Technical Staff in Schools, staffing and conditions

Appendix B

The Survey:

1) Which sector of the education system are you employed in:

2) Which salary category does your position fall under in the above system? (e.g. SSO1-2 in DET)

3) Do you receive any other allowances on top of your base salary for extra duties performed in your position? (such as a first aid allowance)

4) The following table is a summary of the typical working cycle in terms of the total science teaching load for your school26

5) What is the total number of technician hours per week employed by your school? (For this exercise, we have defined 1.0 FTE (full time) as 38 hours per week)[i.e. 2 F/T Lab techs = 2 x 38hrs = 76hrs]

7) If No, what number of technician hours would you consider adequate?

8) Please indicate if any of the following apply to you (please tick):

9) Please indicate who is responsible for writing/updating risk assessments in your school.

10) Are your science rooms/prep areas/chemical store widely dispersed or on more than one floor of a multi-story building? Yes/No

11) Are you required to provide induction for new staff/student teachers? Yes/No

12) Are you required to provide any of the following additional services outside the LTB-STAV laboratory technician role descriptions ?

13) Are you required to regularly design and/or trial new experiments? Yes/No

14) Are you required to attend and assist in science classes where practical activities are taking place? Yes/No

15) What is the maximum relevant qualification you have attained?

16) How many years experience do you have working in a school laboratory?

17) How many years experience do you have in any other relevant laboratory/industry?

18) How many hours of professional development did you complete in the previous calendar year? (count each full day as 8 hours)

19) What form(s) did the professional development take?

20) Does your employer provide study leave or other support for your professional development? (please list)

Appendix B

Analysis of the 2006 LTB-STAV Laboratory Technician Survey

Overview:

The 2006 LTB-STAV Laboratory Technician Survey was conducted in the first quarter of 2007. The survey form was sent out in the LTB-STAV Publication Lab Lines[1], December 2006 edition, and posted on the Science Victoria Web Site (Laboratory Technicians page) where it could be downloaded.
Unlike the most recent previous attempts to collect data, this most recent survey had a good level of response, with 249 surveys collected. Most questions were answered to a meaningful level, and good data was able to be collected. Where there were problems with the question, either in the understanding of the respondent or technical errors, the data was discarded unless otherwise noted. These cases will be noted with the detailed breakdown listed below.
The questions in the survey related to several different factors which we were investigating, which can be broken down into several broad categories. The questions can be grouped according to:

Q1-3: School type, employment category and salaried extras

Q4-14: Conditions

Q15-17: Experience and qualifications

Q18-20: Professional Development

The Survey:

Responses to the survey, including some limited data correlation where appropriate. Original questions from the survey are underlined. Figures in bold represent responses to the survey. Comments are in Italics.

1) Which sector of the education system are you employed in:

a) Government Primary/Secondary School (DE&T)	**141**[2]
b) Catholic Primary/Secondary School (CEO)	**55**
c) Independent Primary/Secondary School (RSB)	**52**
d) University/TAFE	**1**
e) Other (please list)	**0**

There did not appear to be any problems with this question. The questions in the survey showed an obvious bias to secondary school positions, so there was no real surprise at the lack of non-secondary school responses.

[1] Lab Lines is sent out to all registered members of LTB-STAV, comprising Laboratory Technicians in educational institutions in Victoria and interstate, at primary, secondary and tertiary levels.

[2] There was one interstate respondent. This person's data was included where relevant, and discarded where inconsistent with laboratory conditions in Victoria as analysed.

