



Case Study  
Australia  
Intel® Teach Program

# Technology Integration Helps Improve Teaching and Learning

Through the Intel® Teach Program Australian teachers are learning how to integrate information and communication technology (ICT) effectively into classrooms and help their students acquire 21st century skills such as critical thinking, problem solving, collaboration and digital literacy.

**Intel Teach Program:**  
'an integral and vital step towards teaching and learning for today'<sup>1</sup>  
Teacher.

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## Challenges

- Improve integration of ICT for teaching and learning
- Provide teacher professional development relevant to individual needs
- Enhance development of students' 21st century skills

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## Approach

- Implement the Intel Teach Program to provide training on how, when and where to incorporate ICT tools and resources into lesson plans
- Align the Intel Teach Program to the NSW Quality Teaching Framework
- Expose teachers to new approaches for aligning lessons with syllabus outcomes and assessment tool creation via the Intel Teach Program

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## Benefits

- Teachers develop inquiry-based, ICT enriched lesson plans that enhance students' higher order thinking skills
  - Changed teaching practices result in increased student engagement, greater creativity, improved communications and critical thinking
  - Development of a whole school approach to classroom technology integration
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## Intel® Teach Program: A Case Study

Tracy MacKenzie is conscious of the technology needs of teachers in her school and was impressed by the Intel® Teach Essentials Course potential to provide a learning platform that would enable teachers to gain skills directly related to their work.

Tracy teaches at The Entrance Campus of the Tuggerah Lakes Secondary College, located on the NSW Central Coast north of Sydney. There are three campuses. The Entrance Campus opened in 2002 as a senior school catering exclusively for Years 11 and 12.

Students benefit from access to a wide range of technologies. Every classroom is cabled to allow connection to the internet and laptop trolleys enable classrooms to become computer rooms, giving all students access to a computer. Other classrooms have interactive whiteboard technology.

The Entrance Campus and College Principals also saw the Intel Teach Program training as a vehicle for positive professional learning in the College and supported Tracy's training as an Intel Teach Program Master Trainer. Understanding that adults learn differently than young people and that their reasons for learning also differ helped her to promote and conduct the Intel Teach Essential Course at The Entrance Campus.

While the initial 22 teachers were willing to take the course after school hours, Doug Blake, the school's principal, agreed to use time normally set aside for teacher work time and meetings on Wednesday afternoons to conduct the Intel Teach training. Over two courses, teachers from various faculties completed the program and others are keen to enrol in future courses.

An immediate benefit Tracy noted was that teachers who did the course became more aware of existing technology resources in the school and were more prepared and keener to use them. The increase in teachers' knowledge levels gave them the confidence to try teaching in other ways.

Doug Blake talks of the real benefits he sees in classrooms where teachers are doing things - not just talking about it. He has also seen students more engaged in learning and spending more time on task. He sees less computer game playing and more internet research when students are in the library. He has also found that his teachers are more empowered and will ask for additional training and resources, confident that they can learn and become even more proficient users of technology.

A key factor in teacher change at the campus has been the Quality Teaching Framework, a NSW Department of Education and Training initiative to develop classroom pedagogy for improved learning. It is about good classroom practice. The campus has been doing intensive work on the method of instruction for deep knowledge and understanding and rich and meaningful assessment. Good teaching and good assessment practices are interrelated and the Essentials Course, with its emphasis on Essential Questions and pedagogy, supports these Quality Teaching goals.

Russell Trimmer, an Engineering Studies teacher said "I was looking for new ways to approach my teaching, to move away from chalk and talk and pass on some of the responsibility for research and learning to the students".

Russell was pleased with what he personally gained from the course, through growth in his confidence and higher level skills. He saw particular curriculum value for his subject area as the course content provided a framework for using student centred applications. This allowed a move from textbook driven learning to learning where internet research and ICT made it "feel real and relevant for students".

Teachers who accepted the Intel Teach Essentials challenge for personal professional growth believe there is now a critical mass of trained teachers in the school who can support one another and who can both lead their own students and help other staff.

