



2008 Annual review

“It's our honour to give something back to the society. When you see the smile on students face when you talk to them or they feel someone values/cares about them....that is the best thing in the world.”

Peer Mentor, 2008

Welcome to the annual review of the **In2science** Peer Mentoring in Schools Program for 2008.

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Background information

Starting in 2004, **In2science** is a joint venture between the Faculty of Science, Technology and Engineering at La Trobe University and the Faculty of Science at the University of Melbourne. **In2science** is an exciting and innovative program that gets to the heart of Science and Mathematics through the use of university students as peer role models to engage with high school students and teachers.

The aims of **In2science** are:

- To generate enthusiasm for Science (especially the enabling subjects of Chemistry, Mathematics and Physics) in students in the middle years of their secondary education (Years 7-10).
- To place university students in schools to act as positive role models to secondary school science students inspiring them to achieve their potential.
- Through the role models, promote the value and rewards of Science as a positive career choice.
- To foster links between schools and universities.

In 2008 **In2science** was joined by the Science Faculty at **Monash University** who started placing Peer Mentors from semester two.

Funding Partners

In2science is proud to have the support of the following organisations as its major funding partners from 2008 – 2010:

The Department of Education and Early Childhood Development (DEECD)

The George Alexander Foundation

It is only with their kind support that we have been able to achieve what we have done so far.

This year **In2science** has continued to have wonderful support from staff in the faculties of Science at **La Trobe University the University of Melbourne** and **Monash University**. Our sincere thanks go out to all their staff members.

Board of Management

In2science is overseen by a Board of Management whose members are:

Chair: Dr. Barry Jones AO

Prof. David Finlay, Dean, Faculty of Science, Technology & Engineering, La Trobe University

Prof. Liz Sonenberg, Dean, Faculty of Science, the University of Melbourne

Prof. Rob Norris, Dean, Faculty of Science, Monash University

Prof. Bob Officer, Trustee, The William Buckland Foundation

Dr. Les Trudzik, Director, The Allen Consulting Group

Dr Alan Finkel, Chancellor, Monash University

Mr Ian Burrage, General Manager, Education Policy and Research, Department of Education and Early Childhood Development, Victoria

Ms Soula Bennett, Head of Middle Years, Northcote High School

Day to day program management is undertaken by:

John McDonald, In2science program manager

Jacinta Hubble, Assistant In2science coordinator, Monash Science Centre

Alison Wray, Project Officer, Faculty of Science, University of Melbourne

Achievements of In2science in 2008

In 2008 **In2science** continued to grow and diversify. It has become a known force in promoting engagement in science and mathematics within schools and the wider community and new programs are seeking our advice and support to establish mentoring in their own locality. **In2science** worked with 37 schools in Melbourne, Bendigo, and Wodonga.

Here are some of the **highlights** of this year:

1. **In2science** successfully gained funding from the **Department of Education and Early Childhood Development** and the **George Alexander Foundation** to continue the program till 2010.
2. **In2science** was joined by the Faculty of Science at **Monash University**,
3. A presentation on the **In2science** program was made at the 2008 Australian Universities Community Engagement Alliance (**AUCEA**) conference in September at the University of the Sunshine Coast ([conference proceedings](#)).
4. **In2science** case studies of best practice were presented at STAVCON '08 in November.
5. **In2science** program manager, John McDonald, awarded a La Trobe University Citation for Outstanding Contribution to Student Learning.
6. The successful addition of **ten** more partner government schools to the program.
7. The training of 98 new Mentors in 2008.
8. **Placing approximately 85 students** into partner schools each semester – up 30 on that of 2007.
9. Increased awareness of the program in our partner university communities with increased numbers of students looking to participate (recruitment for 2009 has over 150 students interested in being placed as a Peer Mentor).
10. New Board members in 2008; Liz Sonenberg, University of Melbourne, Ian Burrage (DEECD) and Alan Finkel (Chancellor, Monash University)
11. Internal evaluations found 100% of Peer Mentors feeling they were good role models to students.
12. Internal evaluations found 91% of school students wanting to work with a Peer Mentor in future lessons.
13. Internal evaluations found 49% of school students now more interested in pursuing science and/or maths beyond Yr 10.
14. Successful running of the third **In2nanotech** outreach program for nanotechnology, visiting schools in North Central Victoria.
15. Ten Mentors received certification and acknowledgement for long service to Mentoring (three placements or more). Double that of 2007.
16. Inaugural running of an **In2science** on-campus event, held at the University of Melbourne in early December.
17. Numerous excursions and incursions between the partner schools and the partner universities.
18. Mentors supporting teachers deliver the pilot STELR program at Northcote HS.
19. Introduction of a prize draw for Mentors and teachers participating in the program.
20. Establishment of a blog for mentors.

Current schools involved in the program (2008)

Eltham HS – '04	Mac Robertson Girls' HS – new '05	Coburg Senior HS– new '07
St Helena SC – '04	Glen Waverley SC – new '05	Fitzroy HS– new '07
Mill Park SC – '04		
East Doncaster SC – '04	Thornbury HS – new '06	Balwyn HS - new '08
Macleod College – '04	Viewbank Coll – new '06	Collingwood Coll – '08
Pascoe Vale Girls C – '04	McKinnon SC – new '06	Gilmore College for Girls - new '08
Northcote HS – '04	Preston Girls' SC – new '06	The Lakes P-10 School - new '08
Wodonga Middle Years College – '04	Mt Waverley SC – new '06	Montmorency SC - new '08
Melbourne Girls College – '04	Lalor North SC – new '06	Sandringham Coll - new '08
		Templestowe Coll - new '08
Flora Hill SC, Bendigo – new '05	Kangaroo Flat SC– new '07	University HS - new '08
Footscray City College – new '05	Kew HS– new '07	Westall SC - NEW '08
Reservoir District SC – new '05	Bundoora SC– new '07	Wheeler's Hill SC - new '08
Strathmore SC – new '05	Eumemmerring Coll, Gleneagles Campus –new '07	

During 2008 there were once again two rounds of placements; one in each Semester.