2) Which salary category does your position fall under in the above system?
(e.g. SSO1-2 in DET)

a) DE&T

- **i) SSO1-1 = 31**
- **ii) SSO1-2 = 82**
- **iii) SSO2-3 = 20**
- **iv) SSO>2-3 = 3**
- **v) Undefined = 5**

b) CEO

- **i) Undefined = 5**
- **ii) SSO1 = 1**
- **iii) SSO2 = 3**
- **iv) SSO3 = 7**
- **v) SSO4 = 24 (commonly 4-13 = 17)**
- **vi) SSO5 = 12 (commonly 5-16 = 7)**
- **vii) SSO6 = 3**

c) RSB[3]

- **i) SAB/G2 = 2**
- **ii) SAB/G3 = 14**
- **iii) SAB/G4 = 2**
- **iv) SSO3 =1**[4]
- **v) SSO4 =2**
- **vi) SSO5 =1**
- **vii) Undefined = 30**[5]

Several factors could be determined in failing to answer this question effectively, and therefore recording an" undefined" response. These were:

- *Not knowing which category the position fell into.*
- *Not being willing to answer the question at all (fears of an invasion of privacy).*
- *Confusion over which category the position fell.*
- *Not falling into a category (individual contract or uncategorised position).*
- *Partial completion of the question (unknown sub-level).*

[3] There are a number of unusual categories unlisted here due to single instances occurring. These were categorised as "undefined" for purposes of this analysis.

[4] There appears to be an overlap where a catholic school is also an independent school and therefore pays according to the CEO wage scale.

[5] The unusually high level of the "undefined" salary category can also be blamed on individual contracts being used in Independent [RSB] schools.

3) Do you receive any other allowances on top of your base salary for extra duties performed in your position? (such as a first aid allowance) (please list)

There were not many technicians who received additional allowances on top of their award. Where allowances were received, they were typically for duties listed in later areas of the survey (Testing and Tagging, First Aid etc.).
One interesting factor emerged: Where schools had problems with merit and equity considerations of lab technician duties i.e. where the school was not willing to promote a technician but would have had to limit the technicians duties to align with the award, many schools decided to pay an allowance for extra duties beyond those listed for the award but below the next award level (i.e. no promotion to SSO2-3, but an allowance paid on top of SSO1-2 to do some additional duties that didn't equate to the full descriptive level for an SSO2-3)

4) The following table is a summary of the typical working cycle in terms of the total science teaching load for your school.

The length of a session/period at your school is: _____
(i.e. 1 period = 50 mins)

The number of days in a cycle at your school is: _____
(i.e. 1 cycle = 5 days)

The student population of your school is: _____
[table]

Minimum = 6, Maximum = 269.17, Average = 99.9
The wide variety of conditions and loads makes summarising the raw data from this question in isolation meaningless. With that in mind, a method of analysing this data was sought after, and the method developed by ASE[6] in the UK was decided on as our preferred method of data analysis.[7]
This question proved to be the most problematical of the survey. In all, ~80% answered this question in the expected way, with a further ~10% able to be inferred from the provided data. This ~10% can be categorised as answering the question correctly but in a way inconsistent with the original intent, showing the ambiguity in the question, but still forming valid data. For the ~10% unable to complete the question to a level understandable by the person doing the data entry, the following sources of error were encountered:

- *Missing data (~8%) – table either incompletely filled in, or not filled in at all.*
- *Confusing data (~1%) – where the data seemed to be inconsistent or nonsensical.*
- *Undifferentiated data (~1%) – where data was collected over a number of year levels or subjects and it was impossible to ascertain with certainty how many periods each class attended.*

Where the data was confusing it was discarded and ignored. Where the data was undifferentiated, it was either treated statistically to ascertain true values, was averaged where there was more than one interpretation available for the undifferentiated data, or it was used intact where neither of the other options gave a statistically relevant answer. Undifferentiated data was still useful in determining service factor, the primary use of this data.

[6] "Technical Support for School Science, ASE, 1990, ISBN 0863571425"
[7] See Appendix D for full information on the Service Factor.

5) What is the total number of technician hours per week employed by your school? (For this exercise, we have defined 1.0 FTE (full time) as 38 hours per week)[i.e. 2 F/T Lab techs = 2 x 38hrs = 76hrs]

Minimum = 0 (6), Maximum = 316, Average = 43.55

This question was answered satisfactorily in 99% of the cases. There was some data interpolation required in some instances where FTE numbers were given rather than the number of hours, but all these were able to be interpreted correctly.

