SESSIONAL TEACHING STAFF TRAINING REPORT

Session 1, 2004 - Session 2, 2005

Faculty of Science EdSquad

Small Group Teaching and Learning (Tutors and Laboratory Demonstrators)
## CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUMMARY</td>
<td>1</td>
</tr>
<tr>
<td>1. BACKGROUND</td>
<td>2</td>
</tr>
<tr>
<td>2. CONTEXT</td>
<td>2</td>
</tr>
<tr>
<td>3. THE TRAINING PROGRAM</td>
<td>3</td>
</tr>
<tr>
<td>4. OUTCOMES</td>
<td>6</td>
</tr>
<tr>
<td>4.1 Attendance</td>
<td>6</td>
</tr>
<tr>
<td>4.2 Completion and retention rates</td>
<td>6</td>
</tr>
<tr>
<td>4.3 Impact of prior teaching experience</td>
<td>6</td>
</tr>
<tr>
<td>4.4 Participants teaching concerns &amp; reported confidence over a range of indicators</td>
<td>6</td>
</tr>
<tr>
<td>5. EVALUATION OF THE PROGRAM</td>
<td>14</td>
</tr>
<tr>
<td>5.1 Comments from those who completed a program</td>
<td>14</td>
</tr>
<tr>
<td>6. CHANGING THE LEARNING &amp; TEACHING CULTURE OF SESSIONAL TEACHING STAFF IN SCIENCE</td>
<td>14</td>
</tr>
<tr>
<td>7. FUNDING</td>
<td>14</td>
</tr>
<tr>
<td>8. ISSUES HIGHLIGHTED DURING THE PROGRAMS</td>
<td>15</td>
</tr>
<tr>
<td>9. RECOMMENDATIONS</td>
<td>15</td>
</tr>
<tr>
<td>10. CONCLUDING COMMENTS</td>
<td>16</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>17</td>
</tr>
<tr>
<td>APPENDICES</td>
<td>18-24</td>
</tr>
</tbody>
</table>

Prepared by Helen Dalton for the Faculty of Science EdSquad © (N. Whitaker, Will Rifkin, Michelle Kofod, Helen Dalton)

We acknowledge the helpful discussions with Scott Sisson (School of Mathematics) about data presented in this report.
SUMMARY

Over sixty percent of the teaching at UNSW is undertaken by sessional teaching staff and in Science much of the teaching contact hours are taken by tutors and demonstrators. Training of these staff has been inconsistent in coverage and scope across the Faculty. In late 2003, the Faculty of Science EdSquad conducted a focus group that informed and led to provision of a program of four workshops on teaching for tutors and demonstrators. The workshops focussed on developing abilities to teach employing student-centred techniques, whether in a tutorial or laboratory setting.

Attendance in 2004 was small, with few participants completing the 4 workshop series, however, participation picked up markedly in 2005 and satisfactory completions rose without substantial changes to the program. This improvement can be attributed to several things; support from Heads of School and course convenors, recommendations from those who have attended the training, a general change in culture with regard to teaching and, not insignificantly, the support and facilitation by members of EdSquad.

Observation and feedback indicate that participants are demonstrating increased insight, ability, and confidence in teaching. At a fundamental level, a minority of participants, who are not native English speakers, were found to be wrestling with being understood in the environment in which they teach. It needs to be acknowledged that participants must take time away from their research to attend the workshops and they are not paid for the time spent in training, although it can be argued that they are benefiting from the professional development.

These conditions lead to recommendations for the future in terms of timing and content of workshops, resource provision, and ongoing support and development of sessional teaching staff in Science. The cumulative effect of EdSquad's commitment to ongoing contextualised staff development will impact on the learning experiences of students in the Faculty of Science.
1. BACKGROUND

This report provides information about a program of training workshops held for sessional teaching staff (tutors and demonstrators) in the Faculty of Science in both sessions of 2004 and 2005 (4 workshops per training program). The workshops were informed and developed in response to a focus group of Faculty sessional teaching staff (STS) in November 2003, ‘concerns’ expressed by participants in Workshop 1 and 2 in Session 1, 2004 and feedback from Peter Looker (UNSW Learning and Teaching Unit). The training was designed, facilitated and resourced by the Faculty of Science EdSquad.

The report covers the following:

- An overview of the workshop activities, the topics covered, assessment tasks and attendance by School
- A summary of the temporal development of key indicators of participants' confidence about teaching over the course of the training series
- Qualitative/quantitative data plus comments from participants collected from evaluation forms
- Plans and recommendations for development of the program.

All data collected is held by the EdSquad and can be viewed with detailed information on the workshop series by contacting edsquad@unsw.edu.au or Helen Dalton, Faculty of Science, Robert Webster Building, Room 128; h.dalton@unsw.edu.au; tel: 02 9385 7929

2. CONTEXT

The success and satisfaction of undergraduate students in the Faculty of Science, UNSW is very much reliant on the efforts and effectiveness of tutors and demonstrators. It is here where the gap between lecturer and student is bridged. It is where students gain individual tuition and develop a close relationship with a staff member as a teacher and mentor. The effectiveness of the liaison is reflected in student feedback, such as the all-important CEQs on which both Faculty and University funding depends.

At UNSW, over 60% of the teaching is undertaken by STS. In the sciences, substantial numbers of STS are needed, especially to service large first year classes. Staff selection processes for these positions are not always explicit. Tutors and demonstrators are usually drawn from honours and postgraduate students and in most cases our sessional staff ‘self-select’, nominating themselves for these positions. A proportion of STS in the Faculty are industry professionals. These students and professionals already have highly developed discipline specific research/professional skills so the tutoring/demonstrating is seen as part of their career development, and as such, there needs to be a demonstrable level of achievement. In training STS there also needs to be a clear orientation to the skills involved in teaching, a need to acculturate the teachers to the student-focused teaching and learning agenda coupled with an opportunity to develop a habit of evaluation and reflection on their teaching practice.

The roles of sessional teaching staff in the Faculty of Science are primarily as tutors and/or laboratory demonstrators, e.g., of the 115 sessional teaching staff in BEES, 89 are demonstrators and 26 tutors. STS training offered by the Faculty of Science has been designed to encompass small group teaching strategies. The workshops address and model tutorial strategies with some reference to the particular needs of laboratory practical classes. An aim is to develop the STS’s expertise and self-confidence.

In 2005 there were 434 STS in the Faculty of Science with 47% of them teaching for more than 1 session. Several Schools (Maths, Psychology, Chemistry, and Physics) run discipline-specific in-house training for their staff. In addition some Schools hold pre-teaching information meetings contributing to their commitment to STS training (see Table 1). The Faculty-based training program discussed in this report is conducted alongside any discipline-based training carried out within Schools. It is not possible to separate the effectiveness of the Faculty-based and School-based (discipline-based) training.

