THE UNIVERSITY OF SYDNEY

OFFICE OF DVC EDUCATION

# Faculty of Science

## Student Research Experience Questionnaire Report : 2002 - 2009

March 2010

*Includes:*

- *Executive summary: Key results for 2009*
- *Comparative results: Quantitative data 2005 – 2009*
- *Comparative results: Focus of written observations from respondents 2002 – 2009*
- *Focus of written observations from respondents: 2009*

*With attachment:*
Postgraduate Research Experience Questionnaire (PREQ) report (*Research Higher Degree Graduates*)

- *Comparative results: Quantitative data 2005 – 2009*
- *Focus of written observations from respondents 2009 (2008 graduates)*

# Contents

# EXECUTIVE SUMMARY

## INTRODUCTION

Data on research higher degree students' perceptions of their research training experiences are gathered each year using the Student Research Experience Questionnaire (SREQ). The purpose of the SREQ is to provide the University community with a basis for strategic, faculty level academic development and curriculum review to further enhance the quality of research higher degrees.

Analysis of this data provides a comprehensive picture of trends in the student experience, and the performance of the Faculty in relation to two of the University's Key Performance Indicators for Research: Supervision, and Overall Satisfaction with the research higher degree; and other related areas: Infrastructure; Research Climate; and Generic Skills.

Written observations, from respondents to the survey, about their experiences provide evidence to support the Faculty SREQ quantitative data results (percentage agreement scores), and provide detailed information about key issues in the areas of best practice and Areas needing improvement, during their research training experience.

The analysis of qualitative data reported in this document is based on written observations received from **all** respondents to the SREQ. Faculties are advised that if they are interested, it is possible to supply copies of the written observations in the following groupings[1]:

- by subject matter: general (Quality of Supervision) to specific (Supervisor(s))
- by degree

## KEY RESULTS FOR 2009

*The following results are an indication of those areas of the student experience that were of significance to research higher degree students during 2009. The Faculty scores (percentage agreement results) reflect the experiences of respondents in relation to specific items in the survey; analysis of the qualitative data reflects the main foci of written observations provided by those respondents who answered the open ended questions on the best areas of their experience and those that were considered to be in need of improvement.*

286 respondents to the 2009 SREQ (216 domestic students; 70 international students) answered the open question requesting comments on areas of best practice in their research higher degree experience; 249 respondents (184 domestic students; 65 international students) suggested areas in need of improvement.

**Note** In 2009 the Faculty scores (quantitative data) for all of the SREQ Scales were the highest recorded since 2005, and in all cases were higher than the University average.

### 1 Quality of Supervision *(Section 1, pp 10 – 12)*

#### *1.1 Faculty scores*

Faculty scores for the Supervision Scale have increased steadily over the past five years, and currently sit at 78% agreement. This represents an increase of 5% on the 2008 results, and an increase of 7% since 2005.. International students consistently record higher scores than their domestic counterparts for this scale. The University average for the Supervision Scale is 75%.

#### *1.2 Focus of written observations*

Areas of best practice

- 29% of respondents who answered the open questions in the survey were satisfied with the quality of their supervision.
- The majority of comments (21%) expressed appreciation for the level and type of supervision provided by their supervisor(s)
- Sample comment: "*I have a very good working relationship with my supervisor. She helps to keep me inspired and motivated. I enjoy the freedom of working practices and thought allowed by a research degree"*

[1] Please contact Rachel Symons (Hrachel.symons@sydney.edu.auH or 9351 6560) to discuss your requirements.

Areas needing improvement
- 23% of respondents to the SREQ who provided written observations on areas of supervision that required improvements.
- Of these, 9% were dissatisfied with the type and level of supervision provided by their supervisor, the availability, frequency and usefulness of meetings, and with feedback on their work.
- 8% of students who provided comments would like more guidance in the management of their project including: topic selection, literature review, setting of guidelines.
- 6% of respondents were unhappy with the supervision process, and considered that evaluation and training of supervisors was required
- Sample comment: "*Supervision for students who are off-site. Supervisors can be very busy and can't find the time to properly supervise their students if they are not seeing them face to face each day"*

## 2 Quality of Infrastructure *(Section 2, pp 13 – 15)*

### *2.1 Faculty scores*
Faculty scores for the Infrastructure Scale are identical to the 2008 score (74% agreement). Scores have remained between 71-74% agreement since 2005. International students consistently record higher scores for this scale than their domestic counterparts. The University average for this scale is 65%.

### *2.2 Focus of written observations*
Areas of best practice
- 19% of respondents were satisfied with this area of their experience.
- Satisfaction with facilities accounted for 9% of comments received; whilst a further 5% were satisfied with funding issues
- Sample comment: "*My research group is well funded with money available for equipment, overseas conferences and experimental facility access"*

Areas needing improvement
- 77% of respondents who provided written observations considered that improvements were needed in the infrastructure provided by the faculty/ university.
- Components of infrastructure that were mentioned as being in need of improvement included: Facilities, including workspace, buildings, equipment, computer hardware and software, and OHS issues relating to working conditions (9%); Funding and scholarships (5%); and Administration and organisation (9%)
- Sample comment: *"We need a proper office when we have to read/write something. Staying in the Chemicals Lab all the time is not good for individuals health because there are lots of toxic chemicals in the lab. This must be improved"*

## 3 Research Climate *(Section 3, pp 16 – 19)*

### *3.1 Faculty scores*
The Faculty score for Research Climate has been increasing steadily since 2005, and currently sits at 68%. This represents an increase of 2% on the 2008 score and 7% since 2005. International students recorded better outcomes than their domestic counterparts in 2006, 2008 and 2009. The University average for the Climate Scale was 60%.

### *3.2 Focus of written observations*
Areas of best practice
- 48% of respondents who provided written observations on their experiences expressed satisfaction with this area of their experience.
- 20% felt part of a research community, and appreciated the opportunities to participate in conferences, network with fellow researchers, and attend faculty seminars and discussion groups.
- A supportive and welcoming work environment was experienced by 17% of respondents; whilst 7% valued academic and social contact with other research higher degree students.
- Sample comment: "*My department is well respected, and the faculty are very competent in the conduct of research. They are not only helpful on technical and conceptual aspects of research, but inspirational as researchers"*

Areas needing improvement
- 27% of respondents were dissatisfied with this area of their experience

- The lack of a supportive work environment, and a feeling of isolation from staff and students within the faculty/ department was the focus of 11% of comments received.
- Opportunities for networking and collaborative projects; together with participation in the research culture of the faculty and an increase in seminars would be appreciated by 9% of respondents.
- Sample comment: "*There is no attempt at all to provide even the most basic assistance or welcome. Apart from my supervisor and 2 or 3 people the uni may as well not exist"*

## 4 Graduate Attributes *(Section 4, pp 20 – 22)*

### *4.1 Faculty scores*

Faculty scores for the Generic Skills Scale are the highest since 2005, and currently sit at 82%. This represents an increase of 3% since 2005. In 2006, 2008 and 2000 international students recorded higher scores than their domestic counterparts. The University average for the Generic Skills Scale is 78%.

### *4.2 Focus of written observations*

*Areas of best practice*

- 39% of respondents who answered the open questions in the survey considered that they were developing or improving skills and abilities relating to all of the University Graduate Attributes: Research and Inquiry (17% of respondents); Personal and Intellectual Autonomy (12%); Communication skills (5%); Ethical, Social and Professional Understanding (4%); and Information Literacy (1%)
- Sample comment: "*Development of independent learning skills and time organisation and problem solving skills. Good because one doesn't develop fully in undergrad"*

Areas needing improvement

- 9% of respondents expressed dissatisfaction with this area of their experience. Comments were evenly spread across all of the University graduate attributes.
- Sample comment: "*The writing part is most needed for improvement. I feel that it is the part that communicate all the findings into the written forms which has to be clear, concise, readable and fun to read and follow, which is quite challenging."*

## 5 Overall Satisfaction *(Section 5, pp 23 – 24)*

### *5.1 Faculty scores*

The current faculty score for Overall Satisfaction is 82% agreement, and is the highest since 2005 (80%). The previous lowest score was 76% in 2007. International students consistently rate their experiences higher than their domestic counterparts. The University score for the Overall Satisfaction Item is 80%.

### *5.2 Focus of written observations*

*Areas of best practice*

- 45% of respondents who answered the open questions expressed satisfaction with this area of their experience
- The majority of these (21% of comments received) were satisfied with their research, its topic, and its contribution to the field; whilst 19% appreciated the freedom to select their own research topic, and the independence afforded within the program compared to the undergraduate degree experience.
- Sample comment: *"Being able to spend a long time looking at a specific issue of interest to me. Instead of trying to connect many areas of study, I finally get the chance to focus"*

Areas needing improvement

- 6% of respondents were dissatisfied with their overall degree experience
- Sample comment: "*I have found myself increasingly lacking in motivation with the progress of my PhD, and have lost nearly all of the interest I originally had in the project. I am now at the point where I just need to get it finished and do something in a completely unrelated field. This is perhaps partly due to the incorrect ideas about what the project would involve."*

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*April 2010*

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## GLOSSARY

The following terms and phrases are used throughout the report

**SREQ** Student Research Experience Questionnaire
Administered to postgraduate research students annually, during second semester

**PREQ** Postgraduate Research Experience Questionnaire
Administered to graduates in the year after completion of studies

**Supervision Scale**
**Infrastructure Scale**
**Climate Scale**
**Generic Skills Scale**
**Overall Satisfaction Item**

The University of Sydney Student Research Experience Questionnaire (SREQ) is based upon the items included in the nationally administered Postgraduate Research Experience Questionnaire (PREQ). These items have been shown to cluster together to form factor scales:

- Supervision
- Infrastructure
- Climate
- Generic Skills
- Overall Satisfaction Item

Within the report, this naming convention is used to identify information relating to the analysis of the quantitative data (survey items)

**Quantitative data**
**Faculty Scores**
**Percentage agreement**

SREQ item responses are combined and reported in terms of the proportions of students who agreed or disagreed that their research higher degree experience was positive in the areas of: Supervision; Generic Skills; Infrastructure; Climate; and Overall Satisfaction

**Quality of Supervision**
**Quality of Infrastructure**
**Research Climate**
**Graduate Attributes**
**Overall Satisfaction**

The University of Sydney Student Research Experience Questionnaire (SREQ) is based upon categories used in the SREQ Taxonomy:

- Quality of Supervision
- Quality of Infrastructure
- Research Climate
- Graduate Attributes
- Overall Satisfaction

Within the report, this naming convention is used as headings for each section of the report, and to identify information relating to the analysis of the qualitative data (written observations).

