to be on a case-by-case basis.

Many indicated that while dependent on dial-up connections currently, they would be moving to broadband connections (usually DSL) in the next two years.

Employers were also asked what appealed and what didn't appeal to them about e-learning. Aspects of e-learning which appealed were:

- moving with technology and therefore more modern
- saving on time
- access to better quality resources
- access to resources for all staff, not just trainees
- enable student to work from home and not be racing off to an RTO
- improved levels of computer literacy as a result of the experience
- opportunity for better structure and discipline in the training
- increased access to trainers and assessors
- increased opportunities for staff to move to higher levels

- good opportunity to challenge longer term staff and involve them in training, and
- flexibility of having the training available at any terminal and not having to leave the business.

Aspects which didn't appeal were:

- the logistics of setting the system up
- not as portable as a paper based system
- limited resources where there is more than one trainee
- potential difficulties with students studying at home
- ability of the pharmacy to provide additional hardware
- computer literacy of students may create initial problems
- time consuming with pharmacy resources
- possibility of distractions within the pharmacy if needing more immediate answers as a result of delivery method
- interruption of learning if immediate access to computer is needed by others
- no substitute for hands on learning, and
- can't replace interaction with other trainees.

## Findings: Analysis of the Trainee Data

### General and Demographic

A total of 1500 survey forms were distributed to trainees via the Pharmacy Guild and 196 were returned completed, giving a return rate of 13%.

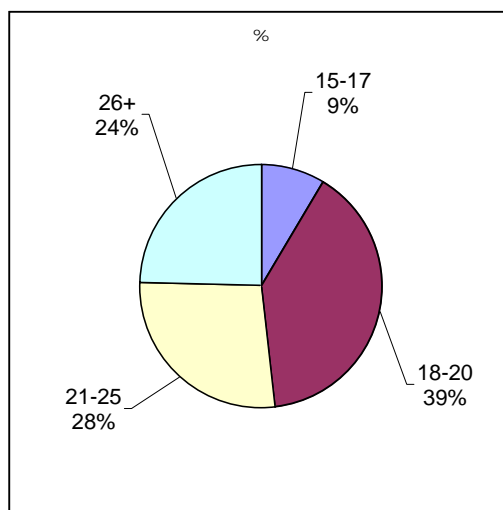
The table below shows the responses in the states, the distribution of responses is similar to that of the pharmacists' survey.

**Table 5: Trainee Responses by State**

State	Level of Response	
	Number of responses	% of responses
New South Wales & ACT	65	33.70
Victoria	37	18.9
Queensland	41	21.4
South Australia	16	8.2
Western Australia & NT	23	11.7
Tasmania	15	7.7

The majority of respondents were female at 97.9%. The graph below shows the age range of respondents. The largest single group have worked in a pharmacy for between 2 and 4 years (48.0%), with 27.6% being in their second year of pharmacy work and 11.2% having worked for over 4 years. This sample included trainees from up to two years ago, which has inflated the years of work profile.

**Figure 2: Age Distribution of Trainees**



It should also be noted that the age profile of trainees is somewhat different from the case some years ago. While the largest group are between 18 and 20, a significant proportion is over 26 and it is probable that their expectations may be somewhat different to the school-leaver.

According to the ABS Labour Force Survey, the retail industry is the largest employer of teenagers, accounting for 49.5% of employment of those aged 15 to 19 years in Feb 2002. According to NCVET data, around two-thirds of commencements in 2000 were apprentices and trainees who live in a capital city, 26% in rural areas, and 1% in remote areas of Australia.

It should be noted that some states vary from the national findings, in terms of trainees in rural and remote or metropolitan areas:

**Queensland** - A majority of trainees are outside the metropolitan area.

**New South Wales** – 75% of trainees are outside the Sydney metropolitan area. 80% of students are doing Certificate II, with 20% doing Certificate III.

**Australian Capital Territory** – All trainees are from the metropolitan area. 45% of students are doing Certificate II with 50% doing Certificate III and 5% undertaking Certificate IV. The vast majority are under 25 years old.

**Victoria** – 45% of trainees are in the metropolitan zone and 55% in regional and rural areas. 70% are doing Certificate II, and 30% are undertaking Certificate III.

**Western Australia** - 21% of trainees are in regional and rural areas and 79% from the metropolitan area. This matches the distribution pattern of pharmacies in that state. 67% of students are doing Certificate II and 22% undertaking Cert III. 70% of their trainees are aged 18-20 years of age and 34 % have worked in pharmacy for 2-4 years.

**Tasmania** - 44% are from the Metro area, and 56% are from rural or regional Tasmania, and mainly doing Certificate III.

**South Australia** - 30% of trainees are from rural regions and 70% are from the metropolitan area.

Internet access is very high and therefore supportive of greater use of e-learning as a delivery strategy.

**Table 6: Trainee Internet Access**

Locality	Connection	
	Home	Dial-up
Overall	64.7	95.5
Metropolitan	73.0	94.0
Regional/rural	61.0	98.0

Of those without their own connection, 29 (56.9%) can access the Internet through a friend's house with 9.8% using Internet cafes, 19.8% using libraries, and 13.7% using connections at parents, neighbours, work, or a combination of these. Most of those without a connection therefore have some form of Internet access though whether this would be sufficient to support e-learning is unknown. The survey shows that 84.5% of trainees work in businesses with an Internet connection (90.5% dial up); it should be noted that only 68.4% expect that they would be allowed Internet access through the workplace and 48% believe they would have computer or study access through the workplace.