Semester One - Summary of Placements

In2science added new schools to the program and grew the number of students participating as Peer Mentors.

Placements ran for ten weeks in Terms 1&2.

	La Trobe University	University of Melbourne	Monash University *	Total
Number of university students who expressed interest in mentoring	82	52	2	136
Mentors actually placed	46	38	1	85**
Schools with In2science Mentors placed	Metro		Regional	
	30		3	33
Teachers	88		5	93
Number of classes	124		9	133
Students (based on an average of 22/class)	2728		198	2926
Placement No. of weeks				10
Hrs in schools (approx)/week				147

*- one Uni Melb mentor moved to Monash and continued a placement having mentored in 2007.

**- seven students did not complete their placement - three did not start and four pulled out during, for a range of reasons (illness, family commitments, study commitments)

Five more schools were added to the program: **Collingwood Coll, Montmorency SC, Sandringham Coll (two campuses), Gilmore College for Girls, University HS.**

Semester Two - Summary of Placements

This semester saw **In2science** grow. The additional schools were **Balwyn HS, The Lakes P-10 School, Templestowe Coll, Westall SC and Wheelers Hill.**

	La Trobe University	University of Melbourne	Monash University	Total
Number of university students who expressed interest in mentoring	50	46	14	110
Mentors actually placed	44	33	10	87*
Schools with In2science Mentors placed	Metro		Regional	
	33		3	36
Teachers	94		4	103
Number of classes	123		4	127
Students (based on an average of 22/class)	2706		88	2794
Placement No. of weeks				11
Hrs in schools (approx)/week				137

*- Six students did not complete their placement - one did not start and three pulled out during, for a range of reasons (illness, family commitments, study commitments) and two where the placement fell through

The following schools were unable to host mentors this semester – Mount Waverley SC and McKinnon SC.

Since **In2science** started in 2004 there have been **488** Peer Mentor placements interacting with **768** Year 7-10 classes working with approximately **16,800** students. Our Peer Mentors have provided over **8621** hours of mentoring support, which is a fantastic achievement.

Peer Mentoring Activities in Partner Schools

Throughout the year our Peer Mentors have supported the teaching of science and maths in a wide variety of ways. The most common activity for Peer Mentors is supporting students to undertake their class work and practical activities. Peer Mentors help the students understand the topics being covered and help them take an investigative approach to their studies. Much of the time they have worked on a one-to-one basis with

students. Teachers have had the opportunity to do new activities supported by a Peer Mentor and to gain some professional development from them on subject areas with which they are less familiar.

Examples of the variety of ways in which Peer Mentors have contributed to the teaching of Science and Maths this year:

- Supported IT sessions in both Science and Maths classes,
- Running science workstations,
- Animal dissections,
- Helping students investigate geology,
- Forensic science practicals,
- Nanotechnology presentations,
- Excursion to Pharmacology lab at the University of Melbourne,
- Presentations on genetics,
- Field trips to the Melbourne Wildlife Sanctuary, Melbourne Zoo, RSPCA
- Helping teachers plan physics units,
- Providing professional development to teachers,
- Visits to La Trobe's microbiology labs and material science labs,
- Visits to the University of Melbourne Zoology museum;
- Demonstrating practicals,
- Made presentations about their own career path from Y10 to current year,
- Supported research for science projects,
- Allowing teachers to try new methodology,
- Arranged for academics from the university to run gel electrophoresis sessions in school.

Once again our Peer Mentors have been extremely active throughout the year supporting many varied activities and helping to engage the students.

Mentor awards for long service

This year saw the acknowledgement of several of our longer serving Peer Mentors (those who had undertaken 3 or more placements as part of the program). Mentors were presented with letters of commendation from the Dean of Science or their respective institution of study during a morning tea or lunch event. Students receiving commendation were:

LTU

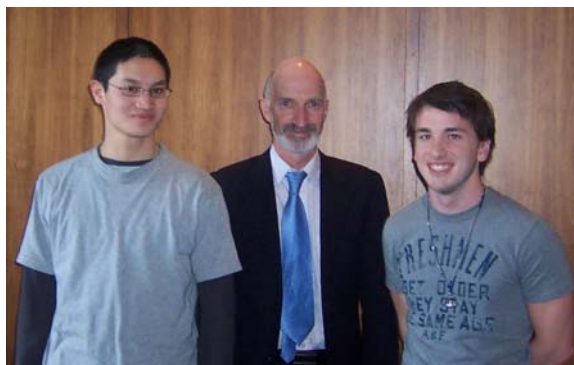
Megan Huggard
Amanda Perdomo
Rebecca Pantelejenko
Bonita Wright
Alisha Taylor
Vita Cottone

Uni Melbourne

Victoria McGrath
Shaun Khoo
Richmond Glasgow
Victoria Murphy



Prof Finlay with Megan, Amanda and Rebecca at La Trobe University (semester one)



Prof Phil Batterham with Shaun and Richmond at the University of Melbourne



Prof Finlay with Bonita and Vita at La Trobe University (semester two)

In2science is proud to have so many Mentors show so much commitment to the program. These events will continue a regular way or rewarding the Peer Mentors as it continues.