The Faculty of Science EdSquad has now run 4 training programs, 1 in each session of 2004 and 2005. It is not compulsory for all Faculty STS to take part in the program however the training is required by some Schools prior to the STS commencing teaching, a requirement that in itself, raises issues (see 'Issues Highlighted during the Programs').
### TABLE 1. Summary: Sessional Teaching Staff Training in the Faculty of Science

<table>
<thead>
<tr>
<th>School</th>
<th>No. of Sessional Teaching Staff 2005*‡</th>
<th>No. Teaching &gt; 1 session*</th>
<th>In-house School Training (&gt;3 hours)* §</th>
<th>Faculty EdSquad Training 2004-2005 (Appendix 1)</th>
<th>PPALT# Session 2, 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aviation</td>
<td>5***</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>BABS</td>
<td>111</td>
<td>41</td>
<td>53</td>
<td>41</td>
<td>1</td>
</tr>
<tr>
<td>BEES</td>
<td>115</td>
<td>54</td>
<td>115</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Chemistry</td>
<td>52</td>
<td>UK</td>
<td>13</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>MS&amp;E</td>
<td>19</td>
<td>14</td>
<td>UK</td>
<td>21</td>
<td>1</td>
</tr>
<tr>
<td>MATHS</td>
<td>35</td>
<td>28</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Optometry</td>
<td>13***</td>
<td>UK</td>
<td>UK</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Physics</td>
<td>43</td>
<td>26</td>
<td>42</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>Psychology</td>
<td>40</td>
<td>36</td>
<td>12</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Safety Science</td>
<td>UK</td>
<td>4</td>
<td>UK</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>SCOM</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>ENTREP</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>School UK</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>434</td>
<td>203</td>
<td>239</td>
<td>101</td>
<td>6 (75%)</td>
</tr>
</tbody>
</table>

* Information provided by Schools for the Faculty of Science Learning & Teaching Indicators Report (17th October, 2005)
‡ Includes visiting lecturers who may only deliver occasional lectures.
§ This training includes pre-laboratory / tutorial meetings.
** Does not include 5 from outside the Faculty
# All except 1 (BEES) had attended Faculty of Science training prior to doing PPALT. The tutor from BEES, however, participated in the focus group run by EdSquad, held in November 2003, which informed the Faculty training program. The total intake for PPALT (Professional Practice in Adult Learning and Teaching) for 2005 was 8 (2 from Engineering). PPALT is a 6 uoc course for the Faculties of Engineering, Built Environment and Science and is convened by LTU. It builds on and extends the Faculty training.
*** 5/5 in Aviation and 2/13 in Optometry are professional STS
UK = not known

### 3. THE TRAINING PROGRAM

**Details of the tutor/demonstrator training workshops (for example, session 2, 2005)**

The course develops skills and strategies required to run tutorials and conduct laboratory sessions, i.e., small group teaching, effectively within a science context. It is within these groups that students develop higher-order thinking skills and share of experiences, perceptions, and feelings and observations. Participants are challenged to think about their teaching practice and to plan how to develop and make changes when required.

**Facilitation: Form reflects content**

The training sessions are facilitated employing strategies for student discussion and engagement that can be used in teaching. Small group discussions are reinforced by whole group discussion and role playing. There is individual reflection and strategising both within and outside the sessions. In addition self-evaluation tests are taken. Importantly, there are opportunities for discussions and networking among the participants.

**The workshops**

There are four workshops that participants are required to attend. The 1st workshop is the most important in kick starting effective teaching practices as it begins to introduce widely-used strategies to engage students and facilitate discussion. The other workshops can be attended as stand alone modules. To receive a Certificate of Completion participants are required to complete all 4 workshops and the associated assignments.

**Outline of topics covered**

The following topics are addressed in the training sessions keeping in mind Ramsden’s principles (1992, e.g., pp96-103):
- Concerns and perceived and allocated roles as a tutor as seen by tutors
- Engaging students: demonstrated, explained and discussed
- Group facilitation: demonstrated, described, discussed and practised
- Marking & assessment: discussion, debate, and strategising
• Reflective practice: individual and small group
• Collaboration: practised, reflected on, and strategies
• Troubleshooting: individual and collective.

Resources
The Survival Guide

Participants are provided with a booklet that is a guide for tutors and demonstrators in the Faculty of Science. It outlines the following:
• Your Role as a Tutor / Demonstrator in Science
• Your First Class
• Tips for Demonstrators
• Engaging Students
• Group Facilitation
• Reflective Practice
• Marking & Assessment
• Providing Feedback
• Plagiarism & Copyright
• Troubleshooting
• UNSW Student & Teaching Support Services
• Managing disruptive behaviour in the classroom
• UNSW Graduate Attributes Contextualized for Science
• The Guidelines on Learning that Inform Teaching at UNSW
• Vice-Chancellor's Award for Excellence in Sessional Teaching
• UNSW Grievance Procedures and Contacts
• Other resources and references (including reference to publications on learning and teaching pedagogy not explicitly covered in the training program).

This Guide is updated / modified after every training workshop in response to participants' needs and suggestions (see Assessment and Feedback).

Timetable and content
The course involves 4 workshops spread over one session and into the beginning of the next session.

Workshop 1: Defining Your Role (9.30 – 12.30pm, Friday 5th August 2005)
• Build on what participants already know about teaching and learning
• Enhance their skills and strategies to run small group tutorials and practical classes in science
• Have them experience and practice some of these skills and strategies

Assignments:
1. To provide a critique of the Faculty of Science Tutor / Demonstrator Survival Guide indicating what information the tutor found to be:
   • the most helpful
   • the least helpful or relevant
   • the area(s) most in need of additional resources
2. To find two strategies, tips, or resources relevant to small-group teaching to add to the Guide. Provide the URL or a photocopy and/or a printout. Describing each resource in a paragraph and state what issues or concerns of tutors and demonstrators they address.
3. Identify two situations that they encounter or observe in their role as a tutor / demonstrator that they would like to be able to handle more effectively. In four sentences, describe an example of this situation and in another two sentences, state why this situation concerns them.
4. Apply one teaching strategy that is new to them, in particular, considering strategies discussed in Workshop 1, the Guide or found on the web. The tutors need to be prepared to describe how it worked and consider what they would do in the future to improve their ability to employ the strategy.
5. Self-evaluation tests to be taken on the web regarding how participants themselves prefer to learn and interact with others.
Workshop 2: Teaching Strategies (4.00 – 7pm, 25th August 2005)
Tutors are provided with insight into the student's world and how to co-ordinate activities to foster student engagement and understanding. Tutors discuss, observe and facilitate.

Assignment:
Peer observation, by a fellow-trainee, of the tutor's teaching and reflection by the tutor on the peer feedback and their own perceptions. If the trainee is not currently teaching arrangements are made to present an abbreviated tutorial (10 min) to fellow trainees and members of the EdSquad.