It is important to note that there are a high proportion of trainees likely to be

inconvenienced by a full e-learning model due to access issues. With only half of the respondents believing they would be able to study at the workplace, it is probable that a large number would be without any form of access. This issue needs to be addressed in the e-learning strategies. Even among those with Internet access, the dependence on dial-up access means only a relatively 'static' experience could be delivered until broadband networks are more widespread and inexpensive.

## Trainee Attitudes to e-learning

Most respondents have no direct experience of e-learning (92.3%) with a small number who have mostly rated it as positive or better (62.5%). The negative responses (6 or 37.6%) in total rated their experience as negative or extremely negative.

The lack of experience with e-learning could be a reflection on the use of computers in school systems: there is a focus on building basic skills and the use of computers in learning. It is only in specialised areas that computers become a primary tool in learning. This may change over time.

Notwithstanding that, most had clear impressions of what activities might be involved in e-learning.

**Table 7: Expected e-learning activities**

Activity	%
Reading text on screen	97.0%
Quick feedback on completed work and progress	97.0%
Doing tests and exercises on computers/Internet	94.0%
Easy access to a trainer/assessor	94.0%
Using exercises on CD-ROM	92.0%
Deadlines for submitting work	91.9%
Downloading documents	89.4%
Using e-mail	88.9%
Doing web searches for information	84.5%
Short movie clips	59.8%
Being part of a chat room	36.9%
Talking with others via web-cam	18.6%

These results demonstrate a high level of awareness of computer aided learning if not direct experience of e-learning. The more recent methods were least likely to be recognised while the responses in relation to chat rooms may well reflect pre-conceptions from personal experience and the media about the use of chat rooms and instant messaging on-line. Chat rooms are not necessarily linked to 'learning' in the views of more than half of our respondents. Web cams are not well recognised generally as an important new web technology and depend on high speed networks that most trainees do not have access to. They do however provide the greatest potential for ensuring the 'virtual' classroom incorporates social interaction for participants.

Eight respondents provide a more detailed comment and these varied from

pleas that final examinations are written (*“the test should be written and done in-pharmacy”*; *“Tests should still be sat with a supervisor present”*) to statements supportive of online learning as a method (*“It would be good”*) or on the other hand (*“You must remember not everyone likes computers or has one”*). Two noted their own lack of Internet access or unfamiliarity with computers. One noted that while not expecting movie clips or web cam they *“would be an added bonus”*.

## **Expectations of Workplace Support**

Most trainees felt confident of workplace support with 92.1% reporting they felt that their employer would help them with learning activities and on-the-job coaching assistance. Interestingly only 68.4% expected Internet access through the workplace, only 48% expected study space or a computer at work and 46.8% expected release time to work at home on-line. This has implications for the Guild’s training strategies, and for VET in terms of training plans/contracts for trainees and the on-the-job training component.

## **Patterns of Training**

The overwhelming majority (66%) undertake training through distance learning, one in 10 (11.5%) undertake face-to-face training and the balance (22.4% or one in five) experience a combination of distance and face-to-face learning. There were 28 trainees who did not respond to this question. Regional trainees were more likely to be undertaking distance learning (78% of regional trainees as opposed to 66% of metropolitan trainees), less likely to be engaged in face-to-face learning (only 14% of all trainees and 3% of all regional trainees) and less likely to be involved in combination learning (46% of all trainees but 19% of regional trainees). The profile of delivery modes is reflective of the Guild’s training system, where the majority of trainees undertake their training via distance education.

14.4% of trainees noted they did no training at home and a total of 54% do half their training or less at home. Just over 1 in 10 undertake all their training at home, one in 8 do 80% at home and a total of 46% do more than half their training at home. Out of the 209 surveyed, 28 did not give a response on this question. It seems that those in regional areas were more likely to do a higher percentage of their training at home.

The support for e-learning as a potential training approach was overwhelmingly supported with a 68.5% positive response. Equally important 31.5% indicated they would not opt for e-learning. The caveat used in the question “assuming that you have access to a computer and the Internet” should be noted as well as the fact that the question left it to respondents to consider whether this would be the sole option. There was no difference in the level of support between trainees in metropolitan and regional areas and the level of response was in line with the overall survey.

## **Reasons for supporting e-learning**

More than half of the respondents provided some comment on why they would select on-line learning. The positive responses were most often justified in

terms of speed, convenience, saving on postage and travel time, as well as quicker turn around with feedback and progression through units with over 90 mentioning some or all of these factors as important in their choices. Another significant group noted that as they type faster than they write, physical production of work would be quicker. The number who mentioned the reduction of paperwork was balanced by those who mentioned the need to keep copies or who preferred reading in hardcopy to reading on screen. Some mentioned electronic storage as more secure than trusting the mail. Specific comments included:

*"I wouldn't have to worry about trying to write neatly."*

*"It would make it a lot easier not having to travel probably less time consuming too."*

*"It would be a lot easier and it wouldn't take so long to receive assignments back."*

*"I am familiar with computers and Internet software. I would find this method convenient, easy to use, fast and effective."*

*"Because there would be no need for postage and it would save paper and photocopying."*

*"It would be more convenient and save time with not having to wait for assignments."*

*"I think it would be easier and better."*

*"The delivery of studies would be quicker, less/no fuss with postage, sending back of studies would be assured."*

*"It saves messy paperwork and postage on books. If something is needed in print it can be printed from the computer."*

*"Because I live in the country it would be easier to access assistance, giving a little more incentive to do the work."*

There was strong comment that the feedback from assessors in relation to completion of workbooks could be quicker or more efficient. There is a strong feeling that e-learning will ensure a quicker turnaround for both assessors and trainees.