**Qualitative data**
**Focus of written observations**

Students' written observations received in response to open ended questions in the SREQ:

- What are the **best** aspects of your research higher degree experience? Please explain why these aspects are good
- What aspects are most in need of **improvement**? Please explain why

**Percentage of comments received**

The number of times an aspect is mentioned within written observations of respondents received from respondents is presented as a percentage of the total number of comments received from respondents to the SREQ in any particular year.

## CONCEPTUAL FRAMEWORK

### STUDENT RESEARCH EXPERIENCE QUESTIONNAIRE (SREQ)

In 2002 the Institute for Teaching and Learning (ITL) began collecting data for The University community on research higher degree students' perceptions of their research training experiences. This data is gathered each year using a survey specifically developed for this task, the "Student Research Experience Questionnaire" (SREQ). The purpose of the SREQ is to provide the University community with a basis for strategic, faculty level academic development and curriculum review to further enhance the quality of research higher degrees. The SREQ is based on a national survey of research higher degree students, the Postgraduate Research Experience Questionnaire (PREQ). Some of the information gathered by the SREQ survey also contributes to two of the University's Key Performance Indicators for research. These KPIs are the quality of Supervision, and Overall Satisfaction with the research higher degree.

The survey gathers data on students' perceptions of the quality and frequency of supervision, intellectual and social climate, infrastructure, approaches to research, and generic skills development in their research higher degree, as well as their perceptions of the administration and student support services. The ITL analyses this data and provides a range of reports to staff and students of the university through this web site.

Students are asked to respond to statements using a five point Likert Scale to indicate the extent to which they agree or disagree with each statement. As part of the questionnaires, students are also asked to comment on the following questions:

- *What are the best aspects of your research higher degree experience? Please explain why these aspects are good.*
- *What aspects are most in need of improvement? Please explain why*

Quantitative and qualitative data from the SREQ provide evidence of the success of University and Faculty initiatives to improve the overall student experience in general and the student experience of research training in particular.

### FOCUS OF THE REPORT

Based on the answers to the SREQ, this report seeks to provide an analysis of observable trends in the postgraduate research student experience in the Faculty of Science between 2002 and 2009. The report also provides detailed information on the key issues highlighted in the analysis of the 2009 SREQ qualitative data.

Information is arranged by the following areas of the research higher degree student experience: Quality of Supervision, Quality of Infrastructure, Research Climate, Graduate Attributes, and Overall Satisfaction, which, taken together, comprise the student experience of research training within the Faculty.

### FOCUS OF WRITTEN OBSERVATIONS FROM RESPONDENTS

By examining the foci of the students' comments in the 2009 SREQ, this report seeks to highlight areas that were of best practice in the students' experience, together with those that have been suggested as areas of improvement.

The views of the research higher degree students, on their overall experience at the University, as received through the open response comments, are a valuable insight into what is important to them; what they consider to be areas of best practice; and what they consider are in need improvement.

It is important to remember, when looking at the results of the analysis of this data, that the absence of favourable comments on a particular aspect of learning and teaching does not reflect that this is not an area of best practice. Rather, it could be interpreted that the students were happy with their experiences, and prefer to focus on commenting about areas in need of improvement.

### POSTGRADUATE RESEARCH EXPERIENCE QUESTIONNAIRE (PREQ) 2006-2009

Faculty scores from the 2006 – 2009 Postgraduate Research Experience Questionnaire (PREQ); together with a list of comments received in answer to the open response questions in the 2009 survey, are provided as an attachment to this report. The broad area(s) by which each comment has been analysed are indicated alongside each comment.

# NOTES

## 1 QUANTITATIVE DATA ANALYSIS

*Minimum sample size for reporting*

The minimum recommended sample size for SREQ reporting is 20 valid responses. This is the same convention applied to reporting the CEQ and SCEQ. In aggregated degrees where less than 20 valid responses have been received a report is still provided however a warning message notes that the results should be interpreted with caution[2].

***Number of respondents to the SREQ 2005 – 2009***[3]

| | *2005* | *2006* | *2007* | *2008* | *2009* |
|---|---|---|---|---|---|
| | n= | n= | n= | n= | n= |
| Domestic students | 295 | 275 | 272 | 341 | 300 |
| International students | 55 | 56 | 57 | 81 | 80 |
| Total | 350 | 331 | 329 | 422 | 380 |

## 2 QUALITATIVE DATA ANALYSIS

The analysis of the qualitative data is based on responses to the open questions received from respondents to the SREQ.

***Number of respondents who answered the open questions SREQ 2002 – 2008***

| *Areas of best practice* | *2002* | *2003* | *2004* | *2005* | *2006* | *2007* | *2008* | *2009* |
|---|---|---|---|---|---|---|---|---|
| | n= | n= | n= | n= | n= | n= | n= | n= |
| Domestic students | 227 | 292 | 261 | 250 | 222 | 224 | 257 | 216 |
| International students | | | | 19 | 45 | 59 | 71 | 70 |
| Total | | | | 269 | 267 | 283 | 328 | 286 |

| *Areas needing improvement* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | n= | n= | n= | n= | n= | n= | n= | n= |
| Domestic students | 200 | 263 | 228 | 212 | 203 | 210 | 208 | 184 |
| International students | | | | 19 | 40 | 50 | 56 | 65 |
| Total | | | | 231 | 243 | 260 | 264 | 249 |

n=the number of comments received in answer to the relevant 'open response' question

*NB: Separate qualitative data for international students did not become available until 2005*

## 3 RELIABILITY OF QUANTITATIVE AND QUALITATIVE DATA

The following information on the reliability of statistical data in the above tables should be taken into consideration when reading this report:

Qualitative data

Where the number of respondents is between 5 and 20 results should be viewed with caution. The minimum sample size recommended for statistical analysis is 20

## 4 ILLUSTRATIVE SAMPLE COMMENTS

Comments are recorded as they appear in the original documents. However, minor spelling, grammatical and transcription errors have been corrected. [sic] indicates that the word appears exactly as provided by the student, and that it is not possible to ascertain an exact interpretation of the original meaning. To preserve student confidentiality, sample comments are only provided if there are six or more comments relating to that aspect in the responses. Comments that may possibly identify the student are not been included in the sample comments. Supervisor(s) names, where included by the respondent, have been replaced by XXX, YYY or ZZZ.

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[2] Retrieved from ITL SREQ website *Using the report page* at Hhttp://www.itl.usyd.edu.au/sreq/reportpage.htmH

[3] Data retrieved from the ITL SREQ website results and reports for the Faculty of Science on 14.04.10 Hhttp://www.itl.usyd.edu.au/sreq/secure/rrr.cfmH

## 5 ANALYSIS OF COMMENTS

The components of categories and sub-categories used in the analysis of qualitative data are based on:

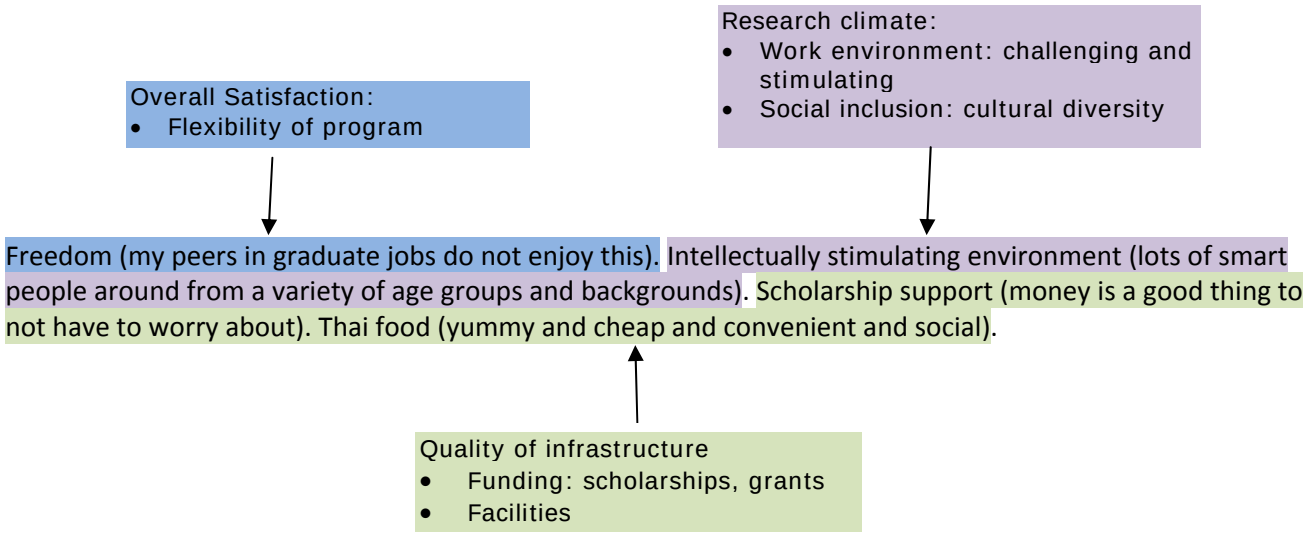
- Characteristics that define the area of the student experience
- SREQ survey items
- recurring themes in students' comments and have been developed over many years of analysing qualitative data from students' surveys.

Together, they represent the range of features of each aspect which are considered to be essential to student satisfaction with their research training experience

## 6 COUNTING OF COMMENTS

Each comment is analysed according to the *Taxonomy for analysing qualitative data from the SREQ*[4], which is based on the Factors used in the SREQ. Based on the premise that a comment is what is written by an individual respondent in response to one of the open response questions, and a tally in the statistics being a specific phrase or sentence referring to one aspect of the student experience, the total number of times an aspect is mentioned in any one set of comments is calculated as a percentage of comments received in the year of the survey. As a general rule, only those aspects which receive over 5% of comments from the whole cohort (i.e. domestic and international combined) are considered significant enough to be included as specific issues in the report.