In2nanotech Outreach Program

In 2006 **In2science** applied for funding to offer regional schools a program of visits by Mentors to enthuse their students. The idea was to run a nanotechnology-based activity in regional schools using Peer Mentors. Nanotechnology was chosen as it is a new and exciting aspect of science that is becoming part of the curriculum. It covers physics, chemistry and biology so appealed to a diverse range of students. It is also a topic that many teachers have asked about from a professional development point of view.

Nanotechnology Victoria LTD kindly provided funding for the **In2nanotech** program to run visits to three regional areas of Victoria; one a year for three years (2006, 2007, 2008).

The final roadshow visited schools in **North Central Victoria** in November 2008. Here seven schools had a 2hr session of hands-on workshops to introduce students to the concept of nanotechnology. University Peer Mentors ran activity stations and discussions as part of the program introducing students to nanoparticles, nanocoatings on glass, smart surface sprays, switchable glass, nano treatment of textiles, Thermochromic paper, ferrofluids and memory wire

Evaluation results for this event were extremely positive with staff and students gaining much from the experience, 87% (n=131) of students said they were/maybe more interested in science after the visit. 85% of students found the workshops interesting.

Many thanks to our Mentors Daniel Langley (LTU), Leigh Sands (LTU), Rebecca Langley (LTU) and Emma Thornton (LTU) for giving up their time to help run this activity.

More details can be found at: <http://www.latrobe.edu.au/scitecheng/mentoring/in2nanotech.htm>

In2science Day, University of Melbourne

In early December, **In2science** organised an event at the University of Melbourne for Y9 students from our partner schools. Approximately 60 students attended the day which involved workshops from Genetics, Earth Science, Chemistry and Marine Biology. The day concluded with an interactive show by the Department of Physics.

Many thanks to Alison Wray and the staff of the Science Faculty for facilitating this excellent day.



Students at McGuire College discover switchable glass



Students from Northcote HS investigate genetics

In2science Evaluation - Process and Findings

The **In2science** evaluation process took place in both semesters, incorporating 157 informal Mentor placement visits by the Peer Mentoring manager, Jacinta Hubble and Alison Wray to see the Peer Mentors in action and support them on their placements. These visits also offered the teachers the opportunity to give feedback and ask questions about the mentoring process.

Internal Evaluation

At the end of each semester there was an internal assessment of the program. This involved questionnaires being given to students, Peer Mentors and class teachers. At the end of the year informal meetings with each Link Teacher were arranged to review the year from the schools perspective:

i. Mentor Evaluations

Total number of returns= 71/159 (33/78 sem 1) (38/81 sem 2)

	Strongly agree		Agree		Disagree		Strongly disagree	
		%		%		%		%
Did the training prepare you well enough?	26	36.6%	44	62.0%	1	1.4%	0	0.0%
Have you gained a sense of doing something useful?	38	52.8%	28	38.9%	5	6.9%	1	1.4%
Have you improved your communication skills/	23	32.4%	45	63.4%	3	4.2%	0	0.0%
Has your own subject knowledge been reinforced?	18	25.4%	41	57.7%	10	14.1%	2	2.8%
Has being involved improved your self confidence?	21	29.6%	45	63.4%	5	7.0%	0	0.0%
Have you gained an insight into others learning?	39	54.9%	31	43.7%	1	1.4%	0	0.0%
I feel I have helped students understand their work better?	24	33.8%	43	60.6%	3	4.2%	1	1.4%
Been useful for career decision making?	32	45.1%	31	43.7%	7	9.9%	1	1.4%
Interfere with Uni studies?	4	5.6%	12	16.7%	38	52.8%	18	25.0%
Did the students gain an insight into university?	6	8.5%	44	62.0%	19	26.8%	2	2.8%
Do you feel you were a good role Model?	17	23.9%	54	76.1%	0	0.0%	0	0.0%

- Peer Mentors continue to have a sense of doing something useful and value the opportunity to get involved and develop their skills, both scientific and communication. There was a 10% increase on the 2007 results of students commenting that they ‘*strongly agreed*’ with this statement.

“I became involved in the program because I wanted a positive light to be shed on science in attempt to scrap the boring, nerdy stereotype as I had encountered in high school. I was involved in helping to set up activities run by the teacher based on the area of study. Some of the fun activities were building go karts, learning about different plants and games on forces.”

“I feel as though I have made a good impression on the students and have encouraged many of them to consider university and science in their futures so that makes me happy.”

- There was a 10% increase on 2007 of Mentors saying they ‘*strongly agreed*’ that the experience was useful for their **career decision making** (45.1% in 2008 compared to 35.4% in 2007).

“Decided to participate in peer mentoring because I’m interested in teaching in the future.”

“I became involved in In2science as I was planning on becoming a teacher after I finish my science degree. I wanted to get a sense of classroom life before I did education to make sure

this is really what I wanted to do. Luckily for me, being a mentor only increased my desire for teaching, and reinforced my career decisions."

- Several Mentors have applied for teaching courses in 2009. Most citing **In2science** as influential in both their decision making and confidence to apply for such courses.