6) In your opinion, are the technical support needs of your school met by this number of technician hours (please circle)? Yes/No

YES = 66%, NO= 34%
The question posed no problems. Where technical issues were encountered (see Q10 for more detail), the answer to Q7 was used as a sanity check.

7) If No, what number of technician hours would you consider adequate?

Minimum = 5, Maximum = 106.4, Average = 53.36
This question was answered with >95% confidence. With the exceptions to this, the problem encountered was that there was no estimate made, and a comment that was unable to be interpreted as a legitimate figure. In these cases, it was assumed that a 20% increase in line with the statistical average of the rest of the respondents was used. This occurred for less than 1% of respondents.

8) Please indicate if any of the following apply to you (please tick):
a) You don't have a dishwasher. 55
b) You keep any live animals/insects/fish/reptiles etc. 150
c) You keep any live plants/fungi. 147
d) You do not have a dedicated chemical store. 47

This question provided no problems for respondents.
The following are a list of combinations and the number of respondents that matched

a&b = 33	**b&d = 28**	**a,c&d = 12**
a&c = 29	**c&d = 28**	**b,c&d = 22**
a&d = 17	**a,b&c = 23**	**a,b,c&d = 10**
b&c = 109	**a,b&d = 11**	

There is a strong correlation between keeping plants and animals – if you keep one, chances are you keep both.

There was no statistical correlation able to be drawn between the answers to this question and the general job satisfaction levels drawn from Questions 4-7.

9) Please indicate who is responsible for writing/updating risk assessments in your school:

a) The laboratory assistant/technician/manager(s)	**117**
b) The science coordinator/science staff	**17**
c) Both technician(s) and science staff	**107**
d) Other (please list)	**8**

This question was problematical in that more than one answer could have been selected in answer to this question, depending on whether you considered the two categories of risk assessment (preparation and classroom) as one.
In order to gain statistically relevant answers, it was assumed that the two categories could be answered by using option C alone, rather than option A and C.
There were a statistically significant (~5%) number of respondents who indicated that legal compliance in this area was either partial or totally non-existent. The vast majority of these cases fell in categories b) and d).

10) Are your science rooms/prep areas/chemical store widely dispersed or on more than one floor of a multi-story building? Yes/No

YES = 42%, NO = 58%
There was no detected correlation between a "Yes" in this question and a "No" for question 6. (Total number = 17).
The only problem posed by this question was entirely technical in nature. Where respondents had used an electronic medium to respond to the survey, there was a technical glitch in some instances where a respondent had chosen to use an inserted picture object (a circle or oval) to circle there answer rather than differentiate their answer in another manner. Because picture objects are not anchored, the printed version of their survey response failed to distinguish an answer.
In all these cases (<5%), it was assumed that the answer was "Yes" where other confirmation could not be obtained.

11) Are you required to provide induction for new staff/student teachers? Yes/No

YES = 45%, NO = 55%
This item is not currently reflected in any list of duties for technicians at LTB-STAV, STAV or DE&T levels. Clearly this is something that needs to be considered in any modification of position descriptions. This is appears to be something that is needed in schools for technicians to be providing this service at such a high level of occurrence.
This question provided the same technical problems as Q10.

12) Are you required to provide any of the following additional services outside the LTB-STAV laboratory technician role descriptions:

a) Testing and tagging of electrical equipment	**21**
b) Driving the school bus	**20**
c) First aid/nursing duties	**58**
d) OH&S Committee	**89**
e) Budget Management	**122**[8]
f) Other (please list)	

There was some overlap of information from this question with some respondent's answers to question 3. In those cases, it was assumed that duties that carried salaried allowances should

[8] Unfortunately, the survey failed to adequately address whether this category was part of the job description for their position. Many Lab Managers would have this as part of their routine duties. The correlation between Budget Management as a duty requirement and higher seniority by pay scale is as follows:Minimum = 0, Maximum = 33, Average = 2.52

not be included as part of the regular duties of the position, unless there was a legal requirement for the position to be salaried (i.e. OH&S elected delegate).
A wide variety of other duties were listed, although most respondents weren't required to do any duties outside those listed. Most common were Excursions(13) and Photocopying (5). Some technicians were required to fill multiple roles in the school, most often associated with office duties. Some filled POR's in schools (i.e. timetabling).