## **Reasons for not choosing e-learning**

Forty-six trainees provided comment of their reasons for not supporting e-learning as an option. This group seemed equally divided into three groups: those who favour a face to face approach and the social interaction that comes with it; those who do not want to use computers and/or prefer paper-based approaches and those whose concerns are essentially practical. Specific responses included the following:

*"The only easy comfortable place to use the net is at home with all my resources. There we get hell slow connections and would take hours to download modules, and it would probably time-out before finish."*

*"Because I am not very computer literate in using the Internet."*

*"Internet would be faster".*

*"I'd prefer to have my work in front of me, if for any reason, something goes wrong."*

*"I prefer face to face training. I don't know much about computers."*

*"I am not confident with the use of the Internet as I do not own a computer."*

*"I don't like or am interested in computers much at all."*

*"I would rather do classroom training. I would get more work done."*

*"No, I find it easier to work through pen and paper, although typing my answers would be quicker and less time consuming."*

*"Using paper base is more convenient, don't have to rely on a computer."*

*"Looking at computer screens often cause me to have headaches."*

*"It takes extra time and is sometimes unreliable."*

*"The written method is more flexible for me at work."*

*"I like to receive hard copies of things so that I am 100% positive that all my work is safe and delivered where I want it."*

*"I prefer the face to face lessons as I absorb more from listening to someone. I'm also not very self-disciplined in doing work on my own. I am not up with all the Internet and computer systems and feel it would hold me back until I understand it."*

*"Too expensive with the hours needed to be used on net. Would cost money."*

*"Don't fully trust it yet, not completely trained on how to use the Internet. Sometimes takes a long time to find things."*

## **Trainee Focus Groups and Interviews**

### **Focus Groups**

In total, 65 students participated in focus group discussions about e-learning in three groups, one in Victoria and two in Brisbane. They were predominantly made up of young females between 18 and 22 and all were receiving face-to-face training for Certificate II.

Less than half had computers newer than 2 years old though 5 had a broadband connection and 5 had undertaken some e-learning with only 3 willing to do all their learning on-line.

In general, the responses were similar to those of the survey though less favourable towards e-learning than the overall survey group. Inevitably, their issues included misgivings related to a potential lack of interaction with other students, problems of motivation and limited contact with their assessor. More than half didn't like the idea of online learning with comments including:

- boring sitting in front of a computer
- need motivation and self discipline
- want feedback and understanding

- want cross-fertilisation of ideas and experiences
- would miss being addressed by sales representatives talking to the face-to-face groups to gain product knowledge
- fear the cost and inconvenience of having to print out resources at their own expense, and
- fear potential problems with technical issues especially downloading, service interruptions and back-up.

The positive aspects noted by some participants were that e-learning meant greater flexibility as study could be done at the time of their own choosing and would not require travel.

In relation to employer support, 4 students thought their employers would allow about 4 hrs per week. The rest of the group felt that their employers wouldn't value online as much as in-centre training.

### **Interviews**

Eight individual interviews were conducted with trainees predominantly in the Australian Capital Territory and northern Queensland. Interviews were structured with standard questions inviting open-ended comment in most instances. Interviews lasted between 15 and 25 minutes.

The initial focus was on exploring expectations as to what methods or tools would be part of an e-learning experience. Consistent with the paper survey, most identified such things as being on to the Internet and downloading information, Internet searches, email and use of CD-ROM materials and general use of the Internet in learning. One trainee was an experienced chat room user and was quite excited about the possibilities of on-line chat, web cam and other interactive tools. Most other trainees had not considered these additional mechanisms but on suggestion, most thought that they would be able to use them and they would be relevant to the traineeship. Very few of the trainees interviewed had had any experience with electronic learning: those that had, found the experience boring and repetitive.

Interviewees were given the opportunity to outline what they might find appealing about e-learning. Responses included having more immediate communication with their assessor and the RTO, and being able to work at home and at their own pace. Interestingly, they also identified the opportunity for social interaction as a potential positive. The concerns expressed related to the potential for interruptions while at work and on-line, having to use a boring site, a loss of interaction and no opportunity for group work. Server reliability and connection speed were general concerns.

All interviewees except one had a computer at home with Internet access and appeared happy to use it during work time, if given time off, and after work for their traineeship. Most trainees stated that they would prefer that the e-learning component was only a part of the overall delivery strategy. One trainee felt that depending on access and course design, she would like to do the whole course on-line.

## Responses from non completers

Twenty five trainees who did not complete their traineeship were contacted by phone to determine whether or not access to e-learning strategies would have altered the completion outcome of their traineeships.

Whilst the majority of them did not complete because their employment was terminated and they failed to find employment elsewhere in the community pharmacy sector, several interviewees felt that they would have been able to complete units if e-learning had been available.

Several who had terminated their traineeship through health or other unrelated employment reasons felt that they may have been able to continue and complete some of the assignment work from home.

Most of the interviewees had only completed 4-6 months of the traineeship prior to their termination and most had not commenced more than a couple of units.

Overall it appears that the reasons the vast majority of trainees don't complete their traineeship are not related to the delivery method of the RTO.