"my placement made me sure that I really wanted to be a teacher, and gave me the opportunity to have a classroom presence and gain experience without the added pressure of actually teaching the class, planning, discipline, etc. I looked forward to In2Science each week, and enjoyed going home and preparing for each session. I thoroughly enjoyed my mentor placement, and will definitely do it again."

"A belief that I could be an OK teacher and a feeling of satisfaction from helping and hopefully inspiring the students."

Some Mentors did comment that the experience helped them decide teaching was not for them.

"I know that teaching is not a career for me, especially at its current rate of pay. I still enjoy working in the program and find assisting students rewarding in-itself."

- Training continued to receive positive feedback with all but one Mentor answering 'strongly agreed' or 'agreed' to being well prepared to go into the classroom.
- Mentors all felt very positive about their role; 100% 'strongly agreed' or 'agreed' that they were a good role model.

"I thought it was an opportunity that allowed us to communicate university life with high school students to provide an insight into what Uni. life is somewhat like and how it differs from secondary education."

"I was keen on helping the students from high school become more enthusiastic about science, while also looking forward to being able to apply much of my own knowledge."

"I became involved because I was looking for a different volunteering experience that could impact people directly, as well as to have fun and learn a few things along the way."

"I wanted to share my passion for science with young people and to help promote enthusiasm and interest about what they are learning in school. I also hoped to provide an insight into what 'real' science is like."

- 93% of Mentors commented that their **self confidence** had improved.

"I feel that the program has definitely helped to improve my confidence and communication skills. As my two schools this year have been quite different, I also feel like I have a valuable insight into how a broad range of students learn best, and how to engage them in different ways."

"I became involved in the program at the beginning of the year to give something back to the community, and also to help improve my confidence and communication skills. I had such a great time in first semester that I had to come back again!"

"Put me out of my comfort zone, helped my confidence with strangers."

"Communication skills and the confidence to interact with younger people."

"Confidence and communication skills"

"Especially in the area of science, one needs to be able to convey ideas and concepts effectively to a pool of audience who might not understand the scientific jargon involved. This programme allows one to really practice this important skill, which is extremely important in the area of science research."

"Greater understanding of why I'm doing what I'm doing, I feel I can communicate ideas better. It took a while! More confidence in myself as well."

“It was a lot of fun as well as being quite challenging. I also gained a taste of what it feels like to be in a leadership role and the attending responsibilities.”

- Mentors were asked to give reasons **why other university students should be involved** in the program and they came up with some very positive and interesting reasons:

“Absolutely, it is a great way to promote Maths and Science faculties within a University.”

“It's an experience that helps reinforce what you know or tells you what you don't know. It's a good way to look back on what we used to learn and think about the same or similar questions in a different way - and see how much we have actually learnt over the years.”

“It's a low number of hours of commitment.”

“It's a worthwhile experience that helps you grow in more ways than one.”

“It is an amazing experience for both sides (mentor & the students)

“It is so rewarding, fun, entertaining, helpful for confidence and expressing ideas clearly.”

“It's our honour to give something back to the society. When you see the smile on students face when you talk to them or they feel someone values/cares about them....that is the best thing in the world.”

“I think In2Science is a great opportunity and everyone should get involved! It really gives you a sense of doing something useful with your time, and it is a very rewarding experience. It also helps you break out of your comfort zone, and help to improve your confidence. It is also a great way to learn how to communicate to a wide range of students who all have different strengths, weaknesses and learning strategies. If students are thinking of teaching in the future, then this program is absolutely invaluable.”

- Mentors commented that they gained much from the experience.

“I feel that I have gained valuable skills working with young people, particularly I feel that I have gained a lot from being forced to think of different ways to communicate science. The most rewarding part of the placement was seeing light bulbs switch on once students finally understood!”

- This semester the Mentors were asked if they felt the placement had helped their university studies. Responses were variable though were they felt it had not helped they were positive about it.

“Helped me to think a bit more about the other side of learning things - that is explaining things to people, which I think helps you learn better and ask better questions.”

“It didn't. But that's not a bad thing. I didn't volunteer for this to aid with my studies, I'm not doing education.”

“Increased communication with the academics.”

“The program helps my education study in Uni. greatly. It gives me opportunity to apply the theories we have been learning and also what is really happening at classroom.”

“Better organisation and confidence.”

“It helped when I had to write reports that would be accessible to everyone.”

“Revised things that I haven't looked over in years and also it taught me that studying is important but it's what you do with it that's the most important of all.”

“The program helped to improve both my written and oral communication skills, which are both critical and valuable skills in my chosen profession, a chemist.”

“Meant I was out of bed on Monday by 9am!!! Doing physics class really helped my knowledge and made me more confident about maths.”

“It made me more conscious of time management.”

“I feel that by returning to basics I have had a chance to think more clearly about the foundations of my studies, and that this has strengthened my own knowledge base.”

“This placement has forced me to find different ways of communicating science to people of differing abilities.”

Mentors responses varied and they seem to gain a range of benefits particular to their own learning and experiences.

- Mentors only had a few issues and this mainly related to communication problems with the class teacher or the lack of opportunity to interact with the students. This seems to be a recurrent theme and is difficult to address as each semester the schools are under different pressures:

“Teacher going on unexpected leave, but coped OK”

“Yes, some issues did arise. That is where the training was useful so I knew how to handle the issues.”