Workshop 3: Assessment and Plagiarism (9.30 - 12.30pm, 7th November 2005)
In this workshop tutors / demonstrators take turns facilitating and recording for the session as needed. Tutors get to discuss issues arising from their peer observation and reflection assignment. They also address:
- Assessments: how different people mark differently.
- Plagiarism: why and what to do about it.

Workshop 4: Crossover with the next cohort of tutors in Workshop 1 of the next program. Session 1, 2006 (1 hour during the 1/2-day).
Tutors reflect upon and discuss their experiences in learning and teaching since completing the first 3 workshops with the next cohort of trainees who are attending their first workshop (workshop 1).

Assessment and feedback
The program assignments are compulsory if participants wish to qualify for a Certificate of Completion. Facilitators give verbal feedback during workshops and qualitative (satisfactory or unsatisfactory) written feedback is given on other assignments. If a submission is judged as 'unsatisfactory' the assignment can be resubmitted.

At the end of the training program tutors should be able to:
- Explicitly address their concerns as a tutor in their discipline and see how they resemble and/or differ from the concerns of those in other disciplines
- Define the roles that tutors undertake in their School/discipline in relation to students, lecturers, and course administration, including roles that they may not have been aware of
- Recognize, adapt, and demonstrate skills and strategies for engaging students in interactive group learning processes, such as problem-solving and learning through discussion
- Show increased facility and confidence in marking and assessment
- Engage in reflective practice and collaboration drawing upon both their and their peers’ experiences as teacher and learner
- Identify how their teaching-related abilities play a role in their career development, whether in teaching or non-teaching settings.

Certification
On completion of the program participants receive a certificate acknowledging their participation and attendance (Appendix 2). In order to be eligible for the certificate participants must:
- Attend all workshops in their entirety
- Complete all assignments and reflective tasks satisfactorily.
4. OUTCOMES

4.1 Attendance

As a measure of outcomes, attendance rates suggest the extent to which the training scheme is gaining a foothold in the Faculty. Are Schools sending sessional staff to the training, and are they encouraging and providing support for staff to complete the four-workshop series and assignments? How does the training rate as a use of time for postgraduates who feel pressure to teach and earn a living while completing their PhD studies within 3.5 years?

To date a total of 106 tutors / demonstrators (5 external to the Faculty) have attended at least the first training workshop. Uptake rates vary from School to School. These differences may reflect satisfaction with any in-house training given, the background of the sessional teachers, e.g., whether postgraduate students or professionals, as well as time restraints, awareness of the Faculty based training and commitment to career development. Most Schools run in-house discipline specific training sessions which usually include instructions on topics to be taught and their assessment with opportunities for discussing problems and strategies for their resolution. Schools such as Aviation and Optometry use discipline professionals as sessional teachers. Many are adjunct appointments and have been involved in this specialist teaching for many years. This group has not been targeted to attend the Faculty training as it is acknowledged that they are extremely busy, are not likely to be remunerated for attendance and would most likely have concerns and needs that differ to those of in-house sessional staff.

A summary of the 2005 sessional teaching staff in each School of the Faculty, program attendance histories and program completion rates can be see in Table 2. A complete list of names of STS by School who have attended and completed the Faculty tutor / demonstrator training can be viewed in Appendix 1.

**TABLE 2: Summary: Faculty Sessional Teaching Staff, Program Attendance and Completion by School: 2004 - 2005 (total = 106†)**

<table>
<thead>
<tr>
<th></th>
<th>BABS</th>
<th>BEES</th>
<th>CHEM</th>
<th>MATH</th>
<th>MS&amp;E</th>
<th>OPT</th>
<th>PHY</th>
<th>PSY</th>
<th>SAFSC</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total STS 2005</td>
<td>111</td>
<td>115</td>
<td>52</td>
<td>35</td>
<td>19</td>
<td>13(1)</td>
<td>43</td>
<td>40</td>
<td>UK(2)</td>
<td>434(3)</td>
</tr>
<tr>
<td>Training program attendance*</td>
<td>41</td>
<td>7</td>
<td>12</td>
<td>1</td>
<td>21</td>
<td>2</td>
<td>10</td>
<td>1</td>
<td>2</td>
<td>97</td>
</tr>
<tr>
<td>Completed % of 2005 STS staff attendance per School</td>
<td>11</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>6</td>
<td>1</td>
<td>0</td>
<td>20(4)</td>
</tr>
<tr>
<td>To complete 2006</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>0</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>-</td>
<td>0</td>
<td>22</td>
</tr>
<tr>
<td>Total completion by S1, 2006(5)</td>
<td>14</td>
<td>4</td>
<td>7</td>
<td>0</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>42</td>
</tr>
</tbody>
</table>

† Includes 4 from Faculty of Science; School unknown, and 5 external tutors; see Appendix 1
* Does not include 'school unknown' and external participants
(1) Includes 2 professional and 11 fourth year undergraduate students with low teaching loads. 4th year students are taught mainly within clinics by professional staff
(2) UK = not known
(3) Includes 1 from SCOM and 5 from AVIAT
(4) Excludes 1 external (Engineering)
(5) Number who attended all workshops in the training program including satisfactory completion of all assignments.
% = program completion rates of the STS who began the training
4.2 Completion and retention rates

The percentage of those completing the first 3 of the 4 workshop series has improved from 27% of the Session 2, 2004 cohort to 42% in Session 1, 2005 and 61% of the Session 2, 2005 cohort is on track to complete by early Session 1, 2006. Only about 20-29% of all participants have been completing all components of the training (including assignments) to receive a Certificate of Completion. However, it is encouraging to see that 58% are due to qualify in early 2006 once they have attended the fourth 'crossover' workshop where they meet new trainees (Table 3 and 4).

Initial retention rates have been low, with 70 – 80% (Session 1 & 2, 2004 and Session 1, 2005) not completing all components of the training. This figure has improved in Session 2, 2005 as participants numbers have increased, with only 42% not completing all requirements. So, a positive trend is evident.

Participation in the 1st workshop is considered to be particularly important for a number of pedagogical reasons, e.g., getting STS to meet others, gaining clarity about roles, revealing their concerns. The subsequent workshops supplement and deepen teacher knowledge and practice (see Appendix 3). Drop out rates after the 1st workshop were 42-64% for the first 3 programs. This rate has declined to 14% in the Session 2, 2005 program. This shift may reflect an impact of the training on the individuals who have completed previous programs and are spreading the word in their Schools. There is considerable variation in retention rates between Schools, e.g., 5% Materials Science and Engineering, 60% Physics, which could be due to participant's perceptions of the effectiveness and relevance of their School's in-house training or other demands on STS time, such as teaching load and professional responsibilities (Table 5). Another factor may be the requirement to submit assignments. Non-compliance could be due to time restraints and level of commitment however could also reflect the number of non-native English speaking STS within a School.