## Previous research

Peter Kearns, in his paper '*Are two worlds colliding?*' (2003) suggests that flexible delivery strategies have been promoted to small business, but the up-front costs continue to be a barrier with a low capacity of small business to meet these costs. Kearns also predicts an expansion of e-learning as part of a blended model incorporating other learning strategies such as face-to-face instruction and action learning, as is the case in America. Kearns goes further to suggest that developing these strategies in a cost-effective way in small business is a critical issue. The clear implication for the Guild is therefore to provide e-learning in as economical a way as possible, so as not to preclude small business from this training option, and using a business-specific or tailored approach to delivery methods.

The ANTA discussion paper '*Your Future, Your Choice: Flexible learning futures*' (2003) identifies such barriers as:

*Entry costs of e-learning systems, and the need for significant behavioural change in the workplace to realise the return on investment* – for both providers and workplaces, the costs of the shift may be significant and certainly within workplaces the process of incorporating e-learning strategies could be protracted. In the initial stages at least the return on this investment may not be obvious.

*Content and access for all staff, and the technical complexity of e-learning solutions* – the feedback from trainees provides the Guild with a picture of the instructional design issues, and technology implications.

*Immaturity amongst training providers* – there are issues about training provider's capability to deliver e-learning, whether this is through partnerships or in their own right, and establishing and maintaining solid learning management systems, and a connection with e-business in general.

Daniell (2001), in her study of rural and remote learners identified barriers related to cost, availability of technology, relevance of courses to the needs of

the learner, computer literacy of the learner and availability of learner support, and includes the following points:

- availability and reliability of internet access
- learner perceptions regarding information technology and online learning
- learner prior experience with online learning
- extent to which courses meet learner expectations
- current level of information technology skills and experience (information technology literacy) of the learner
- literacy level of learners
- learning style of learners
- learner confidence
- availability of student support (formal and informal)
- availability of information technology training, and
- availability of literacy support

This research project concurs with those of Daniell, with very little difference between the rural and metropolitan areas.

In another study done by Daniell (2001), regarding access and equity issues, and focusing on isolated metropolitan learners, she identified three themes:

- Motivation and choice of online delivery
- Isolation and e-learning
- Learning styles and learning culture

Again, the findings of this project did not differ too greatly between rural and metropolitan students, with the identified issues above, being issues for trainees across the board.

Daniell puts forward several strategies for addressing these barriers, which include extending any existing community links and utilise existing equipment in schools, telecentres and other community organisations. This report suggests similar strategies in terms of encouraging partnerships, which would assist in the areas of school based new apprenticeships and further training outside of the school network.

Daniell also advocates longer term planning for upgrading telecommunications may also be useful in view of the rapid rate of development of information technology and the online economy. There is also the potential for further utilisation of existing satellite technology to provide internet access. This strategy is also supported by the National Access to Bandwidth for Connectivity Project (Dec 2002). The findings of this research indicates that trainees do have issues with reliability, speed and cost of internet access.

From other readings it appears that the effectiveness of online vocational education and training can be greatly enhanced and/or completely undermined by the level and type of support services provided. Learner training and support for those who lack information technology or literacy skills must initially be supplied in other ways than online in isolation. This type of support is often most effectively supplied through community organisations and in the early stages learners may need one-to-one support particularly if they lack confidence. Initially the current skill levels must be determined through some

form of initial assessment to determine the level of training and support required. The use of CDROM courseware and audio-teleconferencing in conjunction with online resources proves to be effective. The trainees involved in this project have certainly indicated the importance of learner support and the need for ready access to an assessor or trainer at any time.

Farrell (2001) talks about elements of successful e-learning, and include orientation sessions, mandatory induction sessions, weekly chat rooms, weekly email communication, forum items, threaded assessment and collaborative activities to assist with the breakdown of the isolation of students studying online. Our research findings indicate that the 'isolation' issue is one of the biggest barriers to overcome in e-learning, and that Farrell's suggestions should be incorporated in any e-learning model for delivery.

Overall, our research findings concur with other research in the area of e-learning, with the exception that surprisingly there is not a great deal of difference between the responses of trainees in rural or metropolitan areas.

## **Implications**

The findings of this research have clear implications for the development of any e-learning strategy by the Guild. There are many positive indicators for adopting an e-learning strategy such as the level of support for the notion amongst trainees and pharmacies, a high level of potential workplace support and a high level of Internet connection. These findings are however to be balanced against a range of barriers and concerns that has significant implications for the design and adoption of any e-learning strategy. These include issues of Internet access, previous experience, IT skills, preferences for a blended model of delivery and clearly expressed desires for a socially interactive experience. It will be crucial for any e-learning strategy to address these issues.

### **Internet access**

Access as a barrier is less significant than was initially thought but still quite important. While a large percentage of trainees may have Internet access, it cannot be guaranteed. Most pharmacies are connected however not all will be willing or able to provide Internet access to trainees. In all cases, the quality of the connection is predominantly dial-up limiting the options available in the design of e-learning tools at this stage. The extent of broadband access will be a crucial determining factor in determining the options especially video content and true interaction on-line. The number of trainees without current access would suggest that other flexible delivery options will be needed for access and equity reasons for some time to come.

### **Previous experience**

While many see the Internet as offering convenience and speed, there is little experience of the Internet as a formal learning tool. This means that any strategy needs to be carefully introduced and ensure that all participants are comfortable and are trained to make best use of the tools provided. Any introduction without such preparation could lead to disappointment and

frustration. Ongoing support in the use of the e-learning tools will be essential. Similarly it should be noted that while many pharmacies are connected, there is again little experience of e-learning, and any roll-out would need to involve educating pharmacists, as the primary workplace trainer/mentor, in the techniques and tools to be used.