“Just the first couple of weeks when I was settling in I felt a bit out of place and didn't feel or know if the kids wanted me there.”

“No. The class teacher was very willing to work with me and the students were generally quite receptive to me.”

“My link teacher along with other teachers at the school where all very accommodating and i had a really great experience mentoring there.”

“Only that many of the lessons were board notes and videos which doesn't give you much of a chance to talk to the students. Also one week the students were on an excursion and I wasn't told that they were going. So I'd gone all the way to the school and they weren't there. They did put me in a different class for that week but it was still frustrating.”

“2 weeks of work experience and 2 weeks of holidays took a lot of time away from the class.”

- Some issues did arise where Mentor felt the class teacher did not have a full understanding of the role of the Mentor and the possibilities for utilising them.

“The teacher was new to the program and so didn't know exactly why I was there at the beginning, and also didn't explain to the students why I was there, although this didn't impact on my involvement during the classes.”



ii. Student Evaluations

Total number of school students returns= **907/2600** (390/1330 (sem 1), (517/1270 sem 2)

Did you find the Mentor helped you learn more?	Most of the time	Some of the time	Not at all	
	51.6%	43.1%	5.3%	
Did having the Mentor make the lessons more interesting?	Yes	No	Sometimes	
	53.8%	9.8%	36.4%	
Do you think the Mentor helped you understand the topics?	Yes	No		
	86.7%	13.3%		
Did the Mentor become more confident and skilled than at the start?	A lot more	More	No change	Less
	24.3%	61.2%	13.6%	0.9%
Are you now more interested in pursuing the subject beyond yr 10?	Yes	No		
	49.1%	50.9%		
Would you like a Mentor to help with future lessons?	Yes	No		
	90.9%	9.1%		

- Students felt they learned more, 51.6% said ‘*most of the time*’ (up 6.7% on 2007), 43.1% said ‘*some of the time*’.
- There was once again an **increase** on previous year’s results in the number of students saying lessons were ‘more’ interesting with 53.8% saying ‘yes’ and 36.4% saying ‘*sometimes*’.
- Again there was an increase to 86.7% of students felt they understood the work better with Peer Mentors present, mainly due to there being more adults to ask for help. This was up on last year by 6%.
- The number of students now interested in pursuing the subject beyond Yr10 again rose higher than last year with **49.1%** now more interested which is a great achievement.
- **90.9%** of students want a Peer Mentor in future lessons. This is again an increase on 2007.
- Students commented:

“[Mentor] was very knowledgeable and was always ready to help and was exceptional in explaining things in terms I could understand. She explained to me things like physics equations and chemistry moles”

Y10

“The mentor is helpful because he is in the science industry and knows all the new experiments and results. He is intelligent and talks about science with interest and it reflects on us.”

Y10

“[Mentor] came up with a good way of revising and made it fun.”

Y11

“[Mentor] really made our lessons a little more fun.”

Y7

“To make it more interesting [Mentor] gave us stickers which everyone wanted so they participated.”

Y8

“[Mentor] helped explain things when the other teachers were busy. He gave heaps of encouragement and it was nice to have someone give a younger view of things. He made science classes heaps of fun and was always smiling”

Y7



"[Mentor] taught us bases [in maths]. All of us didn't know it before and now we are teaching the whole class about them."

Y7

"[Mentor] helped us in heaps of ways. Every time he explained some maths problems i understood what he was talking about. I am glad we had him as a mentor."

Y7

"[Mentor] helped us in many ways; he provided information and knowledge to help us with our project. I know for a fact if we didn't have his help our project wouldn't have worked as well as it did."

Y9

"It's hard only having one teacher. [Mentor] helped explain stuff and help when our teacher was busy. Also, it's good to have someone youngish to relate to."

Y10

"They [mentors] make classes a little more interesting as they are a change from the normal teacher. This is also the reason why kids were better behaved."

Y7

"Mentor made the class more interesting and that made me listen and learn. She taught things that I enjoyed learning about."

Y9

"Mentor interacted and mingled more, she made science fun for me."

Y8

"[Mentor] discussed everything with us 1-to-1 and she was very effective on our learning."

Y8

"[Mentor] always came up to me when she knew I was stuck and we solved the work/questions together."

Y8

"Mentor helped a lot in the class. She made the class more interesting and it would be good to have another mentor in the future."

Y9

"[Mentor] was friendly and helpful because she understood it and knew what it was like not to understand and she helped me understand."

Y7



Overall feedback was positive and on par with previous years. Very few students commented that they did not receive help from the Mentor.

iii. Class Teacher Evaluations

Total number of returns= **100/196** (36/93 sem1) (64/103 sem 2)

Subject area	Gen Sci	Maths	Biol	Chem	Physics	Earth Science
	63.9%	16.8%	6.7%	6.7%	4.2%	1.7%
Year Level	7	8	9	10	11	
	29.3%	17.1%	22.8%	22.0%	8.9%	
Did having a Mentor cause disruptions	Yes	No				
	7.1%	92.9%				
Was more planning required for lessons?	Yes	No				
	15.0%	85.0%				
Did Mentor help organise any activities?	Yes	No				
	38.2%	61.8%				
Is there any way you could have made more use of the Mentor?	Yes	No				
	59.6%	43.4%				
Rate Mentors impact on enthusing students?	All enthused	Some enthused	None enthused			
	45.6%	54.4%	0.0%			
Would you like a Mentor in future?	Yes	No				
	95.0%	5.0%				

- As per the programs aims most placements took place in classes from Y7 – 10 with only a couple of students working with Y11 classes in subject areas specific to their degree.
- Teachers continued to give a very positive response to the program.
- **Years 7, 8 and 10** were the more popular years to place Mentors.
- 92.9% of teachers felt that the Mentor caused **no** disruption (up on last year). Comments regarding disruptions continue to be focused on having to plan for activities to allow the Mentor to interact, changing sequence of lessons and Mentor attendance:

“Not disrupting but I had to plan ahead to try to do something that [mentor] could be involved in.”