For example, the following comment is counted as ONE COMMENT RECEIVED; but as it is mentioned in Overall Satisfaction (Flexibility of program); Research Climate (Work environment: Challenging and stimulating; Social inclusion: Cultural diversity) and Quality of Infrastructure (Funding: scholarships; and Facilities) the highlighted phrases within the comment are counted ONCE in each of the relevant categories i.e. 5 aspects in one comment.




[4] Available from Quality Assurance Officer (Learning and Teaching)

# 1 QUALITY OF SUPERVISION

## 1.1 SUMMARY OF KEY RESULTS FROM 2009

### 1.1.1 Faculty scores

Faculty scores for the *Supervision Scale* have increased steadily over the past five years, and currently sit at 78% agreement. This represents an increase of 5% on the 2008 results, and an increase of 7% since 2005.. International students consistently record higher scores than their domestic counterparts for this scale. The University average for the Supervision Scale is 75%.

### 1.1.2 Focus of written observations

***Areas of best practice***

- 29% of respondents who answered the open questions in the survey were satisfied with the quality of their supervision.
- The majority of comments (21%) expressed appreciation for the level and type of supervision provided by their supervisor(s)

***Areas needing improvement***

- 23% of respondents to the SREQ who provided written observations on areas of supervision that required improvements.
- Of these, 9% were dissatisfied with the type and level of supervision provided by their supervisor, the availability, frequency and usefulness of meetings, and with feedback on their work.
- 8% of students who provided comments would like more guidance in the management of their project including: topic selection, literature review, setting of guidelines.
- 6% of respondents were unhappy with the supervision process, and considered that evaluation and training of supervisors was required

## 1.2 BACKGROUND INFORMATION

The *Supervision Scale* covers aspects of supervision including: supervision being available when needed; understanding by the supervisor(s) of difficulties; provision of additional information relevant to the thesis topic by the supervisor; provision of guidance in topic selection and refinement; provision of helpful feedback on progress; provision of good guidance in literature search; and overall satisfaction with quality of supervision.

**SREQ Survey items**

1 Supervision is available when I need it
5 My supervisor(s) make(s) a real effort to understand difficulties I face
13 My supervisor(s) provide(s) me with additional information relevant to my topic
18 I am given good guidance in topic selection and refinement
22 My supervisor(s) provide(s) helpful feedback on my progress
26 I have received good guidance in my literature search
36 Overall, I am satisfied with the quality of my supervision

**Qualitative data analysis**

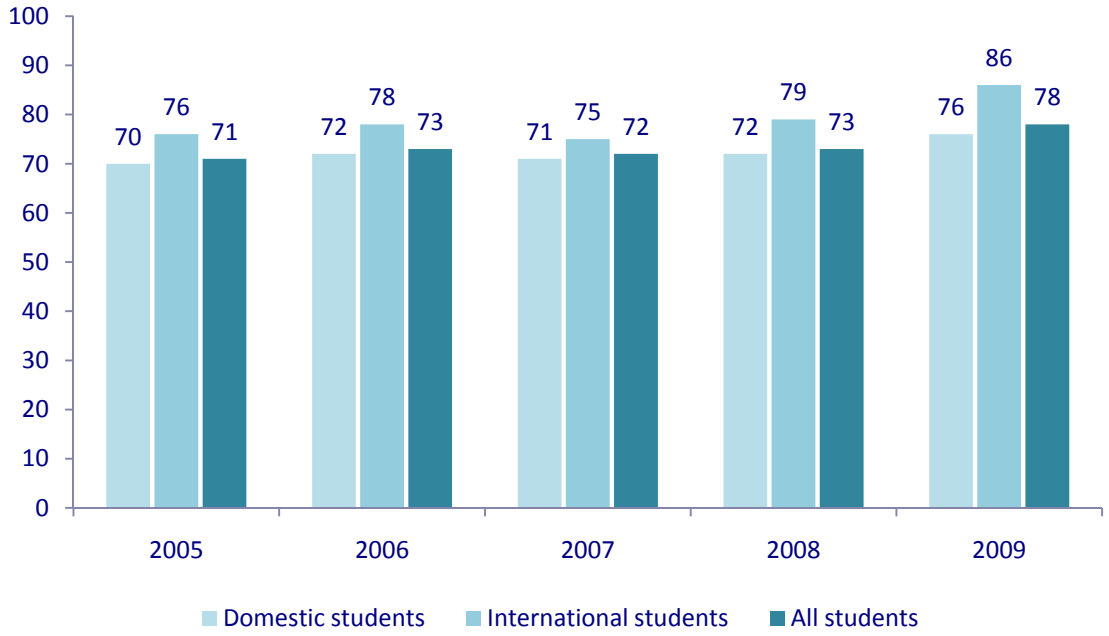
There are 4 sub-categories within *Quality of Supervision*, against which students comments are analysed. Each of these sub-categories may be further broken down into relevant aspects (or components) of the research student experience of Supervision. The components of these sub-categories are based on the SREQ survey items together with recurring themes in students' comments

- Supervisor(s) (supervisor/ associate supervisor; usefulness of sessions with; availability and frequency of meetings with; feedback on work; understanding and empathy)
- Supervision processes within faculty (general comments on supervision; evaluation of supervisors by faculty; training)
- Management of Candidature (guidance on thesis, literature review; topic etc; workload; progress reports)
- IP and plagiarism

## 1.3 COMPARATIVE RESULTS: QUANTITATIVE DATA 2005–2009

The following graph shows the proportion of students who either agreed or strongly agreed with relevant Supervision Scale survey items in the SREQ between 2005 and 2009.

**Figure 1: SREQ Supervision Scale: percentage agreement results: 2005 - 2009**




## 1.4 COMPARATIVE RESULTS: FOCUS OF WRITTEN OBSERVATIONS 2002–2009

The following table shows the percentage of comments, received from respondents to the survey, which can be classified as either areas of best practice *or* areas for improvement, providing an indication of trends in the focus of students' comments relating to the Quality of Supervision between 2002 and 2009.

| | | *2002* | *2003* | *2004* | *2005* | *2006* | *2007* | *2008* | *2009* |
|---|---|---|---|---|---|---|---|---|---|
| *Areas of best practice* | Domestic | | | | 27% | 28% | 24% | 30% | 29% |
| | International | | | | 5% | 38% | 31% | 24% | 29% |
| | **All** | **28%** | **23%** | **26%** | **26%** | **30%** | **25%** | **29%** | **29%** |
| *Areas needing improvement* | Domestic | | | | 29% | 21% | 33% | 28% | 28% |
| | International | | | | 21% | 20% | 14% | 23% | 11% |
| | **All** | **25%** | **27%** | **20%** | **28%** | **21%** | **30%** | **27%** | **23%** |

## 1.5 KEY ISSUES FOR RESEARCH HIGHER DEGREE STUDENTS (SREQ 2009)

### 1.5.1 Areas of best practice

| | Domestic (n=216 ) | International (n= 70 ) | All (n= 286 ) |
|---|---|---|---|
| Supervisor(s)<br>- Satisfied with performance of supervisor(s)<br>- Supervisor(s) available for regular meetings<br>- Discussions with supervisor are productive<br>- Supervisor(s) provide feedback on work<br>- Supervisor understands difficulties faced by students | 21% | 21% | 21% |

***Sample comments: domestic students***

- *I feel my supervisor has been very supportive and understanding throughout my first year of literature review and subject (re-)familiarisation*
- *Support from my supervisors has been fantastic. Have come to know them as friends as well as staff. They provide advice and present other areas of professional study to investigate as well as conferences, etc*

- *I am lucky to have a supportive and intelligent supervisor who is experienced enough to know what is realistically achievable in the space of a PhD*

***Sample comments: international students***

- *My supervisor is quite helpful. We have individual meetings weekly to solve the problems I meet during my research*
- *Good supervision because my supervisor allows me to work independently*
- *Reliable, supportive and knowledgeable supervisors! No fellow students or researchers could substitute them.*

### 1.5.2 Areas needing improvement

| | Domestic (n=184 ) | International (n=65 ) | All (n=249 ) |
|---|---|---|---|
| Supervisor(s)<br>- Performance of supervisor(s) unsatisfactory<br>- Supervisor(s) unavailable for regular meetings<br>- Supervisor(s) do not provide feedback on work<br>- Supervisor did not understand difficulties faced by students | 10% | 5% | 9% |
| Supervision process<br>- Unhappy with supervision (in general)<br>- Suggest that supervisors should be evaluated by Faculty | 8% | 3% | 6% |
| Management of candidature<br>- Insufficient guidance in topic selection and refinement<br>- Lack of good guidance in literature search<br>- Unhappy with progress review process | 9% | 3% | 8% |

***Sample comments: domestic students***

- *Guidance from supervisor could have been more focused as I feel that all supervisors (not just primary) should help student select the most direct, relevant and publishable research goals especially given the increasing focus on and importance of publications in recent years*
- *Supervision. My primary supervisor retired and while I am still working with him, is extremely difficult to contact and refuses to read my work for months at a time. This has been improved by another supervisor signing on and is starting to take interest in my work. The overall situation could be improved by stricter guidelines being imposed on supervisors and being monitored regularly*
- *Feedback on progress and encouragement. I often wonder whether or not I am on track with my research and do not feel motivated by my supervisors to complete*

***Sample comments: international students***

- *Some students may need more supervision, perhaps would be important limiting the number of higher degree student per supervisor*
- *Better communication between supervisor and more feedback on my progress*
- *Students must be given the opportunity to either simply follow the guidance given by the supervisor or to have complete freedom in a given topic. Here lies the problem since not all students can cope and handle such intellectual freedom. As such, the supervisor and students need to discuss this issue in the end of the first year of candidature*

# 2 QUALITY OF INFRASTRUCTURE

## 2.1 SUMMARY OF KEY ISSUES FROM 2009

### 2.1.1 Faculty scores

Faculty scores for the Infrastructure Scale are identical to the 2008 score (74% agreement). Scores have remained between 71-74% agreement since 2005. International students consistently record higher scores for this scale than their domestic counterparts. The University average for this scale is 65%.