## **IT Skills**

A significant percentage of trainees are not comfortable with computers, have poor typing skills or see paper-based technologies as more convenient (being portable) and flexible (not time dependent). There is clearly a wide variation in the level of IT skills and the introduction of more specialised skills beyond simple keyboard skills and general computer literacy would accentuate this variation. This issue would have to be addressed in the implementation of any e-learning model. While general computer literacy may be high, it cannot be presumed and it cannot be taken as ability to master complex tools without significant assistance. A number of trainees noted concerns about connection and other technical problems as being significant to them.

Many pharmacists do not see these skill needs as a barrier to participation with many seeing the increase in skill levels among staff as a bonus. However the concerns about time pressures should be noted. The skills needed by pharmacists could also be a factor especially if called upon to install and trouble shoot problems on a workplace computer being used in training. It cannot be taken as a given that all pharmacists would feel comfortable in this role and, while supportive of the notion, a high level of problems could lead to withdrawal.

## **Social interaction**

Most trainees see social interaction as an important part of the learning experience. Those already in face-to-face training fear that this would be diminished and significant numbers of those in distance learning see social interaction as one of the advantages of an e-learning strategy. A clear implication is that for those not supportive of e-learning, a real attempt would have to be made to deliver social interaction as part of any package or risk the emergence of completion problems or lower levels of satisfaction. This is less critical for those not currently having a high level of social interaction as part of their learning but is clearly expected as part of delivery through e-learning and care should be taken that they are not disappointed.

## **Contact with training providers (RTOs)**

Both trainees and pharmacists rate on-line access to trainers and assessors as important and a potential advantage of e-learning. This would be an important part of the service and naturally requires that RTO staff are trained and supported to provide the level of service expected. The feedback and reporting aspect of this is also very important.

Any system will have to be designed with the pharmacist in mind as they have clear expectations of a high level of interaction and communication with trainers and the RTO. To many, this is the real advantage of an e-learning approach

but would need to be meaningful and allow for detailed monitoring of trainee progress and possibly incorporate logs of trainee activity on-line.

In all cases, speed of feedback was identified as an important feature of any system for both trainees and pharmacists, with many seeing this as immediate or at the time of their choosing. This expectation will need to be explicitly addressed.

## **The Blended Model**

For both trainees and pharmacists there are clear preferences for alternative models, particularly a blended model of delivery; simply put they naturally want the best of all worlds. This requirement in service delivery and standard must be acknowledged and be incorporated into the suite of training products developed by the Guild. Certainly while there is little experience with on-line learning a significant number see it as boring and static. Most pharmacists do not like the idea of a purely on-line approach with 51% seeing a combination of methods as the best option (ie a blended model). Many like face-to-face delivery and hands-on approaches and elements of these should be incorporated into the overall e-learning strategy. There are natural differences arising from current delivery experience but there is one important common thread: both trainees and pharmacists want choice and a model of delivery that is multi-faceted, not based on mutually exclusive choices.

## **Workplace intrusion**

Cost and skill needs are not significant considerations for the majority of pharmacists but the capacity to intrude into work time and patterns is. Pharmacists seem equally split over the implications in terms of convenience, space and resource demands that could flow. Given the number of trainees who undertake most of their training in the workplace, this could well be a significant consideration. Design of new programs and delivery modes will need to take account of this and allow buy-in at a level that individual pharmacists are comfortable with. It should be noted that cost could become an issue (no pharmacist suggested a blank cheque would be offered) especially if the system adopted demands considerable time especially in installation, maintenance and staff training. The timing of activities would also have to accommodate workplace routines and pressures. These issues should be negotiated between the training provider, trainee and employer.

## **Design of e-learning tools**

The view of what methods might be used shows an expectation for a broad range of tools. Some (such as web cams and movie clips) were less popular than others but equally these are more dependent on high-speed access. Also it should be noted that any e-learning program should be multifaceted and provide options including those currently used. Chat rooms were not viewed as part of an e-learning framework, they also demand immediate levels of typing skill that trainees may not have.

Use of web-cam and internet based audio links could be very important in providing social interaction with and between trainees and would also help meet

the expectations of pharmacists for increased levels of quality of interaction with trainers and the RTO.

### **Motivation and maintaining interest**

Many trainees, whether or not they are supportive of e-learning as an option, see issues of motivation, discipline and maintaining interest as significant. Many in face-to-face situations find the natural structures of personal interaction with a trainer, assist in maintaining motivation and keeping to the disciplines of study. This is not restricted to this group by any means and these issues would need to be addressed as part of any system.

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## Appendices

Appendix 1: Survey for trainees

Appendix 2: Focus group questions for trainees

Appendix 3: Survey for pharmacists

Appendix 4: Interview questions for pharmacists

Appendix 5: Interview questions for non-completers

Appendix 6: Raw data

## Appendix 1: Trainee Survey

### The PHARMACY GUILD of AUSTRALIA

1. Have you undertaken any course with an on-line component or totally on-line?

*Yes*

*No*

2. If yes, how would you rate that experience on the scale below:

Most Negative

Most Positive

1

2

3

4

5

6

3. If you were told you were to do your training through e-learning or on-line learning, which of the following would you expect?