“Reduced flexibility of what could be done in a lesson eg cannot run a theory lesson, must run a prac, hands on lesson”

“Infrequently mentor would interrupt my explanations to highlight some aspect of the topic. This interruption made students question my knowledge of the subject base.”

“Had to change planning.”

“Inconsistency of attendance can be disruptive for students.”

- **85.0%** of teachers felt there was **no additional planning required**.
- Only **38.2%** of teachers said the Mentors contributed to planning. In some cases this was due to a lack of confidence or time by the Mentor. Several teachers commented that they had discussed activities with the mentor but time had worked against them. Mentors helped by:

“Developed extension material that she presented to a number of students.”

“Mentor was prepared to seek out alternative information, diagrams and notes to use.”

“Brought models of molecules.”

“Organised a double period demonstration of light apparatus in school auditorium.”

“Mentor helped in planning from week to week.”

“Mentor was able to hold class discussions and show a video to the class (under CRT supervision) while I was away.”

“Mentor and I discussed her strengths beforehand and built this into the lessons.”

“Organised a demonstration on DNA extraction.”

“Mentor suggested and organised an excursion to the Zoology museum at Uni Melb. He provided a great insight into the industry and university culture to the students.”

“Planned a talk, posters, handouts for science week.”

“[mentor] gave the students a presentation on mining and chemical processes.”

“I am sure [mentor] would have helped plan excursions or part of a lesson. However, he helped me on the last two periods of my 6 on day and there simply was no time to work together in this way.”

“Completed a rat dissection.”

“Lead sustainability project.”

“Helped set up equipment while I was explaining to the class. Organised an excursion to LTU physics department.”

“Mentor accompanying us on a trip to the Zoo. She has also investigated and sourced suitable monitoring equipment to be used to monitor the body temperature of our class lizards and rabbit for an experimental research activity.”

“Came along to our excursion to the RSPCA.”

“Ran experiment on extracting DNA from strawberries. It was excellent.”

Teachers are utilising the mentors in a broader range of ways as they become more used to the program and how the Mentors can be utilised. Schools associated with the program for the longest time seem to be the ones that are expanding the use of the Mentors to support teaching and learning within their classes.

- This year fewer teachers felt they could have **done more to maximise** the benefits of having Mentors in the classroom 59.6%, down 13% on last year. It seems that teachers have had Mentors before and are happy with the role they take in the classes and how they are utilising them in the classroom. Where teachers did feel they could have utilised the Mentor to a greater extent, they had the following types of responses:

“If I had been able to be more prepared, mentor could have had a more interesting role (esp in relation to pracs in her field of expertise).”

“I should have been better prepared. There is scope for the mentor to suggest pracs so we can focus on their area of expertise.”

“Doing more open ended discussions and experiments.”

“I should have planned a more specific role for the mentor.”

“Discussed with mentor ideas for lessons so that both of us could create interesting and fun lessons for students.”

“Team teach (based on mentors studies).”

“Been more organised and aware of their role so I didn’t schedule tests for that session.”

“I would have liked to do more pracs.”

“I would like to increase the scope of the interaction with small groups of students in demonstrating/facilitating experimental work and other hands on activities.”

“The mentor was offered the opportunity to play bigger parts in class but unfortunately she declined.”

Some Mentors are more willing to push their comfort zone and others have much higher levels of confidence. In some cases the Mentor’s ability and confidence did reduce the options teachers had to engage the students.

- Teachers were asked to rate the success with which their students had been enthused. This was extremely positive with all teachers commenting that ‘most’ (45.6%) or ‘some’ (54.4%) of their students were enthused. This was also reflected in the students’ comments.
- Teachers identified many different benefits of having the Peer Mentors in the classroom:

“Mentor was able to relate to the students and provided a positive role model for them. Very approachable and knowledgeable.”

“Organised, gave clear notes and description of issues. Pleasant approach, low key, kept on track and kept focussed on learning outcomes. Maintained discipline and kept students on task.”

“Extra person to help explain things. Different mode of presentation. Youthful enthusiasm.”

“Mentor was extremely helpful and pleasant. Students appreciated having a different point of view and a fresh face each week. Having a mentor allowed me to do experiments every time, as I had an extra pair of hands.”

“Extra pair of eyes for y7 pracs. Helpful for revision in Y11 biol.”

“A great role model as she is an ex-student.”

“STELR project is about linking engineering and science, so it was excellent having a mentor with a strong background and understanding of these areas. Students were able to ask mentor about potential pathways and where they might lead.”

“Mentor worked one on one with the weaker students and was able to do so in a calm and confident manner which was much appreciated by the students.”

“Another pair of hands is always useful. [Mentor] helped students to stay focussed and to gain more from their prac work by asking them questions about what they were doing and the results they obtained.”

“[Mentor] was particularly good at helping extend students understanding of various parts of the course. If a student asked a question that I did not have the time or expertise to answer in detail, [mentor] would discuss with student and explain in depth. Was a great help and support to me.”

