

## Engaging Nationally in a Discipline Based Community of Practice:

### Lessons for Success

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## Evidence based teaching enhancement

## WHAT MAKES A GOOD LAB The Student Perspective

- Make it relevant to me
- Make it a good use of my time
- Make it applicable to my world
- Make sure I appreciate why I am doing the lab
- Make it challenging but do-able
- Let me have some say in how it progresses
- Let me design/make something that I can be proud of
- Let me enjoy working it out – don't make it into a chore
- Let me get involved in thinking about it
- **Be interested in helping me learn**



## ACELL Workshop

### Workshop Activities

Whilst the prime purpose of an ACELL workshop is the testing and evaluation of submitted experiments, workshops are designed to further all of the aims of the project. As can be seen from the timetable attached at the bottom of this page, each day of the workshop includes:

- a 1 hour panel discussion of issues relating to student learning
- two 3 hour laboratory sessions
- two ½ hour debrief sessions
- lunch and dinner



## Staff and student collaboration



The professional development aims of the project are furthered in two ways: firstly, through the formal panel discussions of educational issues, and secondly, through the insight into the student's perspective afforded by participating in the laboratory sessions with student delegates as equals. This involvement also provides students with a rare opportunity to interact with staff from many institutions over an extended period, providing them with networking opportunities and offering them some insight into the staff members' perspectives.



## ACELL Educational Template

### Public Documents

#### ACELL Educational Template, v1

This is the blank Educational Template that was used by delegates for the February 2006 Workshop.

> [Download Document](#), (Word Document 149kb)

#### Guidelines for ACELL Educational Template

This is the guidelines document that was provided to delegates preparing for the ACELL workshop in February 2006. It offers instructions on how to complete the template.

> [Download Document](#), (Acrobat PDF 79kb)



### Submission and Review Process

The stages involved in the evaluation and acceptance of an experiment into the ACELL database are as follows:

The original submission should include all notes necessary for the experiment to be run in a third party laboratory. At a minimum, this must include:

- Student Notes for the experiment
- Technical Notes for support staff to set up the experiment
- A Hazard / Risk Assessment for the experiment
- Anything else (such as results pro forms) that those carrying out the experiment will require

Demonstrator Notes will be required for the final submission, but these are not mandatory at this stage, as the submitter will typically act as demonstrator during the third party testing.

The original submission also includes sections 1 and 2 of the ACELL Educational Template - a guide to completing the template, plus a blank template, are available below.

Third party testing and evaluation has typically been at a workshop organised by the project, but there is no requirement that it be done in that way, provided that the testing is done by both staff and students, and feedback is collected. This feedback should cover both the experiment and its educational analysis - the surveys used for this purpose at the February 2006 workshop are available below.

Following third party testing, the submitter has the opportunity to modify the experiment prior to the collection of data on the students' experience when the experiment is run during normal classes in semester. This data collection is supervised by the ACELL team in order to comply with the ethics approval granted to the project, and is done either electronically or with a paper survey. In either case, the forms on the survey used are available below.

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<http://acell.chem.usyd.edu.au>

### Workshop Evaluation

The ACELL workshop offers a useful means to improve students' learning in laboratory exercises

Response	Staff (n = 26)	Student (n = 25)
Strongly Agree	80%	65%
Agree	20%	35%
Neutral	0%	0%
Disagree	0%	0%
Strongly Disagree	0%	0%

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### Workshop Evaluation

Participating in the ACELL workshop has increased my understanding of educational issues

Response	Staff (n = 26)	Student (n = 25)
Strongly Agree	40%	65%
Agree	55%	35%
Neutral	10%	0%
Disagree	0%	0%
Strongly Disagree	0%	0%

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### Educational template

- Handout for discussion

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### Related Documents

- **ACELL Educational Template\_v1** (Word Document 149kb)  
This is the blank Educational Template that was used by delegates for the February 2006 Workshop.
- **Guidelines for ACELL Educational Template** (Acrobat PDF 79kb)  
This is the guidelines document that was provided to delegates preparing for the ACELL workshop in February 2006. It offers instructions on how to complete the template.
- **In-Semester Survey** (Acrobat PDF 88kb)  
Following third party laboratory evaluation of an experiment, the submitter(s) have the opportunity to modify it based on its evaluation. Feedback is then collected from students at the submitting institution when experiment is run during normal classes using this instrument.
- **Workshop Survey A** (Acrobat PDF 88kb)  
This is the survey used at the 2006 Workshop to collect delegates' views on each submitted experiment.
- **Workshop Survey B** (Acrobat PDF 49kb)  
This is the survey used at the 2006 Workshop to collect delegates' views on the educational analysis within section 2 of the educational template - this section deals with the learning objectives of the experiment, the processes by which these objectives are achieved, and the indicators for both students and staff as to whether the outcomes have been achieved.

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### Experiment Database

There are several different types of experiments available on this site, each described by a status. These statuses are:

- **ACELL Experiment:** This experiment has completed all of the review and testing procedures of the ACELL project, and has been accepted into the database and for publication. Details of such an experiment are freely available to any registered user. To find out more about registration, click [here](#).
- **APCELL Experiment:** This experiment has completed all of the review and testing procedures of APCELL, the physical chemistry predecessor of the current project (click [here](#) for more information), and has been accepted into the database and published. Details of such an experiment are freely available to any registered user. To find out more about registration, click [here](#). We are presently in the process of uploading all the APCELL experiments into the new database, including transferring them from the [old APCELL website](#). Once this process is complete, the APCELL website will be decommissioned.
- **Experiment Under Review:** This experiment has been submitted to ACELL for testing and review, and is presently moving through this process. More details about this process are available [here](#). It is up to the submitters of experiments under review to decide whether to make their experiment available to registered users at the Ordinary or Academic levels, or to restrict access to only the ACELL management team. The process of uploading all experiments from the February 2006 workshop is incomplete, not all of the experiments under review are presently listed.
- **Non-ACELL Experiment:** The submitters of this experiment have asked that it be made publicly available, but it has not undergone ACELL testing. ACELL offers no guarantee as to the quality or feasibility of this experiment.

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## THE LABORATORY AS A TEACHING AND LEARNING TOOL

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“Students’ reactions to practical work often confirms the views of critics. It is quite common to hear them say that laboratories are boring, that they go through the motions of experimentation without stimulation and often without clear purpose.”

(Boud, Dunn & Hergart-Hazel, 1986)



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## THE LABORATORY AS A TEACHING AND LEARNING TOOL

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Why are students required to do practicals?

- To be trained in techniques
- To reinforce the concepts of the subject
- To learning how to carry out experimental inquiries



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## WHAT MAKES A GOOD LAB The Student Perspective

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“If we are simply following a recipe without thinking about what we are doing and without any idea why we are doing it – sure we get through the lab, but what have we learnt.....nothing much.”

“What is learnt along the way is what makes the journey worthwhile, how we get there counts - it's why I am here.”



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