**TABLE 3: Summary of Completion Rates by Program**

<table>
<thead>
<tr>
<th></th>
<th>Session 1, 2004</th>
<th>Session 2, 2004</th>
<th>Session 1, 2005</th>
<th>Session 2, 2005*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completed workshops 1-3</td>
<td>29%</td>
<td>27%</td>
<td>42%</td>
<td>61%*</td>
</tr>
<tr>
<td>Number received Certificate† (%)</td>
<td>9/31 (29%)</td>
<td>4/14 (29%)</td>
<td>5/25 (20%)</td>
<td>21/36* (58%)*</td>
</tr>
</tbody>
</table>

* Projected. Completed 3 workshops and due to complete workshop 4 (crossover) in session 1, 2006
† Completed all workshops and assignments satisfactorily

**TABLE 4: Participation by Training Program, 2004 – 2005**

<table>
<thead>
<tr>
<th></th>
<th>Not completed *%</th>
<th>Attended 1st workshop only %</th>
<th>Completed†%</th>
<th>Total participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Session 1</td>
<td>71</td>
<td>42</td>
<td>29</td>
<td>31</td>
</tr>
<tr>
<td>Session 2</td>
<td>71</td>
<td>60</td>
<td>29</td>
<td>14</td>
</tr>
<tr>
<td>2005:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Session 1</td>
<td>80</td>
<td>60</td>
<td>29</td>
<td>14</td>
</tr>
<tr>
<td>Session 2**</td>
<td>42</td>
<td>14</td>
<td>58</td>
<td>36</td>
</tr>
</tbody>
</table>

* Did not complete workshops 2 and 3 of the program
† Completed all components of the training (workshops and assignments)
** Projected figures
TABLE 5: Participation by School and Training Program, 2004 - 2005

<table>
<thead>
<tr>
<th></th>
<th>SCHOOL</th>
<th>BABS</th>
<th>BEES</th>
<th>CHEM</th>
<th>MS&amp;E</th>
<th>OPT</th>
<th>PHY</th>
<th>PSY</th>
<th>UK*</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004, S1</td>
<td>Total = 31</td>
<td>21</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>4 (1)</td>
</tr>
<tr>
<td>Completed† (29 %)</td>
<td>5 (24%)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4 (67%)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Not completed (71%)</td>
<td>16 (76%)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2 (33%)</td>
<td>-</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Attended 1st workshop only (42%)</td>
<td>8 (38%)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2 (33%)</td>
<td>-</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>2004, S2</td>
<td>Total = 14</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>-</td>
<td>2</td>
<td>1</td>
<td>5 (3)</td>
</tr>
<tr>
<td>Completed (29%)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>2</td>
<td>1</td>
<td>1 (CEIC)</td>
<td></td>
</tr>
<tr>
<td>Not-completed (71%)</td>
<td>10/14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attended 1st workshop only (64%)</td>
<td>9/14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005, S1</td>
<td>Total = 25</td>
<td>11</td>
<td>1</td>
<td>3</td>
<td>10</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Completed (20%)</td>
<td>2 (18%)</td>
<td>-</td>
<td>1 (33%)</td>
<td>2 (20%)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Not-completed (80%)</td>
<td>9 (36%)</td>
<td>1</td>
<td>2</td>
<td>8 (32%)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Attended 1st workshop only (60%)</td>
<td>7 (28%)</td>
<td>1</td>
<td>1</td>
<td>6 (24%)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005, S2</td>
<td>Total = 36</td>
<td>9</td>
<td>4</td>
<td>7</td>
<td>10</td>
<td>2</td>
<td>2</td>
<td>-</td>
<td>2 (Med Sc 1, UK 1)</td>
</tr>
<tr>
<td>Completed ** 58%</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>-</td>
<td>1 (Med Sc)</td>
<td></td>
</tr>
<tr>
<td>Not-completed (42%)</td>
<td>5 (56%)</td>
<td>1 (25%)</td>
<td>3 (43%)</td>
<td>5 (50%)</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Attended 1st workshop only (14%)</td>
<td>1 (11%)</td>
<td>0</td>
<td>2 (29%)</td>
<td>2 (20%)</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

* UK = unknown
† Completed all components of the training (workshops and assignments)
(1) Includes 2 from Safety Science
(2) Did not complete workshops 2 and 3 of the program
(3) Includes 3 non FoS tutors and 2 Science School unknown
(4) CEIS = Computer Engineering and Information Systems
(5) or deferred
** Projected completion in session 1, 2006
4.3 Impact of prior teaching experience
To monitor the impact of prior teaching experience on retention rates and to keep track of the
demography of the cohorts a record was kept of the number of sessions STS had previously taught.
There was no clear indication that prior teaching experience influenced participation or completion rates
(Table 6).

**TABLE 6:** Prior Teaching Experience And Participation By Training Program 2004 - 2005

<table>
<thead>
<tr>
<th>Teaching experience: Number of sessions taught</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>&gt;2</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2004: Session 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total = 31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Completed (n = 9)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>29%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not-completed % (n = 22)</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>15</td>
<td>68%</td>
</tr>
<tr>
<td>71% (dropped out after the 1st workshop)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2004: Session 2</strong> Information not collected</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2005: Session 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total = 25†</td>
<td>12/24</td>
<td>6/24</td>
<td>2/24</td>
<td>4/24</td>
<td>1</td>
</tr>
<tr>
<td>50%</td>
<td>25%</td>
<td>8%</td>
<td>17%</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Completed (n = 5)</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>8%</td>
<td>33%</td>
<td>50%</td>
<td>25%</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Not-completed* (n = 20†)</td>
<td>11</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>92% (of this group, 10/11 dropped out after the 1st workshop)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>67%</td>
<td>50%</td>
<td>75%</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2005: Session 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total = 36</td>
<td>8</td>
<td>12</td>
<td>5</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Completed (n = 21)</td>
<td>4</td>
<td>8</td>
<td>2</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>50%</td>
<td>67%</td>
<td>40%</td>
<td>50%</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Not-completed (n = 15)</td>
<td>(of this group 2 deferred to 2006, 2 dropped out after the first workshop)</td>
<td>(of this group 1 dropped out after the first workshop)</td>
<td>(of this group 1 dropped out after the first workshop)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>42%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

† † teaching experience unknown
* Number of this cohort that continued in session 2, 2005: BABS 2, CHEM 1, MS&E 2

4.4 Participants teaching concerns and reported confidence over a range of indicators
Participants learning and teaching concerns/confidence levels were monitored during and/or after each
workshop in the program. The objective was to identify the impact of the training and any subsequent
changes in their teaching strategies on the participant’s concerns and confidence in dealing with a range
of challenging learning and teaching issues. A series of such surveys were conducted to determine
whether such effects were sustained.
A five-point, Likert-scale was used, from ‘very concerned’ to ‘confident’. Participants completed this questionnaire prior to commencing the 1st workshop (1-pre) and then at the end of this (1-post) as well as after workshops 2 and 3.