1. DE&T >=SSO2-3 = 17
2. CEO >=SSO5 = 9
3. RSB >=SAB4 (or equiv) = 7

Eliminating these from the above numbers gives us our closest approximation to unsalaried considerations of 89

13) Are you required to regularly design and/or trial new experiments? Yes/No

YES = 83%, NO = 17%
From the level of response, it is clear that this duty is still a high expectation of technicians, regardless of salary level. Comments on this question were more about time constraints than anything else. This requirement was not a high-level expectation – most people listed "sometimes" as the frequency, or more rarely "sometimes in conjunction with the requesting teacher".

14) Are you required to attend and assist in science classes where practical activities are taking place? Yes/No

YES = 79%, NO = 21%

The high frequency of this response is a warning at two levels: 1) It appears to be an expectation of schools, even though this is well outside the LTB-STAV, STAV and DE&T position descriptions and 2) most technicians felt that this was a safety consideration of paramount importance – they attended class even when specifically not required to improve OH&S in practical classes.

15) What is the maximum relevant qualification you have attained:

a) VCE (or equivalent) science subject pass level 21
b) Full VCE (or equivalent) 15
c) Part completion of a tertiary level qualification 21
d) Full completion of an certificate IV 21
e) Full completion of an associate diploma 36
f) Full completion of a diploma/advanced diploma 36
g) Full completion of an undergraduate (bachelor) degree 97
h) Completion or part-completion of a post-graduate qualification. 22

There was one case of an entirely unqualified person working as a lab-tech, where "qualified" was a minimum of a single VCE science subject.

16) How many years experience do you have working in a school laboratory?

Minimum = 0, Maximum = 33, Average = 2.52

Number with no experience (= 1 year) = 18

The relative inexperience shown by the average and the number of technicians with no experience is a concern. It shows that there are a great number of technicians with little or no school experience working in school labs. This probably indicates a high level of turnover or loss of experience from the system as technicians retire.

17) How many years experience do you have in any other relevant laboratory/industry?

Minimum = 0, Maximum = 30, Average = 1.44

Number with no experience (= 1 year) = 83
It is pleasing that there are a great number of technicians who have some industry experience coming in to school labs. It also appears that a high number of technicians in the system have significant industry experience, which perhaps needs to be recognised within the system.

18) How many hours of professional development did you complete in the previous calendar year? (count each full day as 8 hours)

Minimum = 0, Maximum = 100, Average = 4.3

Number with no Professional Development = 34
The relatively small average indicates that professional development for laboratory technicians is not a priority for schools. This is worrying given the high level of danger associated with the profession in relation to other members of the academic sector, and the high level of regulation associated with the risks involved in the profession.

19) What form(s) did the professional development take:

a) In-house	**97**
b) Union-sponsored/run training	**12**
c) Conferences	**156**
d) Industry-provided training	**16**
e) Other accredited training provider.	**33**
f) Professional Association	**68**

There is an element of error associated with this question, where the answers for c) and f) could have double entries. This is due to LTB-STAV being responsible for running LABCON, a laboratory technician's conference held annually in December. Anecdotally, the level of response for f) would appear to be too low, as LTB-STAV also organises regional Professional Development sessions, usually running for several hours per term.

20) Does your employer provide study leave or other support for your professional development? (please list)

YES = 36%, NO = 16%,
Other considerations: 24 respondents said they had a limited level of support, where there were some constraints on attendance to PD. An example of this was time allowance given, but expenses had to be met by the respondent.