“Extra pair of hands able to speak the student’s language and translate ‘teacher speak’!”

“[Mentor] showed these able maths students that normal people can do impressive studies at university, that girls can do ‘hard’ subjects and you can enjoy study after school.”

One teacher commented that having the Mentor in the class gave her the opportunity to ask for feedback on her lessons and the extent to which the students understood the work.

“[I was able to receive] feedback on [my] teaching”

- Teachers continue to see there are many benefits from the program and all schools and teachers (except five over the year) who responded to the questionnaire wished to continue their involvement.

- Communication between the teacher and the Peer Mentor once again is seen as crucial and teachers need to be continually encouraged to establish lines of communication with their Mentor.
- When asked to note any **advice** they would have for a teacher having a Mentor for the first time, current teachers responded:

“Have well planned collaborative tasks that the mentor can provide assistance with.”

“Meet with them prior to them starting or before/after lessons so that you can plan together rather than just organising tasks once the lesson has begun.”

“Endeavour to delegate specific activities/tasks to the mentor. Have a long range plan.”

“I can imagine that different teachers would use the mentor differently. However, I would recommend they take one. I have found both mentors that have helped over the last two years invaluable.”

“Get them involved as much as possible within the classroom...and use their recent university background.”

“Discuss how you can both work together.”

“Enjoy it! Remember that the mentor is not a student teacher and will need direction in keeping student attention etc. value the experience as enriching for you and your students.”

“Be supportive and allow them to determine what they want to get out of the program and how involved they want to be.”

“Get a good understanding of who will do what. Have a plan to cover emergencies eg, discipline concerns.”



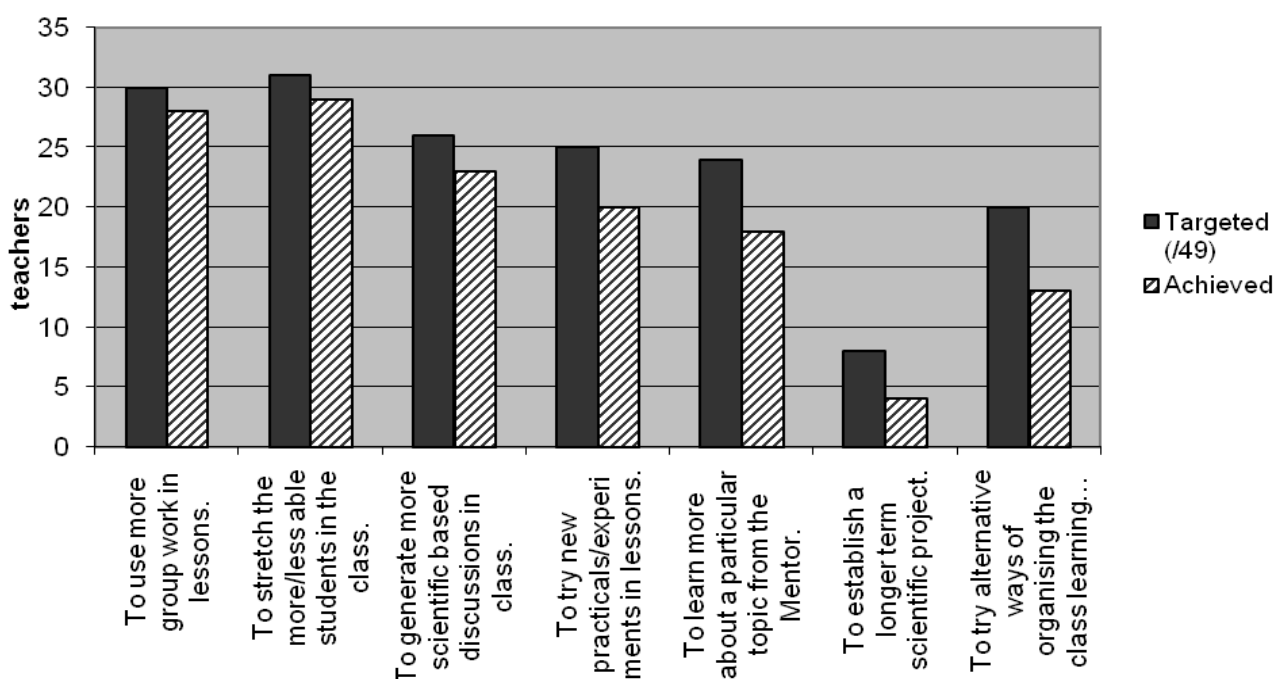
Planned Outcomes

Teachers were asked to identify outcomes they wished to achieve from having a Mentor work with them in the classroom. In most cases teachers felt they achieved a range of outcomes that enabled them to increase student engagement in the lessons.

N=49

	Targeted (/49)	Achieved	% achieving goal
To use more group work in lessons.	30	28	93%
To stretch the more/less able students in the class.	31	29	94%
To generate more scientific based discussions in class.	26	23	88%
To try new practicals/experiments in lessons.	25	20	80%
To learn more about a particular topic from the Mentor.	24	18	75%
To establish a longer term scientific project.	8	4	50%
To try alternative ways of organising the class learning environment E.g. using work stations that the student move between.	20	13	65%

teacher planned outcomes for placement 2008



In most instances teachers set targets and were on the whole successful in achieving them. By setting targets it allowed the teachers to keep a focus on what they wanted to achieve through having a Mentor in the class. The lowest success rate was in teachers wanting to establish a longer term scientific project, though only eight teachers wished to achieve this.

iv. Link Teacher Evaluations

Link teachers were asked to give summary feedback on the placements.