Results show a marked shift to less concern and more confidence between the first workshop and subsequent workshops over the range of key indicators (Figure 1). The distribution often goes from bimodal to unimodal suggesting that the unconfident students are joining the confident students and the general level of confidence is increasing. This mounting confidence was also reflected in the evaluations of the workshop and program (Appendix 3). Although not statistically significant due to the small sample size, there was a trend toward sustained teaching confidence from workshop 2 to workshop 3 which are held more than two months apart.
FIGURE 1: Representative responses to the ‘Your areas of concern as a tutor’ questionnaire; session 1, 2005. Presented as a percentage of participants responses over a 5-point scale of concern from ‘very concerned’ to ‘confident’ where 1 = ‘very concerned’ and 5 = ‘confident’. Participants filled this questionnaire in prior to commencing the 1st workshop (1-pre) and then at the end of this (1-post) as well as workshops 2 and 3. Not all questions were asked at each workshop hence the blank spaces for workshop 2.

Getting students interested & enthusiastic

Teaching students to think for themselves & understand concepts

Dealing with difficult student behaviour

Marking: how to do it & achieving consistency between tutors
Communicating with academics & students (knowing their expectations)
5. EVALUATION OF THE PROGRAM

Evaluation of the scheduling, format and content of the program has been conducted on a number of levels.

- EdSquad has collated information, discussed the program with LTU and the Science Learning and Teaching Interest Group and produced this report.
- Open ended questions were asked of all participants after the first 3 workshops and were asked of a group of 5 participants from the session 1, 2005 training who successfully completed all components of the training (Appendix 3). This documented feedback was collected in Session 2, 2005.
- Monitoring the participants decreasing concerns and increasing confidence levels and maintenance of these levels over a range of criteria throughout the program (see ‘concerns and confidence’ above and Figure 1).

Verbal feedback was encouraged throughout the training sessions. The majority of the participants’ comments were positive with clear indications that the program objectives were being met. Positive attitudes were particularly evident in the feedback from those who had completed all components of the training (e.g., Appendix 3 and below).

5.1 Comments from those who completed a program (see also Appendix 3).
When asked ‘What do you think has improved most about your teaching’, 5 who completed all components of the program (session 1, 2005) commented:

- More confident (able to control my students).
- Communication between the students and myself has improved.
- Dealing with problems.
- I really feel confident especially toward my students and class.
- I feel more relaxed and more comfortable.
- ........ I really feel so satisfied and happy to be able to improve my teaching and be able to guide the students to the right spot.
- Communication skills to students.
- Ability to design a class (within restrictions of course material given to me for that lesson of course).

6. CHANGING THE LEARNING AND TEACHING CULTURE OF SESSIONAL TEACHING STAFF IN SCIENCE

Evidence suggests that we have both encouraged improved teaching practices of our STS and paved the way for continuing education in the understanding and practice of university teaching. Enrolments of Faculty of Science STS in the 6 uoc course, Professional Practice in Adult Learning and Teaching (PPALT) are an example. PPALT is available to postgraduate students from the Faculties of Engineering, Built Environment and Science with the workshops convened by LTU. PPALT is a session-long course designed to support participants in further developing their learning and teaching practice. In session 2, 2005, 6 tutors who had already attended the Faculty of Science training program went on to do PPALT, constituting three quarters of that PPALT course enrolments. Such ongoing development, by attending PPALT or other LTU workshops, is being encouraged by the EdSquad. Recently Diana Combe (School of Mathematics) approached the EdSquad to tailor a STS training and mentoring program to suit the particular needs of their discipline and teaching staff.

7. FUNDING

At a STS forum held in 2005 the DVC (Academic) noted that any costs associated with inducting sessional teaching staff should be borne by the Schools. In the Faculty of Science a Faculty budget to the Associate Dean (Education), Noel Whitaker, supports all cost of running the Faculty of Science training programs. Costs include resource materials, catering and the support of a Project Officer (Education). Sessional teaching staff are not remunerated for attending the training program. The cost of the program fulfils the quality assurance criteria of ‘value for money’ as defined by Biggs (2001).
8. ISSUES HIGHLIGHTED DURING THE PROGRAMS

Issues that emerged during the programs relate to the following:

- **Teaching roles**
  Many STS in Science are primarily demonstrators with little responsibility at present for tutorials however they are involved in assessments.

- **Teaching restraints**
  Demonstrators have a set amount of material to be 'covered' in a defined period of time. Many of these teaching staff feel they do not have the authority or right to influence the way that classes, in particular laboratory classes, are constructed or conducted. However, others have reported finding latitude in how they interact with students, with positive results.

- **Teaching experience**
  Some Heads of Schools require potential STS attend the Faculty training prior to being engaged. This requirement has meant that some components of the current training program and related assignments cannot be contextualised because they rely on participants attempting certain strategies or being observed as they teach.

- **Verbal communication skills and competence**
  Some staff had difficulties in communicating in the environment in which they need to be understood. This compromised their training as well as interactions with their colleagues. In other words, some could not speak English clearly enough or loudly enough to participate fully in the training.

- **Workshop timing / attendance / retention and completion**
  Sessional teaching staff in Science are often already working fulltime as research students / academics. The training program is spread over a session and continues into the beginning of the following session. Such spacing allows the staff to put into practice the strategies learnt and to complete assignments, e.g., peer observation of their teaching. The requirement to include four workshops in their busy schedules means that other priorities, including fatigue and time restraints, can interfere with STS attendance.

9. RECOMMENDATIONS

To build on successes and address concerns, such as those highlighted above, the following are being considered as part of the ongoing improvement of the training program:

- **Enlist the engagement and involvement of Heads of School and course coordinators to ensure that the trainees perform satisfactorily in the context of the discipline in which they are teaching and that the teaching is student-centred and relational.**

- **Further develop criteria to evaluate the effectiveness of the program and how the training translates into demonstrable improvement in learning and teaching.** This evaluation could, for example, include a comparison of sessional teaching staff who have, and those who have not, undergone formal training.

- **Access the effectiveness and refine, if appropriate, the 4th workshop (crossover with the next cohort of trainees designed to enhance the impact on outgoing trainees and incoming trainees; see Training Program) in response to feedback.**

- **Consult with course convenors and other stakeholders, e.g., a forum, to ensure that their needs, with regard to STS, are met and to help them recognise where and how their needs are being addressed.**

- **Expand and revise the segment on teaching for learning in a laboratory situation, i.e., to encompass the needs of demonstrators and the diversity within and across disciplines.**

- **Introduce reflective practice in a stepwise manner from the outset through, e.g., reflective logs, to counteract the unease felt by some participants with this component of the training.**

- **Make more frequent use of the Survival Guide throughout the training program in order to get participants in the habit of relying on such resources to continue their development after the workshop series.**

- **Re-assess the timing, spacing and resources of workshops relative to existing commitments of these teachers.** Increasing provision of teaching materials and reading packs could help to minimize the time spent searching for relevant materials yet still encouraging independent ‘curiosity’. 