### 2.1.2 Focus of written observations

***Areas of best practice***

- 19% of respondents were satisfied with this area of their experience.
- Satisfaction with facilities accounted for 9% of comments received; whilst a further 5% were satisfied with funding issues

***Areas needing improvement***

- 77% of respondents who provided written observations considered that improvements were needed in the infrastructure provided by the faculty/ university.
- Components of infrastructure that were mentioned as being in need of improvement included: facilities, including workspace, buildings, equipment, computer hardware and software, and OHS issues relating to working conditions (33%); funding and scholarships (22%); and administration and organisation (9%)

## 2.2 BACKGROUND INFORMATION

The *Infrastructure Scale* covers aspects of the infrastructure available to research students, including: access to a suitable working space; access to technical support; access to a common room; access to necessary equipment; access to computing facilities and resources; appropriate financial support; and overall satisfaction with the quality of services and facilities.

**SREQ Survey items**

2 I have access to a suitable working space
6 I have good access to the technical support I need
10 I have access to a common room or a similar type of meeting place
12 I am able to organise good access to necessary equipment
19 I have good access to computing facilities and services
28 There is appropriate financial support for research activities
35 Overall I am satisfied with the quality of the services and facilities

**Qualitative data analysis**

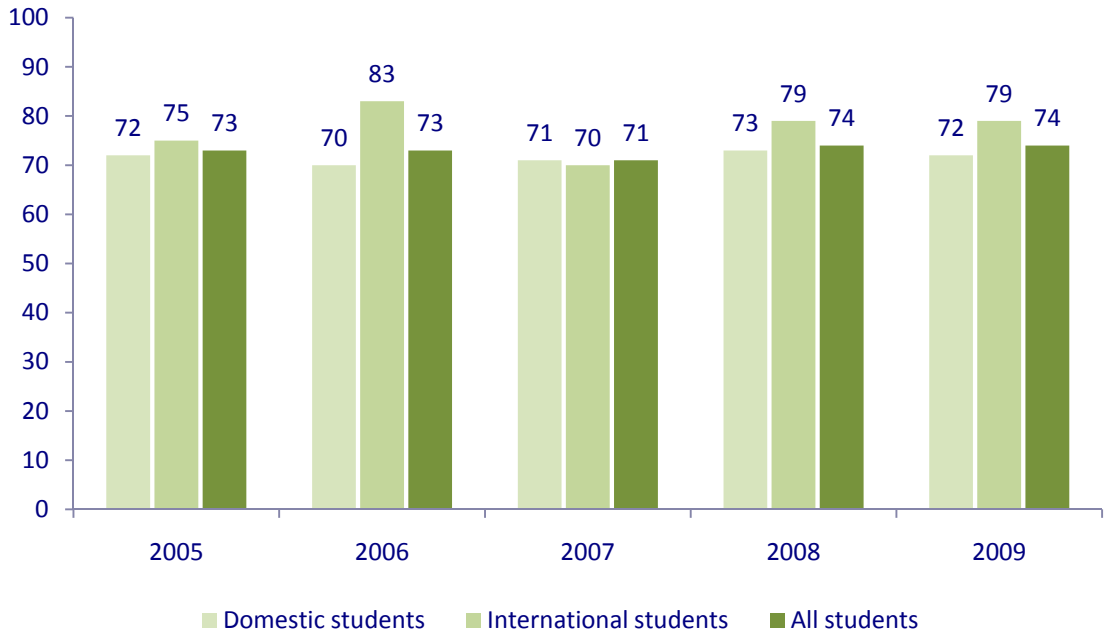
There are 7 sub-categories within *Quality of Infrastructure*, against which students comments are analysed. Each of these sub-categories may be further broken down into relevant aspects (or components) of the research students' perceptions of the quality of infrastructure. The components of these sub-categories are based on the SREQ survey items together with recurring themes in students' comments.

- Administration (enrolment and admission; communication between faculty and students; general comments on administration (faculty and university); postgraduate coordinator)
- Facilities (common room; workspace, buildings, etc; PGARC; computer hardware and software; equipment; transport and parking)
- Finance and funding (funding for resources, equipment etc; scholarships and grants; travel grants)
- Research resources (provided by faculty; provided by internal and external libraries and archive centres)
- Student support services (Ethics Office; Research Office; International Office etc)
- Support (IT; technical; laboratory)
- Resource issues that affect students overall experience (under-resourced infrastructure at a faculty level)

## 2.3 COMPARATIVE RESULTS: QUANTITATIVE DATA 2005–2009

The following graph shows the proportion of students who either agreed or strongly agreed with Infrastructure Scale survey items in the SREQ between 2005 and 2009.

**Figure 2: SREQ Infrastructure Scale: Percentage agreement results: 2005 - 2009**




## 2.4 COMPARATIVE RESULTS: FOCUS OF WRITTEN OBSERVATIONS 2003–2009

The following table shows the percentage of comments, received from respondents to the survey, which can be classified as either areas of best practice *or* areas for improvement, providing an indication of trends in the focus of students' comments relating to the Quality of Infrastructure between 2002 and 2009.

| | | *2002* | *2003* | *2004* | *2005* | *2006* | *2007* | *2008* | *2009* |
|---|---|---|---|---|---|---|---|---|---|
| *Areas of best practice* | Domestic | | | | 32% | 24% | 20% | 11% | 16% |
| | International | | | | 42% | 13% | 14% | 28% | 27% |
| | **All** | **21%** | **17%** | **25%** | **33%** | **22%** | **18%** | **15%** | **19%** |
| *Areas needing improvement* | Domestic | | | | 74% | 67% | 55% | 74% | 82% |
| | International | | | | 37% | 58% | 72% | 64% | 65% |
| | **All** | **65%** | **68%** | **68%** | **71%** | **65%** | **58%** | **72%** | **77%** |

## 2.5 KEY ISSUES FOR RESEARCH HIGHER DEGREE STUDENTS (SREQ 2009)

### 2.5.1 Areas of best practice

| | Domestic (n= 216 ) | International (n=70 ) | All (n=286 ) |
|---|---|---|---|
| Facilities | | | |
| - Computers are provided by faculty | 9% | 10% | 9% |
| - Equipment supplied is satisfactory | | | |
| - Workspace, office, provided by faculty are satisfactory | | | |

***Sample comments: domestic students***

- *In general, I have had access to excellent facilities, including a brand-new office and virtually unlimited time on one of Australia's top supercomputers*
- *Access to high quality apparatus and equipment! It makes my research much easier to perform*
- *Access to my own desk and computer in an office specifically for PhD students. This is good because it means we don't have to wait around for things to be available.*

***Sample comments: international students***

- *Good quiet environment is here.. I have the facilities I need (computer that is..)*
- *Having a nice place to study. Always can find the books I'm looking for in the library*
- *Resources available (plenty of funding to attend conferences and buy minor equipment)*

### 2.5.2 Areas needing improvement

| | Domestic (n=184 ) | International (n=65 ) | All (n=249 ) |
|---|---|---|---|
| Facilities<br>- Computers are not provided by faculty<br>- Equipment is unsatisfactory; unavailable; in disrepair<br>- Workspace, office, not provided by faculty<br>- OHS issues relating to laboratories and workspaces e.g. working in close proximity to chemicals<br>- Would like a postgraduate common room<br>- Transportation (including international student concessions) and parking unsatisfactory/ inequitable | 36% | 25% | 33% |
| Finance and funding<br>- Funding for research, equipment and conferences unavailable<br>- Scholarships unavailable or unsatisfactory<br>- PRSS, APA provisions unsatisfactory<br>- Would appreciate a greater availability of funding for travel purposes | 23% | 22% | 22% |
| Support<br>- Technical support not readily available<br>- IT support unsatisfactory | 5% | 8% | 6% |
| Administration<br>- Dissatisfied with faculty and departmental administration<br>- Communication between departments and support services unsatisfactory<br>- Unhappy with enrolment process | 10% | 5% | 9% |

***Sample comments: domestic students***

- *FACILITIES! Too crowded, not enough access to equipment, building leaks and poor environmental standards. not enough technical staff means everything takes forever. Most universities have lab techs!*
- *Instrument availability and reliability - it is frustrating when there are long queues for instruments and/or they are not working. Eg. I have missed out on 4 weeks of allocated instrument time due to it being broken.*
- *Space is currently at a premium. More work space will definitely be appreciated. Conducting major renovations while students are still in the building is absolutely ridiculous. Furthermore, renovations that lead to flooding, data loss etc (which actually did happen!) should not have to be tolerated by any PhD student yet we have put up with it for more than 6 months. No safety warnings, with regards to asbestos and other particles, were provided when the renovations were conducted. There contractors were clearly wearing masks while we were not provided with any*

***Sample comments: international students***

- *Some equipment is nearly out of date but we are still using them to test our samples. More money is needed for our research, including scholarships, travelling fees and laptops for research use only*
- *We need more scholarships for international students, especially the existing international students! We did not get it when commencing and we should be considered again as long as you are a student. We need financial support just like local students. We are not entitled to get travel concessions either and the tuition fees for international students are higher. Also, some offices and labs in the department are not air conditioning! It's hard to concentrate because of the heat or the cold*
- *The ICT computer thing is helpless. it is just super bad. It just takes so much unnecessary bureaucratic procedure, too much and too inefficient. For example, I need somebody to add me into my department's computer domain (something that would take 2 minutes to do) I had to dial 16000 and hold the line for like 20 minutes at time. Once my call was answered, I was told that my problem is now enlisted in the problem queue. By standard, somebody would turn up in the following week or so. Why would and how could a school so good for its academic work like USYD, let its IT be so so so very bad like this?*

# 3 RESEARCH CLIMATE

## 3.1 SUMMARY OF KEY ISSUES FROM 2009

### 3.1.1 Faculty scores

The Faculty score for Research Climate has been increasing steadily since 2005, and currently sits at 68%. This represents an increase of 2% on the 2008 score and 7% since 2005. International students recorded better outcomes than their domestic counterparts in 2006, 2008 and 2009. The University average for the Climate Scale was 60%.

### 3.1.2 Focus of written observations

***Areas of best practice***

- 48% of respondents who provided written observations on their experiences expressed satisfaction with this area of their experience.
- 20% felt part of a research community, and appreciated the opportunities to participate in conferences, network with fellow researchers, and attend faculty seminars and discussion groups.
- A supportive and welcoming work environment was experienced by 17% of respondents; whilst 7% valued academic and social contact with other research higher degree students.