Doing tests and exercises on computers/internet	Yes	No
Downloading documents	Yes	No
Using email	Yes	No
Being part of a chat room	Yes	No
Talking with others via web-cam	Yes	No
Using exercises on CD-ROM	Yes	No
Reading text on a screen	Yes	No
Doing web searches for information	Yes	No
Easy access to a trainer/assessor	Yes	No
Deadlines for submitting work	Yes	No
Quick feedback on completed work and progress	Yes	No
Short movie clips	Yes	No

Other: (specify) \_\_\_\_\_

4. If e-learning was available, do you think your employer would:

Provide you with a study space and computer?	Yes	No
Give you internet access through the workplace?	Yes	No
Allow release time to do your study at home online?	Yes	No
Give you help with learning activities?	Yes	No

Coach you on-the-job to help with your training? Yes No

**Internet Connection**

**5. Do you have an internet connection at home?** Yes No

If yes, what type? Dial-up Modem DSL Cable/Satellite

**6. If not, do you have access elsewhere?**

friend's house  internet café  library  Other (specify

**7. Is there an internet connection at work?** Yes No

If yes, what type? Dial-up Modem DSL Cable/Satellite

**8. What percentage of your training do you do at home?** \_\_\_\_\_%

**9. How is your training delivered?**

Distance  Face to face (in-centre)  Both

**10. Assuming that you have access to a computer and the internet, and online learning is available, would you choose this delivery method?** Yes No

Please give your reason in the space provided. \_\_\_\_\_

**11. How long have you worked in a pharmacy?**

0-6 mths 6 mths- 1 yr 1yr- 2yrS 2yr- 4yrS 4yr+

**12. Age:** 15-17 18-20 21-25 26+

**13. Postcode:** **14. Gender** Male Female

*Your responses will be treated as confidential and will not be passed on to any third parties except when aggregated as part of total survey results. Thank you for your assistance.*

## **Appendix 2: Focus Group Questions For Trainees**

### **Introduction:**

The aim of this research project is to explore issues in combining on-line and work-based learning, and identify the barriers for small business owners in embracing on-line learning for their premises.

Focus questions for students in group discussions:

### **What is e-learning to you?**

*(Tease out perceptions of what e-learning means, and the implications of those perceptions ie the perceived barriers may be linked from that discussion)*

### **What experiences have you had with e-learning?**

*Explore the good and the bad*

*What made it 'good' or 'bad'*

### **What appeals to you about e-learning?**

### **What does not appeal to you about e-learning?**

### **Facilitator to explain a bit about on-line learning...options etc**

*Would this type of learning appeal to trainees (forgetting about computer access for the moment)*

*Why, why not*

*What would be the necessary ingredients for this to appeal?*

### **Have you got a computer in your workplace?**

*Who uses it? What for?*

*Could you use it for training?*

*Would your employer allow you to use it for on-line learning?*

### **Have you got a computer at home?**

*How many do/do not?*

*What type of computer (specs such as Pentium 4...memory, RAM)*

*How many have broadband?*

*How many would like the option of doing some training at home?*

***If you had a choice, would you prefer all on-line, part on-line, or none on-line?***

## Appendix 3: Pharmacist Survey

### The PHARMACY GUILD of AUSTRALIA

#### Survey of pharmacists

Seeking your views about online learning

**1. Have you undertaken any course with an online component or totally on-line?**

Yes No

**2. If yes, how would you rate that experience on the scale below:**

Most Negative

Most Positive

1

2

3

4

5

6

**3. Based on your current understanding of e-learning, would you support it as a method of training your staff?**

Yes No

**4. When thinking about e-learning or on-line learning in your pharmacy, provide a response to the following statements where 1 means you strongly disagree and 4 that you strongly agree:**

Strongly disagree

Strongly agree

#### E-Learning:

will demand too high a financial outlay for pharmacies.	1	2	3	4
could improve interaction between trainees and trainers.	1	2	3	4
could provide better communication with training provider.	1	2	3	4
requires pharmacy assistants to learn new skills not central to running the business.	1	2	3	4
could provide a better learning experience.	1	2	3	4
demands too much time, space and extra resources.	1	2	3	4
will be too intrusive in daily work.	1	2	3	4

#### 5. Computer hardware

Is there an internet connection at work?

Yes

No

If yes, what type?

Dial-up Modem

DSL

Cable/Satellite

**6. Would it be possible for your trainee/s (pharmacy assistants) to be able to access a computer in the workplace for training purposes:**

- No, not at all
- Maybe, outside work hours
  - Yes, probably, for \_\_\_\_\_(specify) hours per week

**7. If e-learning was available for staff, which of the following could you provide in the workplace?**

A study space for trainees	Yes	No
Access to a Computer with internet access	Yes	No
Release time for trainees to work from home	Yes	No
Assistance to trainees with training difficulties	Yes	No
Coaching for trainees on the job	Yes	No

*8. In your view, which is the best method of training staff:*

- Online
- Face to face training (in centre)
- Distance education (self paced workbooks)
- Combination of the above
- Other (specify)

*9. How large is your pharmacy (in terms of actual staff numbers whether casual, part-time or full-time)*

- less than 5 staff
- 5- 10 staff
- more than 10 staff

**Personal Details:**

10. Age:                      Less than 30                      30-45                      45+

11. Postcode:                      \_\_\_\_\_ 12. Gender:                      Male                      Female

## Appendix 4: Interview Questions For Pharmacists

What is your impression of what online learning is?

Give a bit of a description of options/possibilities and then ask if they would support/encourage online learning

Doing tests and exercises on computers/internet	Yes	No
Downloading documents	Yes	No
Using email	Yes	No
Being part of a chat room	Yes	No
Talking with others via web-cam	Yes	No
Using exercises on CD-ROM	Yes	No
Reading text on a screen	Yes	No
Doing web searches for information	Yes	No
Easy access to a trainer/assessor	Yes	No
Deadlines for submitting work	Yes	No
Quick feedback on completed work and progress	Yes	No
Short movie clips	Yes	No

Do you have the hardware to support online learning, if not, would they obtain it.