• Establish a mentoring program for STS in Science to foster a culture of teaching that is student-focused, reflective and rigorous.

• Encourage representation of a STS member on School and Faculty education committees hence acknowledging the teaching load and contribution of these staff.

• Trial a web site for a discussion forum (WebCT) plus posted case studies, topics and peer reviewed journal articles. This format could also be used for assignment submissions.

• Encourage STS experiencing difficulties with communication to seek assistance, e.g., from the Learning Centre.

• Customise a training workshop for 'potential' STS intending to teach in the near future but are not currently teaching and, e.g., the 4th year undergraduate students who teach in Optometry. This program would be in addition to a training workshop requested by Diana Combe to suit the special needs of the STS in the School of Mathematics (Statistics).

• Set up a STS group consisting of a representative from each of the Schools to act as a contact point between the Schools and EdSquad. EdSquad would support this group, encourage ongoing dialogue between the members of the group and, draw on and consult with the group to assist with recruitment of participants for the training and to ensure that the training continues to meet the needs of STS in Science.

• Ensure that STS are aware of the importance and process of developing a teaching portfolio as part of documenting their overall professional development.

• Encourage and support course convenors to initiate a 'selection' process for all sessional staff appointments, whether postgraduate students or external appointments; in other words, not everyone can be trained to teach as effectively as the Faculty requires.

• Enhance the training program profile, e.g., as a part of postgraduate, STS and newly appointed teaching staff induction programs, and web page exposure.

10. CONCLUDING COMMENTS

There is clear evidence that the training program is transforming the way STS approach and practice their teaching in Science. Participants’ confidence levels on key effective learning and teaching indicators is sustained; certainly from workshop 2 to 3 and into the following session. A growing ‘community’ of trained tutors and demonstrators is impacting on other areas of the Faculty and UNSW, for example, eight out of thirteen mentors of the Faculty’s Secondary School Enrichment Program had attended the training program and in 2005 six enrolled in PPALT. Schools are beginning to be aware of the training program and are now requesting tailored training were there are special needs, e.g., the School of Mathematics (Statistics).

The Faculty of Science will continue to support PPALT and the EdSquad will continue to encourage Science STS to build on the Faculty training by enrolling in PPALT. Whilst this continuing education and career development is encouraged, STS should be made aware that earning such qualifications is not a guarantee of an academic career.

Contact and engagement with past participants will be continued in order to encourage the development of a learning community. It is hoped that these staff will ‘infiltrate’ the teaching culture of their Schools and support and improve the practices of teaching colleagues.

The training program and assessment will evolve to encompass emerging needs at the class, course, School, Faculty and UNSW levels.

Currently, the overarching quality assurance measure of this program is that it fits the needs of the Faculty and UNSW as well as satisfying its purpose (Biggs, 2001).

There have been substantial in-roads made into achieving the goals of getting STS in the Faculty of Science to engage students effectively. Program participants report evidence that they are practicing what they have learnt, are aware of how to recognise when they are being effective and are pursuing avenues of continual education and commitment. Overall, the entire training program appears to improve the self-confidence of participants and they are beginning to contribute to the learning community generally. Such a result is welcome given the high percentage of the teaching load handled by STS in Science.
REFERENCES
Biggs, J 2001, The reflective institution: Assuring and enhancing the quality of teaching and learning, Higher Education 41:221-238

APPENDICES
Appendix 1 - Attendance record by name, School and workshops attended.
Appendix 2 - Certificate of Completion
Appendix 3 - Sample of workshop evaluations
## APPENDIX 1