***Areas needing improvement***

- 27% of respondents were dissatisfied with this area of their experience
- The lack of a supportive work environment, and a feeling of isolation from staff and students within the faculty/ department was the focus of 11% of comments received.
- Opportunities for networking and collaborative projects; together with participation in the research culture of the faculty and an increase in seminars would be appreciated by 9% of respondents.

## 3.2 BACKGROUND INFORMATION

The *Climate Scale* is covers aspects of the prevailing research climate in a students' school/ department, including: opportunities for social contact with other postgraduate students; integration into the school/ department community; opportunities to become involved in the broader research culture; perception of other research students as supportive; feelings of isolation within the school/ department; encouragement of interaction with other research students; provision of a good seminar programme; stimulation of personal work by the prevailing research ambience; provision of a supportive work environment; and feeling respected as a fellow researcher.

***SREQ Survey items***

3 The department / school provides opportunities for social contact with other postgraduate students
8 I feel integrated into the department's / school's community
15 The department / school provides opportunities for me to become involved in the broader research culture
16 I feel that other postgraduate students in my department / school are supportive
20 I tend to feel isolated within this department / school
23 Interaction with other postgraduate students is actively encouraged in this department / school
24 A good seminar program for postgraduate students is provided
25 The research ambience in the department / school or faculty stimulates my work
29 I feel that this department / school provides a supportive working environment
31 I feel respected as a fellow researcher within my department / school

***Qualitative data analysis***

There are 7 sub-categories within *Research Climate*, against which students comments are analysed. Each of these sub-categories may be further broken down into relevant aspects (or components) of the student experience of the prevailing research climate within the faculty. The components of these sub-categories are based on the SREQ survey items together with recurring themes in students' comments.

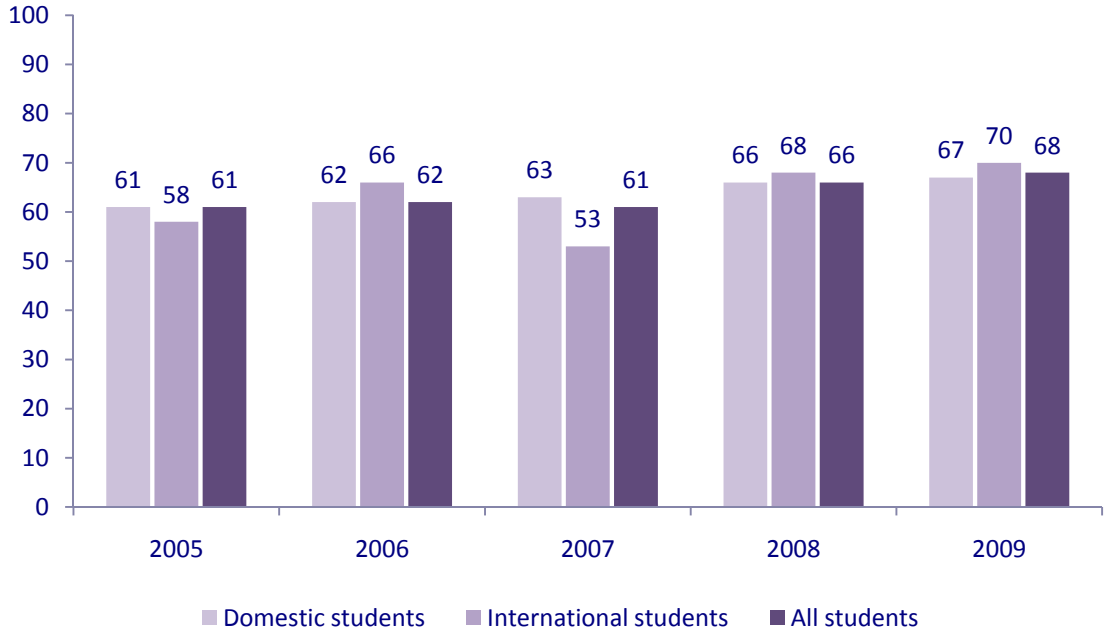
- Social inclusion (cultural diversity; equity, discrimination, and harassment)
- Research community (internal and external to faculty (general comments; faculty seminars, workshops, and discussion groups; networking/ collaborating; participation in conferences; opportunities for and encouragement to publish)

- Work environment (challenging and stimulating; induction/ orientation programme; integration into faculty/ department/ school; isolation (emotional); respect as fellow researcher; supportive environment; support for part-time , distance, students)
- Interaction with other research higher degree students (academic; social; support of peers)
- Campus location and physical environment
- Interaction with industry partners e.g. ARC projects
- Career preparation (academic (e.g. availability of tutoring, lecturing); general comments

### 3.3 COMPARATIVE RESULTS: QUANTITATIVE DATA 2005–2009

The following graph shows the proportion of students who either agreed or strongly agreed with Climate Scale survey items in the SREQ between 2005 and 2009.

**Figure 3: SREQ Climate Scale: Percentage agreement results: 2002 - 2008**




### 3.4 COMPARATIVE RESULTS: FOCUS OF WRITTEN OBSERVATIONS 2002–2009

The following table shows the percentage of comments, received from respondents to the survey, which can be classified as either areas of best practice *or* areas for improvement, providing an indication of trends in the focus of students' comments relating to Research Climate between 2002 and 2009.

| | | *2002* | *2003* | *2004* | *2005* | *2006* | *2007* | *2008* | *2009* |
|---|---|---|---|---|---|---|---|---|---|
| *Areas of best practice* | Domestic | | | | 46% | 56% | 46% | 50% | 49% |
| | International | | | | 47% | 49% | 39% | 46% | 46% |
| | **All** | **52%** | **50%** | **51%** | **46%** | **55%** | **45%** | **49%** | **48%** |
| *Areas needing improvement* | Domestic | | | | 30% | 23% | 32% | 29% | 29% |
| | International | | | | 37% | 40% | 46% | 16% | 22% |
| | **All** | **34%** | **19%** | **32%** | **30%** | **26%** | **35%** | **26%** | **27%** |

## 3.5 KEY ISSUES FOR RESEARCH HIGHER DEGREE STUDENTS (SREQ 2009)

### 3.5.1 Areas of best practice

| | Domestic (n=216 ) | International (n= 70 ) | All (n=286 ) |
|---|---|---|---|
| Research community<br>- Opportunities provided to participate at conferences<br>- Networking and collaboration opportunities available<br>- Feel part of a research community<br>- Seminar program provided by faculty satisfactory<br>- Discussion groups appreciated<br>- Encouraged to publish articles on research | 17% | 29% | 20% |
| Work environment<br>- Research ambience stimulating, challenging<br>- Feel part of / welcomed by the faculty/ department<br>- Respected as a fellow researcher<br>- Support is provided for students (especially part-time, external)<br>- Presence of a supportive work environment | 20% | 10% | 17% |
| Interaction with other research students<br>- Opportunities are provided to discuss research with other students<br>- Opportunities are provided for social contact with other students<br>- Other students are supportive | 8% | 4% | 7% |

***Sample comments: domestic students***

- *The best aspects of this experience are the opportunity to teach and tutor undergraduates, to be able to travel overseas to meet other researchers of high calibre and the opportunity to try new ideas. All of these goes towards making me a fuller, better, more well rounded scientist.*
- *The interaction with fellow students. Studying my PhD is the first time I have felt integrated with other people doing different research to me, and the first time in uni I have really built strong friends and support networks. PhD students in my department share large offices which means there is a lot of interaction between students, and in particular a lot of interaction between students in different fields. I find this the best aspect of my PhD experience so far*
- *I enjoy conferences as they enable me to meet researchers from other Universities and learn about what other research topics are out there. Discussions with other researchers often leads to new and interesting ideas*

***Sample comments: international students***

- *Participating in conferences and receiving valuable feedback from colleagues, and faculty has encouraged me to explore hitherto undiscovered materials. It has also given me a golden opportunity to place my research in the public domain, i.e., explore opportunities for publication of papers*
- *I am able to meet lots of people from different research backgrounds, plenty of opportunities to exchange information and experiences*
- *Very good research ambiance. Everyone is serious about research and interested in work you do*

### 3.3.2 Areas needing improvement

| | Domestic (n=184 ) | International (n=65 ) | All (n=249 ) |
|---|---|---|---|
| Work environment<br>- Induction or orientation programme unsatisfactory<br>- Do not feel part of / welcomed by the faculty/ department<br>- Not respected as a fellow researcher<br>- Support is not provided for students (especially part-time, external)<br>- Supportive work environment not present<br>- Feel isolated emotionally | 13% | 6% | 11% |

| | Domestic (n=184 ) | International (n=65 ) | All (n=249 ) |
|---|---|---|---|
| Research community | | | |
| - Networking and collaborations opportunities not provided | 9% | 11% | 9% |
| - Do not feel part of a research community | | | |
| - Would appreciate more seminars and discussion groups | | | |

***Sample comments: domestic students***

- *Connection with other research students - mutual support etc. would be great*
- *The department lacks a strong sense of community. I have observed and felt part of research communities in other institutions. Here there is little inter-lab group discussion and collaboration and in its place there is more rivalry, competition and a tendency to view other lab groups and there research as inferior*
- *More specific activities / seminars for postgrad students and post docs allowing more chance to present work and discuss research projects*

***Sample comments: international students***

- *I guess the interaction among research students and academic staffs is in need of improvement. working in an environment where most students came from different academic backgrounds reduces any scientific interactions*
- *I feel lack of opportunities to collaborate with other people in our Uni and with people from other places. Yes, I'm not very active in it, but I think that school and supervisor could encourage it somehow*
- *Mutual respects between academics and fellow students*

# 4 GRADUATE ATTRIBUTES

## 4.1 SUMMARY OF KEY ISSUES FROM 2009

### 4.1.1 Faculty scores

Faculty scores for the Generic Skills Scale are the highest since 2005, and currently sit at 82%. This represents an increase of 3% since 2005. In 2006, 2008 and 2000 international students recorded higher scores than their domestic counterparts. The University average for the Generic Skills Scale is 78%.