(n=21/36)	2008
Where you able to explain the program to staff	
Yes	15
In2science to do	5
how easy was it to allocate placements	
Easy	9
OK	8
Difficult	1
Do you feel you could accommodate more mentors next semester	
yes	15
no	6
Willing to be involved next year?	
yes	17
no	1 (not sure)

- Once again the main issue concerning Link teachers was the issue of **matching the availability** of Mentors to the **needs** of teachers. This continues to be an issue and is usually resolved through negotiation.

“It is not easy but the in2science program is valued so we try to make timetable changes so as to allow them to come in. being a small school so far there is more flexibility.”

“Mentor availability was limiting to the days they could attend; given that we operate 4 sessions a day, what classes they participate in was limited.”

“Trying to rotate staff members who have mentor students which is an additional factor to involve in the situation.”

“In2science has become part of the science program/experience. Most teachers request to have a peer mentor.”

“Our fortnightly timetable means putting mentors into the same classes and ensuring they have the opportunities to complete interesting activities, eg lab access, can be really tricky.”

“Most teachers happy to have help.”

“Our timetable changed between terms 2&3 and again between 3&4 as well as subtle changes to mentor timetables.”

“Teachers were very willing to take on mentors.”

“School is quite small so matching times can be difficult as we don’t have enough classes running.”

- Occasionally there have been cases where Mentors have not been able to be placed and no alternatives can be found.
- Link teachers were asked to comment if they had evidence to say students were more interested in science and maths. The general feedback was that this is difficult to measure though comments received were positive:

“[mentor] worked with small group in a sustainability project. The students found this activity very engaging and are interested in sustainability more.”

“Students seem to be more engaged when the mentor is working with their classroom teacher. If the match is good between peer mentor ⇒ teacher ⇒ class, this has a great influence on the students connectedness with science.

“No- although the Y8 class now have definite views about whether or not they will continue biology.

“Yes! Anecdotally students are interested in science and maths and pursuing university careers.

“Our numbers have increased for VCE science subjects for next year – Yippee. On a recent excursion to SynFM radio station, some of our weak Y9 students named their radio program “the Phagocytes” and knew what it meant!

“Any extra interaction with students in science is a benefit. The closeness of ages and a knowledge of for example contemporary culture is an advantage in connecting with the students at school.

“The written feedback of some of the students indicated that having the mentor in class increased their interest in science and they were therefore more likely to pursue science subjects in the future.

“From discussions this year the maths staff have mentioned that students have been inspired to achieve in maths so they can pursue similar courses at uni like the mentors.

- Link teachers were asked how **In2science** had helped their schools science teaching outcomes:

“Planned and designed specific group work and practicals to be supported by Mentor. Discussions with Mentors added different perspectives to the activities being conducted. Mentors provide an extra pair of responsible eyes, hands and head to watch out for unsafe or risky behaviour during practical activities.”

“Without [mentor’s] help with the project, my job would have been a lot more difficult. He was able to add expert insight into sustainability that I would not have been able to add.”

“It helps students connect beyond the classroom. Positive role model for students. Assists teachers in following science program. Bringing a fresh approach to classroom.”

“Encourages teachers to plan better. Encourages teachers to plan interesting activities. Encourages range of different learning styles. Encourages students to see science as cool and interesting.”

“All the mentors have made important contributions to the classes they have been in. through working with struggling kids and organising excursions, it would be fair to say that most students learning has been improved.”

“It allows teachers to be more effective in the classroom as there is someone else to help as well as motivate and bounce ideas around.”

“The attitude towards the subject (science) has changed. It was very positive to bring a person of similar age who had achieved the goal.”

“Having real life examples of young people pursuing and therefore inspiring school kids to seek science as a career is a good thing. During lesson the students here would gradually ask questions and the mentor would normally respond. It works well.”

“Teachers are more aware of facilities available and different ideas.”

Schools are now integrating the program more into their teaching programs which is having additional benefits.

- Link teachers were also asked if there was anything else **In2science** could do to help them in their school:

“If we can encourage staff to plan longer term and provide more notice to mentors and in2science staff we could utilise the program better. Also if the program could provide a list of support services/resources available.”

“Not really, we try and incorporate such programs as much as possible.”

“Students expressed a wish to go with their mentor to their university to see what they actually do, and were and how they do it. Perhaps this is possible in the future?”



The Future -2009 and beyond

In2science has had an excellent year and is looking forward to continued growth in 2009.

1. In 2009 **In2science** aims to build on the successes it has achieved so far by allowing more tertiary science and mathematic students to get involved in the program and offer their support and enthusiasm to more students and teachers in schools. **In2science** will continue to add **new schools** for semester one and two. There are approximately 150 university students looking to find placements.
2. A **biosciences** roadshow based around agriculture will be investigated for delivery in 2009 under the same format as the In2nanotech program.
3. The In2nanotech roadshow will continue to run for 2009 and 2010 with funding from NanoVic continuing.
4. In2science will look to run a repeat science day event at the University of Melbourne in November/December 2009 for Y9 students of our partner schools.
5. In 2009 an external evaluation of the program will occur to review the benefits of the program and to generate case studies of best practice to showcase to current and prospective schools.

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