Summary: School and Workshop Attendance Record: 2004-2005

<table>
<thead>
<tr>
<th>Sessional Teaching Staff Name by School</th>
<th>No. Workshops Attended 2004-5</th>
<th>Sessional Teaching Staff Name by School</th>
<th>No. Workshops Attended 2004-5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BABS</strong></td>
<td></td>
<td><strong>BEES</strong></td>
<td></td>
</tr>
<tr>
<td>Arinze Okoli</td>
<td>1</td>
<td>Maria Cardoso</td>
<td>3*</td>
</tr>
<tr>
<td>Bonny Tsoi</td>
<td>3*</td>
<td>Adam Roff</td>
<td>1</td>
</tr>
<tr>
<td>Heather Campbell</td>
<td>4</td>
<td>Michael Day</td>
<td>1</td>
</tr>
<tr>
<td>Zacary Chai</td>
<td>3</td>
<td>Enhua Lee</td>
<td>3*</td>
</tr>
<tr>
<td>Eva Chan</td>
<td>1</td>
<td>Matt Ives</td>
<td>1</td>
</tr>
<tr>
<td>Lawrence Lai YC</td>
<td>3*</td>
<td>Jacinta Green</td>
<td>3*</td>
</tr>
<tr>
<td>Megan Duckworth</td>
<td>1</td>
<td>Kenny Travoilhon</td>
<td>3*</td>
</tr>
<tr>
<td>Kimlien (Lien Huang) Hoangthi</td>
<td>4</td>
<td>Kylie-ann Mallitt</td>
<td>2</td>
</tr>
<tr>
<td>James Lazenby**</td>
<td>2†</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kan (Flora) Chin Yi</td>
<td>4</td>
<td>Irina Lymareva</td>
<td>3†</td>
</tr>
<tr>
<td>Johnny Lee</td>
<td>2</td>
<td>Wai Ching Cheah</td>
<td>4</td>
</tr>
<tr>
<td>Lim Phaik Ee</td>
<td>1</td>
<td>Isa Chan</td>
<td>3*</td>
</tr>
<tr>
<td>Mandy Lung</td>
<td>2</td>
<td>Kate Odenthal</td>
<td>2</td>
</tr>
<tr>
<td>Anne Mai-Prochnow</td>
<td>4</td>
<td>Liu Rongmei</td>
<td>1</td>
</tr>
<tr>
<td>Ana Markovic</td>
<td>4</td>
<td>Francis Peters</td>
<td>2</td>
</tr>
<tr>
<td>Matthew Clemson</td>
<td>1</td>
<td>Rabeya Akter</td>
<td>3*</td>
</tr>
<tr>
<td>Müenchhoff Julia</td>
<td>1</td>
<td>Meera Ramachandran</td>
<td>3*</td>
</tr>
<tr>
<td>Ng Chong-Han</td>
<td>4</td>
<td>Tamim Darwish</td>
<td>3*</td>
</tr>
<tr>
<td>Octavia Sophie</td>
<td>1</td>
<td>Yun Lin</td>
<td>2</td>
</tr>
<tr>
<td>Pham Yen</td>
<td>1</td>
<td>Chowdhury Hasan Sarowar</td>
<td>3*</td>
</tr>
<tr>
<td>Purdwani Umi</td>
<td>2</td>
<td>Huang Yangen</td>
<td>1</td>
</tr>
<tr>
<td>Hannah Root</td>
<td>4</td>
<td>Akhmad Zaeni</td>
<td>1</td>
</tr>
<tr>
<td>Ashley Rose</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tracey Schubert</td>
<td>3</td>
<td>Elizabeth Angstrmann</td>
<td>4</td>
</tr>
<tr>
<td>Adrian Suharto</td>
<td>4</td>
<td>Julian Berengut</td>
<td>4</td>
</tr>
<tr>
<td>Abraham Tsoi</td>
<td>4</td>
<td>Zahra Bouya</td>
<td>3*</td>
</tr>
<tr>
<td>Christine Whittall**</td>
<td>2†</td>
<td>Jessie Christiansen</td>
<td>4</td>
</tr>
<tr>
<td>Catherine Woonough</td>
<td>4</td>
<td>Suzanne Kenyong</td>
<td>4</td>
</tr>
<tr>
<td>Maria Yung (Py)</td>
<td>1</td>
<td>Li Wei</td>
<td>1</td>
</tr>
<tr>
<td>Colin Thorpe</td>
<td>2</td>
<td>Marton Hidas</td>
<td>3*</td>
</tr>
<tr>
<td>Katherine Jackson</td>
<td>2</td>
<td>Andrew Mynott</td>
<td>4</td>
</tr>
<tr>
<td>Zena Kassir</td>
<td>1</td>
<td>Cormac Purcell</td>
<td>4</td>
</tr>
<tr>
<td>Prathapan Thillainathan</td>
<td>2</td>
<td>Peter Reece</td>
<td>2</td>
</tr>
<tr>
<td>Yatim Arashid</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XIming Du (Robin)**</td>
<td>2†</td>
<td>Beaty Karen</td>
<td>1</td>
</tr>
<tr>
<td>Melissa Scott</td>
<td>3*</td>
<td>Azzi Rola</td>
<td>2</td>
</tr>
<tr>
<td>Lily Ting</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beth Everett</td>
<td>1</td>
<td>Rupert McCallum</td>
<td>2</td>
</tr>
<tr>
<td><strong>PHYSICS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SAFETY SCIENCE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MATHS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>OPTOMETRY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PSYCHOLOGY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kneipp Carl</td>
<td>4</td>
<td>Gracie Wang</td>
<td>1</td>
</tr>
<tr>
<td>Mei Ying Boon</td>
<td>3*</td>
<td>Kittuya Somphol</td>
<td>1</td>
</tr>
<tr>
<td>Paul Gifford</td>
<td>3*</td>
<td>Hu Mai Dung</td>
<td>1</td>
</tr>
</tbody>
</table>

* 4* **workshop to be completed in session 1 2006**

** recorded as 2 separate program attendances as these sessional teaching staff restarted the program.

† deferred to 2006
<table>
<thead>
<tr>
<th>MS&amp;E</th>
<th>EXTERNAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdulla Al-Motin (Roney)</td>
<td>2</td>
</tr>
<tr>
<td>Anbusathaih Varatharajan</td>
<td>3* 1 (UWS)</td>
</tr>
<tr>
<td>Andrew Adipuri</td>
<td>3* 1 (POW, Virology, BABS teaching)</td>
</tr>
<tr>
<td>Ayesha Hag</td>
<td>3* 1 (Medical Sciences)</td>
</tr>
<tr>
<td>Dong Xuefeng</td>
<td>1</td>
</tr>
<tr>
<td>Hamidreza Mohensi</td>
<td>4</td>
</tr>
<tr>
<td>Hong Lan</td>
<td>1</td>
</tr>
<tr>
<td>Humara Sultana</td>
<td>2</td>
</tr>
<tr>
<td>Indra Kemal</td>
<td>3*</td>
</tr>
<tr>
<td>Muhammad Mahfuzur Rohman</td>
<td>2</td>
</tr>
<tr>
<td>Muhammad Yaser Lone</td>
<td>2</td>
</tr>
<tr>
<td>Othman Norisan Kamil</td>
<td>1</td>
</tr>
<tr>
<td>Pedro Yunes</td>
<td>2</td>
</tr>
<tr>
<td>Rajnish Singh</td>
<td>1</td>
</tr>
<tr>
<td>Runyu Yang</td>
<td>1</td>
</tr>
<tr>
<td>Sheikh Abdul Rezan</td>
<td>2</td>
</tr>
<tr>
<td>Shimun Wu</td>
<td>1</td>
</tr>
<tr>
<td>Tim Palmer</td>
<td>3</td>
</tr>
<tr>
<td>Vanessa Li</td>
<td>3*</td>
</tr>
</tbody>
</table>

* 4 = workshop to be completed in session 1, 2006
† = deferred to 2006
Science Tutor/Demonstrator Training 2005

The Office of the Dean certifies that

has successfully completed a three-day training program, developed and convened by the EdSquad in the Faculty of Science.

The program enhanced participants’ abilities to facilitate small-group learning in tutorials and laboratory sessions in Science. The following topics were addressed:

- Roles of a tutor
- Methods of engaging students
- Facilitating small group teaching
- Trouble shooting
- Marking, assessment, and plagiarism
- Cross-disciplinary collaboration.

Participants also observed, evaluated, and provided peer feedback on a tutorial/laboratory session taught by a fellow participant enabling them to become a more capable and reflective university instructor.

__________________________________
Professor Michael Archer
Dean, Faculty of Science
The University of New South Wales
This was an ‘anonymous’ questionnaire however each letter tracks one participant.

1. What did you find the most helpful aspects of the 2 workshops?
   (total 22 comments)
   a. Realising just how differently people think and how it would reflect in their teaching.
   b. Making the class interesting and interactive. Team work. Small group teaching.
   c. Identifying own role as a tutor.
   d. How to engage students. Strategies / tips.
   e. It re-affirmed what I previously suspected about teaching.
   g. Improve my teaching skills and interaction with students.
   h. Learning by doing, seeing some of the strategies implemented in the workshop.
   i. How to get to know your students, the importance and outcomes of activities and group (team) work.
   j. Sharing our problems and find ways to solve them.
   k. Teaching techniques / methods.
   l. Group discussion.
   m. Watching how facilitators taught group discussions.
   n. Confidence in tutorials.
   o. More interaction.
   p. Everything.
   q. Tips and strategies on group teaching.
   r. Thinking out of a box, getting feedback from students.
   s. Learning I’m not alone. The practical booklet.
   t. Designing our own segment.
   u. Booklet as a resource.
   w. Designing a segment.
   x. Found the amazing uses of Butchers paper. Emphasized efficiency of group work. Made feel that everyone has similar
      concerns, ie., not alone.
   y. Practice some strategies.