### 4.1.2 Focus of written observations

***Areas of best practice***

- 39% of respondents who answered the open questions in the survey considered that they were developing or improving skills and abilities relating to all of the University Graduate Attributes: Research and Inquiry (17% of respondents); Personal and Intellectual Autonomy (12%); Communication skills (5%); Ethical, Social and Professional Understanding (4%); and Information Literacy (1%)

***Areas needing improvement***

- 9% of respondents expressed dissatisfaction with this area of their experience. Comments were evenly spread across all of the University graduate attributes.

## 4.2 BACKGROUND INFORMATION

The *Generic Skills* scale reflects the extent to which students perceive their studies to have fostered the development of the generic skills recognised by the university as being a valuable outcome of university education, in addition to discipline specific skills and knowledge. Skills include problem solving; oral and written communication; development of ideas and their written presentation; collaboration with other researchers; analytical skills; planning; confidence in tackling unfamiliar problems; and ability to learn independently

***SREQ Survey items***

4 My research has further developed my problem-solving skills
7 Doing my research has helped to develop my written communication skills
9 I have learned to develop my ideas and present them in my written work
11 As a result of my research, I have developed the ability to work collaboratively with other researchers
14 My research has sharpened my analytical skills
17 Doing my research has helped to develop my oral communication skills
21 Doing my research has developed my ability to plan my own work
27 As a result of my research I feel confident about tackling unfamiliar problems
30 As a result of my research I have developed the ability to learn independently

***Qualitative data analysis***

There are 5 sub-categories within Graduate Attributes, against which students comments are analysed. These match the five main University Generic Graduate Attributes. The components of these sub-categories are allied to the skills and abilities for each attribute provided in the University policy framework for Graduate Attributes[5].

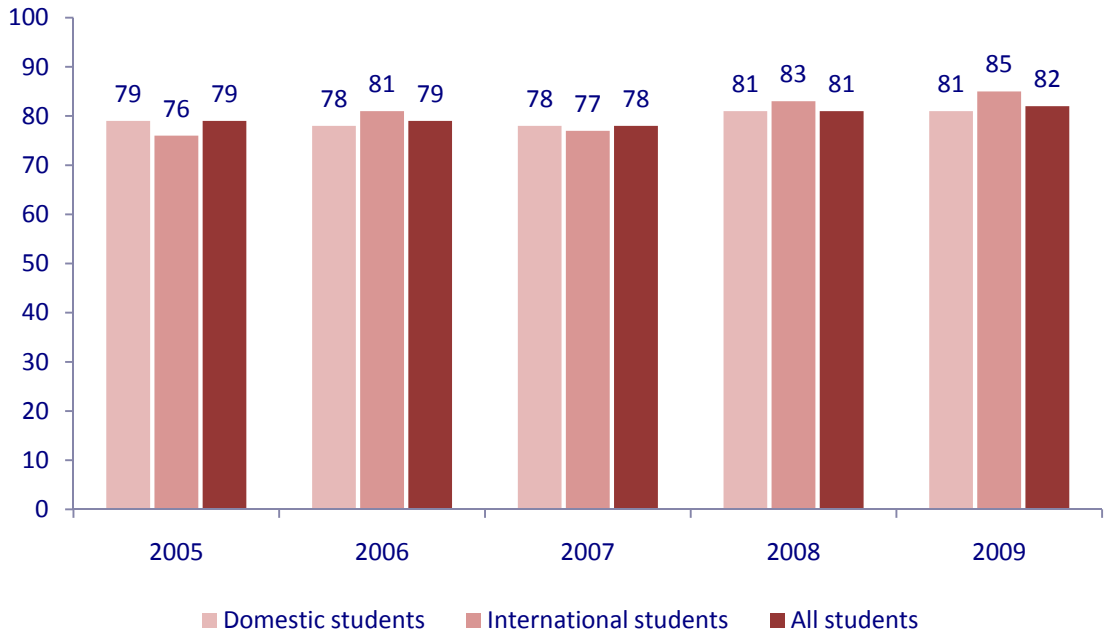
- Communication (oral communication; written communication; language skills, including English for NESB students)
- Ethical, social, professional understanding (collaboration/ team work; ethical, social, cultural understanding; professional skills including academic)
- Information literacy (retrieval and use of information; computing skills e.g. using endnote, searching databases etc; referencing)
- Personal and intellectual autonomy (independent learning; planning own work; intellectually curious; new ways of thinking, etc)
- Research and inquiry (analytical, critical, problem solving; expanding knowledge base; creativity and imagination; statistical skills; research skills)

[5] Http://www.itl.usyd.edu.au/graduateAttributes/policy_framework.pdf

### 4.3 COMPARATIVE RESULTS: QUANTITATIVE DATA 2005–2009

The following graph shows the proportion of students who either strongly agreed or agreed with Generic Skills Scale survey items in the SREQ between 2005 and 2009.

**Figure 4: SREQ Generic Skills Scale: Percentage agreement results: 2005 - 2009**




### 4.4 COMPARATIVE RESULTS: FOCUS OF WRITTEN OBSERVATIONS 2002–2009

The following table shows the percentage of comments, received from respondents to the survey, which can be classified as either areas of best practice *or* areas for improvement, providing an indication of trends in the focus of students' comments relating to the expansion of Graduate Attributes between 2002 and 2009.

| | | *2002* | *2003* | *2004* | *2005* | *2006* | *2007* | *2008* | *2009* |
|---|---|---|---|---|---|---|---|---|---|
| *Areas of best practice* | Domestic | | | | 36% | 21% | 42% | 32% | 38% |
| | International | | | | 47% | 47% | 49% | 48% | 44% |
| | **All** | **58%** | **55%** | **57%** | **37%** | **25%** | **44%** | **35%** | **39%** |
| *Areas needing improvement* | Domestic | | | | 10% | 9% | 9% | 10% | 7% |
| | International | | | | 16% | 8% | 18% | 16% | 17% |
| | **All** | **16%** | **12%** | **10%** | **10%** | **9%** | **11%** | **11%** | **9%** |

### 4.2 KEY ISSUES FOR RESEARCH HIGHER DEGREE STUDENTS (SREQ 2009)

#### 4.2.1 Areas of best practice

| | Domestic (n=216 ) | International (n=70 ) | All (n=286 ) |
|---|---|---|---|
| Research and inquiry<br>- Analytical, critical and problem solving skills are being improved<br>- Creativity and imagination encouraged<br>- Gaining knowledge about research topic and related subjects<br>- Gaining research skills/ methodology | 16% | 20% | 17% |

| | Domestic (n=216 ) | International (n=70 ) | All (n=286 ) |
|---|---|---|---|
| Personal and intellectual autonomy<br>- Ability to plan own work developed<br>- Time management and organisational skills improved<br>- Ability to learn independently developed<br>- Being introduced to new ways of thinking<br>- Can tackle unfamiliar problems | 11% | 16% | 12% |

***Sample comments: domestic students***

- *Emphasis is placed on successfully communicating results to peers (eg. seminars and presentations are strongly weighted in the final assessment mark) and this has greatly improved my communication skills*
- *Feeling like I'm improving my written and oral communication skills as well as my ability to analyse results, think independently and plan my own research*
- *Conducting research in the laboratory and thinking of novel solutions for problems encountered are the best aspects. This is because they provide interesting but challenging problems that requires one to use time management and lateral thinking skills. These are two skills that are likely very important for getting employed in the workforce*

***Sample comments: international students***

- *Forces me to be an independent thinker - more innovative and enhance writing skills and reading comprehension*
- *Development of thinking skills. Better understanding of the research culture and environment*
- *Learning new skills in the lab. These aspects are good because I have changed my field of study so it provides me with all the skills needed in this research*

### 4.2.2 Areas needing improvement

9% of students (i.e.23 /249 comments received ) who responded to the SREQ considered that improvements were needed in this area of their experience, including: oral and written communication skills; ethical behaviour; professional skills; computing skills; personal and intellectual autonomy; analytical and critical thinking; problem solving; research and statistical skills.

***Sample comments: domestic students***

- *Discussion about prior knowledge required and assumed skills, or rather programs, courses and material for independent learning of these*
- *More training and support for students using qualitative methods in psychology*
- *More statistical support within the school. School of public health research students have access to stats courses but because I am in faculty of science, this access is not available, yet these skills are needed*

***Sample comments: international students***

- *Communication skills; simply because I have minimum contact with other students, as a counterpart in practicing my speaking capability*
- *Problem solving skills need to be improved. It will get better with the experience. More reading will help also*
- *I need to start thinking analytically and need to be more independent*

# 5 OVERALL SATISFACTION

## 5.1 SUMMARY OF KEY ISSUES FROM 2009

### 5.1.1 Faculty scores

The current faculty score for Overall Satisfaction is 82% agreement, and is the highest since 2005 (80%). The previous lowest score was 76% in 2007. International students consistently rate their experiences higher than their domestic counterparts. The University score for the Overall Satisfaction Item is 80%.

### 5.1.2 Focus of written observations

***Areas of best practice***

- 45% of respondents who answered the open questions expressed satisfaction with this area of their experience
- The majority of these (21% of comments received) were satisfied with their research, its topic, and its contribution to the field; whilst 19% appreciated the freedom to select their own research topic, and the independence afforded within the program compared to the undergraduate degree experience.

***Areas needing improvement***

- 6% of respondents provided responses that came under the remit of overall dissatisfaction.

## 5.2 BACKGROUND INFORMATION

This single item asks students about their overall level of satisfaction with their research higher degree experience.