Is there a local place at which computer access would be appropriate?

**Prompt** Time Available/Busy times/other uses.

What appeals/doesn't appeal to you about e learning?

Would you support online learning for your pharmacists and/or pharmacy assistants - is there a difference in your eyes? Why, why not?

What are the barriers for the Guild in implementing an e-learning component to community pharmacy traineeships?

## **Appendix 5: Questions for non-completers**

- A. How long were you doing your traineeship for:
- B. Why didn't you finish your traineeship?
1. Family reasons
  2. Didn't like the training
  3. Didn't like the work
  4. Didn't get the support I needed from my employer/supervisor
  5. Didn't get the support I needed from my assessor
  6. Found another job
  7. Moved
  8. Illness
  9. Other
  10. Dismissed
- C. If online opportunities were available, do you think you would have completed the traineeship? Yes / No
- D. How old are you?

## Appendix 6: Raw Survey Data

### Trainee Survey

Have you undertaken any course with an on-line component?

	Number	Percent
Yes	16	7.7 %
No	193	92.3 %
Total	209	100.0 %

How would you rate that experience?

	Number	Percent
Extremely negative	3	18.8 %
Very negative	0	0.0 %
Negative	3	18.8 %
Positive	2	12.5 %
Very positive	6	37.5 %
Extremely positive	2	12.5 %
Total	16	100.0 %

If you were told you were to do your training through e-learning or on-line learning, which of the following would you expect?

	Yes	No	Total
	195	6	201
Reading text on screen	97.0%	3.0%	100.0%
Quick feedback on completed work and progress	195	6	201
	97.0%	3.0%	100.0%
Doing tests and exercises on computers/Internet	188	12	200
	94.0%	6.0%	100.0%
Easy access to a trainer/assessor	187	12	199
	94.0%	6.0%	100.0%
Using exercises on CD-ROM	184	16	200
	92.0%	8.0%	100.0%
Deadlines for submitting work	182	16	198
	91.9%	8.1%	100.0%
Downloading documents	177	21	198
	89.4%	10.6%	100.0%
Using e-mail	177	22	199
	88.9%	11.1%	100.0%
Doing web searches for information	163	30	193
	84.5%	15.5%	100.0%
Short movie clips	113	76	189
	59.8%	40.2%	100.0%
Being part of a chat room	69	118	187
	36.9%	63.1%	100.0%
Talking with others via web-cam	34	149	183
	18.6%	81.4%	100.0%

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	Yes	No	Total
<b>If on line learning was available do you think your employer would give you help with learning activities?</b>	186	16	202
	92.1%	7.9%	100.0%
<b>If on line learning was available do you think your employer would coach you on-the-job to help with your training?</b>	184	18	202
	91.1%	8.9%	100.0%
<b>If on line learning was available do you think your employer would give you Internet access through the workplace?</b>	134	62	196
	68.4%	31.6%	100.0%
<b>If on line learning was available do you think your employer would provide you with a study space and computer?</b>	94	102	196
	48.0%	52.0%	100.0%
<b>If on line learning was available do you think your employer would allow release time to do your study at home on line?</b>	89	101	190
	46.8%	53.2%	100.0%

<b>Do you have an Internet connection at home?</b>	Number	Percent
Yes	134	64.7 %
No	73	35.3 %
Total	207	100.0 %

<b>If yes, what type?</b>	Number	Percent
Dial up modem	127	95.5 %
DSL	4	3.0 %
Cable/Satellite	2	1.5 %
Total	133	100.0 %

<b>If not, do you have Internet access elsewhere?</b>	Number	Percent
Friend's house	29	56.9 %
Internet cafe	5	9.8 %
Library	10	19.6 %
other	7	13.7 %
Total	51	100.0 %

<b>Is there an Internet connection at work?</b>	Number	Percent
Yes	163	84.5 %
No	30	15.5 %
Total	193	100.0 %

**If yes, what type of Internet connection is there at work?**

	Number	Percent
Dial-up modem	120	90.9 %
DSL	8	6.1 %
Cable/Satellite	4	3.0 %
Total	132	100.0 %

**What percentage of training do you do at home?**

	Number	Percent
0%	26	14.4 %
5%	6	3.3 %
10%	14	7.7 %
15%	3	1.7 %
20%	13	7.2 %
25%	2	1.1 %
30%	5	2.8 %
35%	0	0.0 %
40%	7	3.9 %
45%	0	0.0 %
50%	22	12.2 %
55%	0	0.0 %
60%	5	2.8 %
65%	0	0.0 %
70%	8	4.4 %
75%	5	2.8 %
80%	22	12.2 %
85%	3	1.7 %
90%	12	6.6 %
95%	9	5.0 %
100%	19	10.5 %
Total	181	100.0 %

**How is your training delivered?**

	Number	Percent
Distance	121	66.1 %
Face-to face (in centre)	21	11.5 %
Combination of both	41	22.4 %
Total	183	100.0 %

**Assuming that you have access to a computer and the Internet, and on line learning is available, would you choose this delivery method?**