2. What did you find the least helpful aspects of the 2 workshops?
   (total 20 comments)
   a. Listening to groups presenting to workshops - could be much shorter eg. no groups adhered to 7 sentences. Should
      learn to be succinct.
   b. Marking etc. Which in a science subject is not all that difficult since there are hardly any open ended questions.
   c. Designing our own tutorial.
   d. Reflective practice
   e. The personality tests.
   f. Assumption that we have input into what we are doing and what we can do.
   j. Not enough opportunities for us to participate.
   k. Feedback from last semester students of this course.
   m. 1 min talks.
   n. It took more time for this training. You can reduce the time.
   o. No clear feedback.
   q. None.
   r. Designing a lab - most of my labs have been designed by my supervisor, I have no role in that.
   s. All the butchers’s paper. It’s wasteful. The pens are grotty.
   u. Format - too much butchers paper and small group discussions. No variety.
   v. How to engage student discussions. Student feedback.
   w. Not at all.
   x. All good.
   y. Feel nerves and don’t know how to overcome.
3. Can you comment on the facilitation of the workshops?
(total 22 comments)
- Well organised
- It was excellent in the sense that people who normally are quiet are also made to come forward and talk. In fact I went forward and talked in front of public earlier.
- Very well facilitated.
- Very interesting and revealing, gave me lots of ideas.
- Interest was maintained by breaking up the workshop and having lots of feedback.
- Incorrect timing issues. Lack of time for 2nd homework assignment was annoying.
- Very good.
- Its good. There's something that suits each one of us, and also, recognises out differences.
- Good.
- Effective.
- It was enlightening and gave a good example of how to get discussions going.
- More precise.
- Satisfactory.
- Yes brilliant.
- Really good.
- Good, keep up the good work.
- Sometimes vague but all makes sense in the end.
- Good. Well organised.
- Sometimes vague.
- Workshop facilitation nice.
- Very interesting / entertaining / light hearted.

4. What is one key issue, or topic, coming out of the workshops that you would like to explore further?
(total 21 comments)
- Expanding teaching style to include students who might not think in the same patterns as I do.
- Experimenting with difficult styles of teaching especially small group teaching.
- Strategies of teaching, just not enough during these 2 sessions.
- Laboratory demo.
- How to understand every student.
- Stimulating students to prepare and participate.
- Mention to students the importance of the topic you are explaining.
- Real life scenarios. Theory into practice.
- Working with others.
- Use of silence and encouraging words to facilitate discussion.
- Opportunity should be given equally to all trainees.
- It should be more result orientated.
- Student assessment. Behavioural control of students.
- How to be a better demonstrator/tutor.
- Making myself and the students I teach feel enthusiastic and keen to learn beyond the lab/tutorial.
- How to cope with engaging kids.
- Engage the students.
- Student engagement.
- Good.
- Team work.
- Different teaching strategies. How to deal with different students. More specific problems / problems solving / scenarios.

5. What is one idea, or strategy, coming out of this workshop that you would like to use in your practice?
(total 25 comments)
- Planning tutorials properly
- Engaging students by asking questions and making them actively participate.
- Facilitator role
- Repeating answers to students.
- Would like to be able to design the tuts but very unlikely.
- Different students need different ways to teach.
- Discussions in small groups (2-4)
i. Activity can let you know your students personality and this can divide them into groups accordingly.

j. Recognising students’ differences and make use of it.

k. Butcher paper.

l. Small group

m. Learning objectives.

n. Engage student always.

o. Confidence.

p. Ice breaking / revision.

q. Be more confident, prepared, explore more skills.

r. Getting student’s feedback of my teaching skills.

s. Changing my tuts to make them more interesting.

t. Communication.

u. Formulating lesson plans to maximise learning / participation.

v. Developing new skills further.

w. Engaging students

x. Ice breaker. Group work and getting students to find answers and help each other.

y. Engaging students, providing feedback, interesting tutorials to students.

6. **Any other comments, suggestions or questions you still have?**

   (total 7 comments)

b. Enjoyed it and had fun.

d. Very well prepared, very high quality workshop.

e. More on some of the pragmatic issues involved in tutoring.

f. Enthusiasm for this course is limited by the knowledge that ?my input is irrelevant due to course structure.

g. There are different levels in the same class and some subjects how to deal with it?

h. Make student interact each other which help them a lot.

p. None as yet, rather wait till course is finished.

7. **What did you find the least helpful aspects of the 2 workshops?**

   (total 20 comments)

a. Listening to groups presenting to workshops - could be much shorter eg. no groups adhered to 7 sentences. Should learn to be succinct.

b. Marking etc. Which in a science subject is not all that difficult since there are hardly any open ended questions.

c. Designing our own tutorial.

d. Reflective practice

e. The personality tests.

f. Assumption that we have input into what we are doing and what we can do.

j. Not enough opportunities for us to participate.

k. Feedback from last semester students of this course.

m. 1 min talks.

n. It took more time for this training. You can reduce the time.

o. No clear feedback.


q. None.

r. Designing a lab - most of my labs have been designed by my supervisor; I have no role in that.

s. All the butcher's paper. It's wasteful. The pens are grotty.

u. Format - too much butchers paper and small group discussions. No variety.

v. How to engage student discussions. Student feedback.

w. Not at all.

x. All good.

y. Feel nerves and don’t know how to overcome.
APPENDIX 3

Summary of Responses from trainees: Session 1, 2005 ‘Crossover’ Group (workshop 4)
(5 responses)

What do you feel you have improved most about your teaching? 5 responses
• More confident - able to control students
• Dealing with problems and questions
• Communication with students
• Ability to design a class

How do you compare yourself today with your view of yourself on Day 1 of the workshop series? 5 responses
• More relaxed with students and their problems
• More experience and know what to do

What have you learned about ways of improving your teaching? 5 responses
• Use of different teaching strategies and learning styles
• Ways to respond to students
• Keep trying new ways of doing it

What was the most helpful segment of this training? 5 responses
• Group discussions
• Ways of engaging students
• How to deal with students
• Everything
• Student assessment
• Self assessment
• Organisation of tutorial classes

What was the least helpful? 1 response
• Marking

Do you have recommendations for ways to improve this training? 4 responses
• Not at the moment. Honestly I enjoyed the workshop very much. Thanks for your help.
• Role play sessions
• More handouts
• More theory
• More on identifying students in trouble and strategies to deal with them
• In addition the participants were asked how they would evaluate their teaching and the training workshops.

Some demonstrators expressed disappointment that this teaching did not address their teaching environment explicitly.

Would you be interested in being a facilitator? YES NO
4 -
1 – probably too inexperienced at this a stage – maybe