***SREQ Survey item***

43 Overall, I am satisfied with the quality of my research higher degree experience.

***Qualitative data analysis***

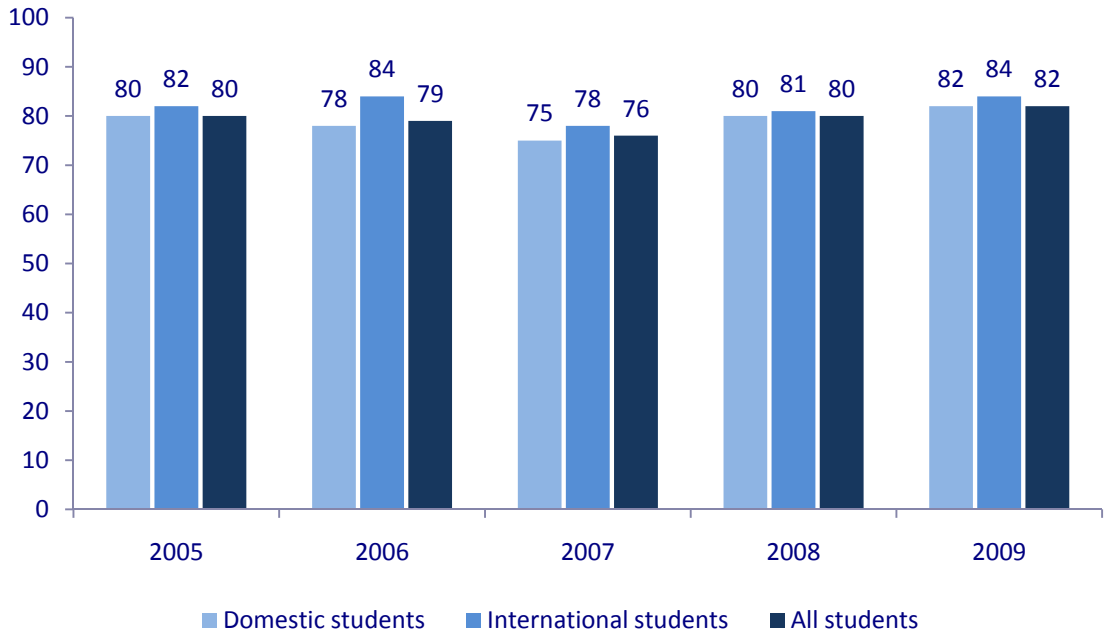
There are 7 sub-categories within Overall Satisfaction. They represent the range of aspects of the postgraduate research student experience which are considered to have a major influence on the quality of the research degree experience, and which are not covered elsewhere.

- General comments
- Quality of degree/ program (length; inclusion of coursework, etc)
- Pressure to complete (i.e. within time frame set by APA conditions etc)
- Satisfaction with research (topic, contribution to field)
- Flexibility of the program (freedom to follow own research; choose own topics; compared to undergraduate degree; flexible working hours)
- Practical aspects of the degree (field work, interviews etc)
- Reputation/ prestige of university/ faculty/ department/ academic staff

## 5.3 COMPARATIVE RESULTS: QUANTITATIVE DATA 2005–2009

The following graph shows the proportion of students who either strongly agreed or agreed with the Overall Satisfaction item in the SREQ between 2005 and 2009.

**Figure 5: SREQ Overall Satisfaction Item: Percentage agreement results: 2005 - 2009**




## 5.4 COMPARATIVE RESULTS: FOCUS OF WRITTEN OBSERVATIONS 2002–2009

The following table shows the percentage of comments, received from respondents to the survey, which can be classified as either areas of best practice *or* areas for improvement, providing an indication of trends in the focus of students' comments relating to overall satisfaction with the degree experience between 2002 and 2009.

| | | *2002* | *2003* | *2004* | *2005* | *2006* | *2007* | *2008* | *2009* |
|---|---|---|---|---|---|---|---|---|---|
| *Areas of best practice* | Domestic | | | | 36% | 40% | 43% | 42% | 49% |
| | International | | | | 42% | 38% | 37% | 28% | 34% |
| | **All** | **13%** | **17%** | **15%** | **36%** | **40%** | **42%** | **39%** | **45%** |
| *Areas needing improvement* | Domestic | | | | 7% | 7% | 7% | 9% | 7% |
| | International | | | | 11% | 8% | 10% | 13% | 3% |
| | **All** | **4%** | **3%** | **1%** | **7%** | **7%** | **8%** | **10%** | **6%** |

## 5.5 KEY ISSUES FOR RESEARCH HIGHER DEGREE STUDENTS (SREQ 2009)

### 5.5.1 Areas of best practice

| | Domestic (n= 216 ) | International (n= 70 ) | All (n= 286 ) |
|---|---|---|---|
| Satisfaction with research<br>- Research topic will contribute to field<br>- Researching topic that have always been interested in<br>- Research is worthwhile | 24% | 11% | 21% |
| Flexibility of program<br>- Freedom to pursue own research interests appreciated<br>- Flexibility of working hours appreciated | 20% | 16% | 19% |

***Sample comments: domestic students***

- *The freedom to pursue my project as I wish to pursue it, having almost complete control over the projects I run and the way I run the projects. Having such control ensures my motivation and interest are maintained*
- *The best aspects of my degree are primarily that I am allowed to independently focus on my discipline with help should I need it. This is good because it is something that I desire satisfaction from something to be passionate about*
- *I feel I am embarking on important, substantial work and will receive appropriate recognition for my work*

***Sample comments: international students***

- *I am working on a project I like and believe in, I can be passionate about my work and exchange my knowledge and experience with other students in the building. I am free to do my work in my own pace and can work very independently, without ever being left alone when there is a problem*
- *Being able to do full time research and no course work to interfere with that*
- *Contributing towards solving issues in the real world with your own ideas. Gradually, we are all becoming sound scientists*

### 5.5.2 Areas needing improvement

6% of students (i.e. 15 /249 comments received ) who responded to the SREQ considered that improvements were needed in this area of their experience.

***Sample comments: domestic students***

- *No input of my own on the direction of my work*
- *Access to field research sites are not nearly as frequent as I was told they would be when accepting the PhD*
- *Also, I think that things are not helped by the fact that the PhD program for physics students is almost completely unstructured. The program is more or less 'produce a thesis' along with a trivial (3hs/week for 2 semesters) coursework component, and this lack of any focus does not help in setting goals, or in feeling that things are being learned or achieved*
- *I still fail to see how my research will help anyone, anywhere with anything*
- *Higher pre-requirements for undergrads to enter research environment*

***Sample comments: international students***

- *Organising my thought and research plans. Once I have it sorted out, I feel confident and I can speed up my research*

# ATTACHMENT A POSTGRADUATE RESEARCH EXPERIENCE QUESTIONNAIRE (PREQ 2009)

## 1 THE SURVEY

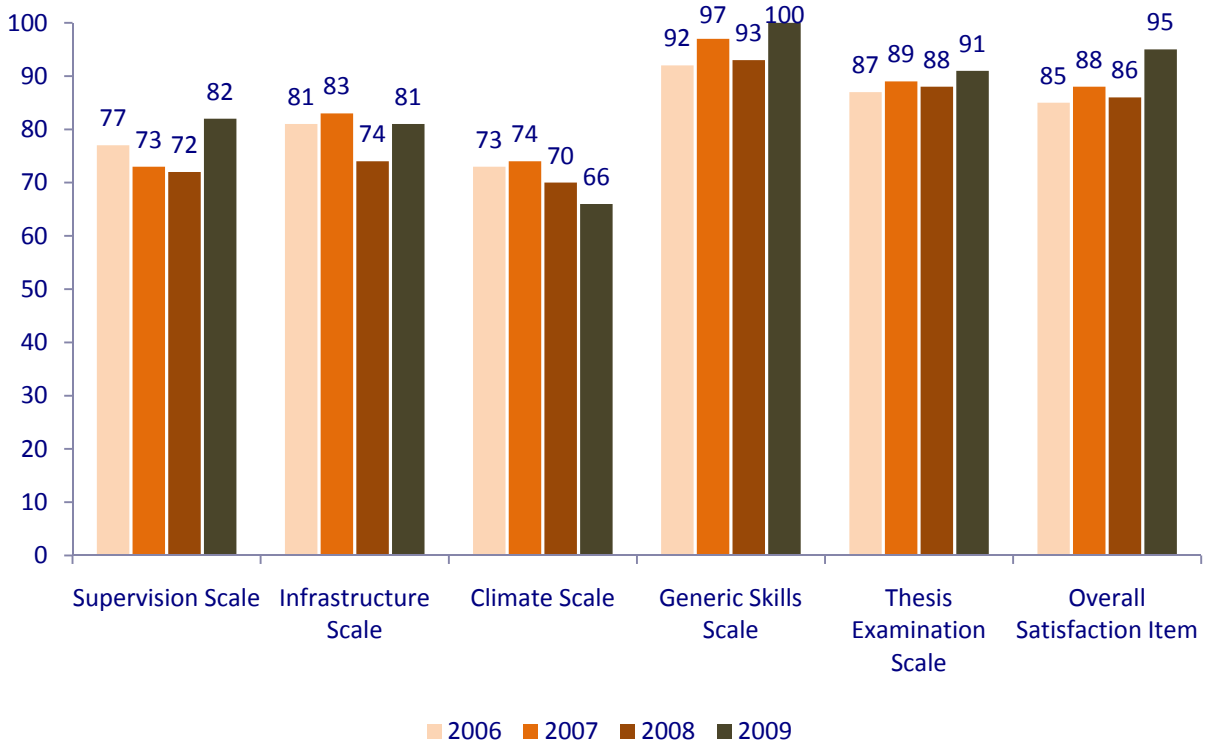
In 2002 the Institute for Teaching and Learning (ITL) began collecting data for The University community on research higher degree graduates' perceptions of their research training experiences. This data is gathered each year using a national survey specifically developed for this task, the "Postgraduate Research Experience Questionnaire" (PREQ). The purpose of the PREQ is to provide the University community with a basis for strategic, faculty level academic development and curriculum review to further enhance the quality of research higher degrees. The PREQ also provides data for benchmarking between similar programmes in different universities.

The survey gathers data on students' perceptions of the quality and frequency of supervision, intellectual and social climate, infrastructure, approaches to research, quality of thesis examination, and generic skills development in their research higher degree. The ITL analyses this data and provides a range of reports to staff and students of the university through their web site[6]

## 2 COMPARATIVE QUANTITATIVE DATA 2006 – 2009 (2005 – 2008 GRADUATES)

The following graph shows the proportion of graduates who either strongly agreed or agreed with each of the PREQ scales between 2006 and 2009.