	Number	Percent
Yes	126	68.5 %
No	58	31.5 %
Total	184	100.0 %

<b>How long have you worked in a pharmacy?</b>	<b>Number</b>	<b>Percent</b>
0-6 months	10	5.1 %
6 months up to 1 year	16	8.2 %
1 year up to 2 years	54	27.6 %
2 years up to 4 years	94	48.0 %
4 years +	22	11.2 %
<b>Total</b>	<b>196</b>	<b>100.0 %</b>

<b>What age group do you belong to?</b>	<b>Number</b>	<b>Percent</b>
15-17	17	8.7 %
18-20	77	39.3 %
21-25	54	27.6 %
26+	48	24.5 %
<b>Total</b>	<b>196</b>	<b>100.0 %</b>

<b>What gender are you?</b>	<b>Number</b>	<b>Percent</b>
Male	4	2.1 %
Female	191	97.9 %
<b>Total</b>	<b>195</b>	<b>100.0 %</b>

<b>What is your post code?</b>	<b>Number</b>	<b>Percent</b>
NSW	66	33.7 %
VIC	37	18.9 %
QLD	42	21.4 %
SA	13	6.6 %
WA	23	11.7 %
TAS	15	7.7 %
<< other >>	0	0.0 %

## Pharmacist Data

### Have you undertaken any course with an on line component?

	Number	Percent
Yes	69	23.9 %
No	220	76.1 %
Total	289	100.0 %

### How would you rate that experience?

	Number	Percent
Extremely negative	2	2.9 %
very negative	8	11.6 %
Negative	13	18.8 %
Positive	30	43.5 %
Very positive	8	11.6 %
Extremely positive	8	11.6 %
Total	69	100.0 %

### Based on your current understanding of on line learning, would you support it as a method of training for your staff?

	Number	Percent
Yes	183	68.8 %
No	83	31.2 %
Total	266	100.0 %

	Strongly disagree	Disagree	Agree	Strongly Agree	Total
Requires pharmacy assistants to learn new skills not relevant to my business	60 21.2%	137 48.4%	59 20.8%	27 9.5%	283 100.0%
Will demand too high a financial outlay for pharmacies	44 15.5%	141 49.8%	79 27.9%	19 6.7%	283 100.0%
Demands too much time, space and extra resources	32 11.3%	115 40.5%	78 27.5%	59 20.8%	284 100.0%
Could improve interaction between Trainees and trainers	25 8.8%	93 32.9%	130 45.9%	35 12.4%	283 100.0%
Will be too intrusive in daily work	21 7.4%	105 37.1%	79 27.9%	78 27.6%	283 100.0%
Could provide better communication with training provider	20 7.1%	85 30.1%	141 50.0%	36 12.8%	282 100.0%
Could provide better learning experiences	18 6.3%	70 24.6%	154 54.2%	42 14.8%	284 100.0%

### Is there an Internet connection at your pharmacy?

	Number	Percent
Yes	242	83.7 %
No	47	16.3 %
Total	289	100.0 %

### If yes, what type of connection do you have?

	Number	Percent
Dial-up modem	178	74.8 %

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DSL	55	23.1 %
Cable/Satellite	5	2.1 %
Total	238	100.0 %

**Would it be possible for your trainee/s to be able to access a computer in the workplace for training purposes?**

	Number	Percent
No, not at all	54	19.1 %
Maybe, outside work hours	70	24.7 %
Yes	159	56.2 %
Total	283	100.0 %

**Trainee/s could access computer for x hours**

per week	Number	Percent
1	31	18.0 %
2	43	25.0 %
3	22	12.8 %
4	14	8.1 %
5	12	7.0 %
6	15	8.7 %
7	4	2.3 %
8	6	3.5 %
9	2	1.2 %
10	15	8.7 %
Greater than 10	7	4.1 %
<< other >>	1	0.6 %
Total	172	100.0 %

**A study space for trainees**

	Number	Percent
Yes	161	59.6 %
No	109	40.4 %
Total	270	100.0 %

**Access to a computer with Internet access**

	Number	Percent
Yes	220	79.1 %
No	58	20.9 %
Total	278	100.0 %

**Release time for trainees to work from home**

	Number	Percent
Yes	104	38.8 %
No	164	61.2 %
Total	268	100.0 %

**Assistance to trainees with training difficulties**

	Number	Percent
Yes	213	78.9 %
No	57	21.1 %

Barriers to elearning in the Community Pharmacy Sector

Total	270	100.0 %
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**Coaching for trainees on the job**

	Number	Percent
Yes	232	85.3 %
No	40	14.7 %
Total	272	100.0 %

**In your view, which is the best method of training**

staff?	Number	Percent
Online	11	3.8 %
Face to face training (in centre)	106	36.8 %
Distance education (self paced workbooks)	24	8.3 %
Combination of the above	147	51.0 %
other	0	0.0 %
Total	288	100.0 %

**How large is your pharmacy (in terms of actual staff numbers)?**

	Number	Percent
Less than 5 staff	62	21.3 %
5-10 staff	118	40.5 %
More than 10 staff	111	38.1 %
Total	291	100.0 %

**What age group do you belong to?**

	Number	Percent
Less than 30	42	14.8 %
30-45	110	38.7 %
45+	132	46.5 %
Total	284	100.0 %

**What is your post code?**

	Number	Percent
NSW	96	33.0 %
VIC	50	17.2 %
QLD	64	22.0 %
SA	24	8.2 %
WA	22	7.6 %
TAS	20	6.9 %
<< other >>	0	0.0 %
Total	276	94.8 %

**What gender are you?**

	Number	Percent
Male	195	68.9 %
Female	88	31.1 %
Total	283	100.0 %

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