**Figure 6: PREQ Scales: percentage agreement results: 2006 - 2009**




[6] For more information on the PREQ, and results and reports 2002 - 2008 see Hhttp://www.itl.usyd.edu.au/preq/H

## 3 FOCUS OF WRITTEN OBSERVATIONS 2009 (2008 GRADUATES)

The following written observations were received from research higher degree graduates in response to the open questions in the 2009 PREQ. The broad area(s) by which each comment has been analysed is indicated in the second column

### 3.1 Areas of best practice

#### *3.1.1 Domestic students*

| COMMENT | AREAS OF RESEARCH TRAINING EXPERIENCE |
|---|---|
| A highly diverse population of interdisciplinary researchers provided a stimulating experience and widely varying learning environment. | *CLIMATE* |
| Being able to solve research problems that would contribute to the research community and interact with fellow students for discussion. | *OVERALL SATISFACTION*<br>*CLIMATE* |
| Being able to work independently on a project that interested me. | *OVERALL SATISFACTION* |
| Being allowed to work independently and guide my own research. | *OVERALL SATISFACTION* |
| Conference opportunity. | *CLIMATE* |
| Developing research and writing skills, publishing, attending conferences and discussing my work with others. | *GENERIC SKILLS*<br>*CLIMATE* |
| Doing this degree helped me develop the analytical skills needed to tackle large, complex and unfamiliar problems. Understanding, working on, and ultimately solving such problems greatly boosted my self-confidence. Rather than training me in particular area of science, I feel this degree has taught me about the nature of research, and the level of dedication and perseverance that every scientist needs. | *GRADUATE ATTRIBUTES* |
| Everything was fine. | *OVERALL SATISFACTION* |
| Freedom to go off on tangents in experimental work. | *OVERALL SATISFACATION* |
| Good supervisor. Interaction with other PhD students. | *SUPERVISION*<br>*CLIMATE* |
| Having the opportunity to use world class telescopes both in Australia and overseas. | *INFRASTRUCTURE* |
| I enjoyed the freedom to tackle my own problems and the satisfaction earned in solving some of them. The university provided me with many opportunities to attend conferences both in Australia and abroad which facilitated good communication with many experts in my field. | *OVERALL SATISFACTION*<br>*CLIMATE* |
| I had a good supervisor and I enjoyed researching so overall I was very happy with the course. I studied at home and was a part-time student, so my supervisor was the most important thing. | *SUPERVISION*<br>*OVERALL SATISFACTION* |
| Independent nature of research. | *OVERALL SATISFACTION* |
| Independent research and great guidance from supervisors. | *OVERALL SATISFACTION*<br>*SUPERVISION* |
| Interaction with many fellow PhD students and postdocs on a regular basis. Both at the university and at other e.g. government departments. Excellent resources and opportunity to attend conferences. | *CLIMATE*<br>*INFRASTRUCTURE* |
| Interesting and well funded project. Very happy. | *OVERALL SATISFACTION* |
| Learning about the rigorous nature of a science projects. Presenting your findings and ideas at conferences and events. Publishing your work. | *GENERIC SKILLS*<br>*CLIMATE* |
| My supervisor's support and flexibility in the face of numerous other life demands on my part. The opportunity to capitalise on some significant national research that I was doing for the Commonwealth Government and actually turn it into a further degree (again, my supervisor encouraged and supported this). | *OVERALL SATISFACTION*<br>*SUPERVISION* |

| COMMENT | AREAS OF RESEARCH TRAINING EXPERIENCE |
|---|---|
| Satisfaction. | *OVERALL SATISFACTION* |
| Student lifestyle with pay and no exams or lectures. | *CLIMATE* |
| Submitting to and attending conferences. Learning new things that I hadn't previously had exposure to. Coming up with my own unique ideas. Being able to participate in collaborative research with other students, and other researchers both domestically and abroad. Meeting other students who are also interested in research. Developing a greater understanding of the research process. Participating in the seminar series proved to be extremely valuable for feedback on my research. | *CLIMATE*<br>*OVERALL SATISFACTION*<br>*GENERIC SKILLS* |
| Supervisor. Colleagues. | *SUPERVISION*<br>*CLIMATE* |
| Support and guidance from supervisors. Work environment. | *SUPERVISION*<br>*CLIMATE* |
| Synthesis of target compounds and analytical analysis of them. | *OVERALL SATISFACTION* |
| The level of supervision I received, the opportunity to attend conferences and integrating with other postgraduate students. | *SUPERVISION*<br>*CLIMATE* |
| The supervisor is very nice and responsive. | *SUPERVISION* |
| Was in an area I was interested in. | *OVERALL SATISFACTION* |
| Writing up research for publication and directing own work. | *CLIMATE*<br>*OVERALL SATISFACTION* |

### *3.1.2 International students*

| COMMENT | AREAS OF RESEARCH TRAINING EXPERIENCE |
|---|---|
| Supervisor. Fellow students. | *SUPERVISION*<br>*CLIMATE* |
| IT skills. | *GENERIC SKILLS* |
| Inter-discipline of applied physics and chemistry. | *OVERALL SATISFACTION* |
| I understood what it takes to do an extensive and successful research project. | *GENERIC SKILLS* |
| The opportunity and funding to conduct my research, and the opportunity to work with international collaborators. | *INFRASTRUCTURE*<br>*CLIMATE* |
| Doing research. | *OVERALL SATISFACTION* |
| Independent research, without a huge pressure for major results. The ability to plan my own work with the drive to do well coming from me! | *OVERALL SATISFACTION* |
| My supervisor, my project. | *SUPERVISION*<br>*OVERALL SATISFACTION* |

## 3.2 Suggested improvements

### *3.2.1 Domestic students*

| COMMENT | AREAS OF RESEARCH TRAINING EXPERIENCE |
|---|---|
| Clear guidelines and time lines possibly should have been provided. | *SUPERVISION* |
| Examination should include a viva. Examination process was too drawn out. | *THESIS EXAMINATION* |
| Financial help. | *INFRASTRUCTURE* |
| Funding availabilities. | *INFRASTRUCTURE* |

| COMMENT | AREAS OF RESEARCH TRAINING EXPERIENCE |
|---|---|
| Funding for research students for travel to conferences where they represent the university is extremely limited or unavailable. It would also be ideal if all students could attend one funded local (within Australia) conference a year. I believe this would help students to network for later in their career, and to keep up to date with the research done in other research communities in Australia. Additionally, funding for ad-hoc costs such as thesis binding and books is also very limited (and I heard it has now even been abolished completely). Feedback also could be improved. Research progress reviews were not conducted at the right points during my degree (one at the very start, and one at the very end), meaning the feedback was not very useful at that time. | *INFRASTRUCTURE*<br>*CLIMATE*<br>*SUPERVISION* |
| I had some difficulty getting technical support on a mac. It would have been easier if the APA was larger to cover the costs of living in Sydney. The ethics committee often seemed like a bureaucratic hurdle with criticisms about form rather than substance. | *INFRASTRUCTURE* |
| IT support specifically for postgraduate students, formal structure for social activities (most of this was stimulated by myself personally via the student committee). A more formal structure lead by either the faculty or SUPRA would result in better attendance at functions and social integration. | *INFRASTRUCTURE*<br>*CLIMATE* |
| Lack of research culture in school. Multiple disruptions to working space and computer facilities due to moving of school. | *CLIMATE*<br>*INFRASTRUCTURE* |
| Maternity leave arrangements. | *INFRASTRUCTURE* |
| One thesis examiner took a very long time to get their comments back to the university. | *THESIS EXAMINATION* |
| Preparing the results for publication. | *CLIMATE* |
| PRSS funding a bit low and insufficient in some cases, should increase PRSS funding. | *INFRASTRUCTURE* |
| Some of the rooms in our building, including my office, were not very comfortable to work in. As such, I conducted much of my study at home. | *INFRASTRUCTURE* |
| Technical assistance. | *INFRASTUCTURE* |
| The aspect of study at usyd that needs most improvement is that the university will not create disturbances by dealing appropriately with staff who have behaved unacceptably. My research environment at the xxx was terrible in terms of the interaction of the groups there. | *CLIMATE*<br>*ADMINISTRATION* |
| The pressure to complete within 4 years was very great and lead to a lot of stress. | *OVERALL SATISFACTION* |
| The thesis examination process is too unpredictable and long. People frequently start their postdoctoral work not knowing when their thesis examination will finish and final submission is often done from overseas. PhD students from overseas have oral defenses as their examination method. In Germany this seems to be more efficient as the entire examination process takes place during their period as a PhD student and not when they have taken up a new position. I found the Usyd examination process to be a disadvantage when applying for postdoctoral fellowships as the date at which you expect to attain your doctorate is required and funding agencies wish to know when you will be able to give them your doctoral certificate. | *THESIS EXAMINATION* |
| The University's administration of the research centre where I studied, caused a great deal of frustration both to me and other people working at the centre. This has left a certain level of distrust with me towards the University of Sydney. | *ADMINISTRATION* |
| Thesis examination time. | *THESIS EXAMINATION* |
| While students doing this degree do discuss their work with each other, more often than not they cannot fully grasp the others work because of the specificity of the topics. Consequently, students work more or less in isolation for years at a stretch. This could perhaps be remedied by encouraging interdisciplinary group projects. | *CLIMATE* |

### *3.2.2 International students*

| COMMENT | AREAS OF RESEARCH TRAINING EXPERIENCE |
|---|---|
| Funding. Availability of research needs like glassware and chemicals. | *INFRASTRUCTURE* |
| Logic. | *OVERALL SATISFACTION* |
| The availability of supervisors for discussion. | *SUPERVISION* |
| The chemistry building is very old and therefore some of its facilities are not or don't meet the general bio-hazards standards. Specifically the organic chemistry research labs (also overload of research students, not enough space). | *INFRASTRUCTURE* |
| As an off-campus student, there was little in the way of stimulating departmental seminars as incentive to bring me into the research fold of the university. In general, I feel the lack of meaningful interaction with a supervisory committee, and the lack of an oral thesis defense makes the Australian PhD procedure somewhat inferior to that found in other countries. | *CLIMATE*<br>*SUPERVISION*<br>*THESIS EXAMINATION* |
| Numerical skills. | *GENERIC SKILLS* |
| There was very poor or little opportunities to integrate with other postgraduate students from other faculties and even other floors in the same building! Never met one post grad from level 2 chemistry! | *CLIMATE* |
| Funding, lack of seminar program. | *INFRASTRUCTURE*<br>*CLIMATE* |