**"Technology is another arrow in the quiver that teachers can use to engage students in learning. The Intel Teach Essential Course caters for teachers who want to learn more about using technology for quality teaching".**

Doug Blake, Principal  
Tuggerah Lakes  
Secondary College



**“I now have a greater sense of how ICT can augment my efforts to have independent, higher order thinking students in my classes.”<sup>3</sup>**

Juli Marshall, Teacher  
Killarney Heights Public School

## **Intel® Teach Program: A Case Study**

Killarney Heights Public School is a successful, growing public school situated in a northern suburb of Sydney. The school has 500 students and almost 40 staff, including eight teachers of French working in the English/French bilingual program. The school's vision statement emphasizes a relevant and challenging curriculum learnt in an exciting and stimulating environment.

The principal, Jessica Wiltshire, is excited by the potential information technology presents for students and staff. She firmly believes that technology must be integrated across the school to support skill development in all forms of learning. Her teachers are committed to quality learning where individual differences are catered for. A student supported this idea by stating that: “Our school provides a lot of opportunities for everyone to participate in and enjoy learning”.

At Killarney Heights, computer laboratories are not seen as the most effective way to support the young learners' needs. Apart from one class sized library pod, computers are distributed across classrooms so that individuals or small groups can use them in rotation during lessons. Jessica Wiltshire and her school community believe this ensures access and equity for all students from kindergarten to year six and enables them to become confident and capable technology users.

In 2005 the principal saw that, whilst interested in using technology, many staff had varied skills and some lacked the confidence to try new things. Together with the staff, she felt the Intel® Teach Essentials Course would be a positive whole school professional learning activity to address this need. Fortunately at the same time, Juli Marshall, an experienced classroom teacher, was looking for a professional challenge. She undertook the Master Trainer Essentials Course and since then has successfully trained more than half of her school colleagues.

Juli readily admits that she was not an advanced technology user before her own Intel Teach training. Back at school however she found that the training equipped her to lead and support her colleagues and gave her the confidence to encourage “growth through collaboration”. Some participants who at first were unsure of how to implement their learning in the classroom found that the focus of the course supported quality teaching, the curriculum and classroom applications.

Participants learned to look for answers amongst their peers and even to ask their own students for suggestions. Exciting work done in classrooms is now shown to other class groups and sharing sessions at staff gatherings continue to help teachers learn from one another.

Juli believes the “Intel Teach Essentials Course has been the biggest catalyst in my time as a teacher” and has opened career opportunities for her in education.

Teachers felt very comfortable learning from a Master Trainer they knew well and Juli made sure there was time for them to ‘play’ and ‘experiment’ with the tools and that this was built into all weekly sessions. The Essential Questions underpinned much of the learning and participants found the course relevant to their needs with the outcomes directly applicable in their classrooms.

The principal states with conviction that she now sees “much greater confidence and a preparedness to have a go and to take risks” in teachers who did the Essential Course. She is fascinated as she watches her teachers' expectations grow and their skills and competence develop.

The teachers say that children not only want to come to school – they are enthusiastic and delight in telling others what they are learning. The principal believes “they are learning how to be more successful, how to go beyond, how to think and when they realize that there is more than one way to do something it's as though a big door opens and they can begin to educate themselves”.

Jessica Wiltshire is convinced that the school needs to keep looking for innovative and exciting approaches and that the teachers need to keep sharing ideas and achievements across the school and the community. With skilled youngsters who are already comfortable with presentation and desktop publishing applications coming through from the early school years the ‘bar is being raised’ for each successive stage. But following the Intel Teach training she is convinced that many of her teachers now have the skills and confidence to meet this challenge.

## **The Education Landscape in Australia**

Australia has a high quality education system with school students performing strongly in international benchmarking studies.

The federal government focuses on national policy and strategy, whereby education is delivered by the states and territories.

The educational landscape is diverse with government and non-government schools, which are located in metropolitan, rural and remote locations. The country's approximately 9,600 schools serve 3.4 million students and cover diverse environments from urban schools with large school populations of over 1,000 students to rural single teacher schools.

The National Goals for Schooling in the 21st Century require students to: “be confident, creative and productive users of new technologies...” and to be skilled in “analysis and problem solving and the ability to communicate ideas and information, to plan and organise activities, and to collaborate with others.”<sup>2</sup>

Students need to build solid foundations in numeracy and literacy; develop technological literacy/skills; understand Australia's history and culture; develop skills such as problem solving and the ability to construct deep knowledge so as to be well prepared for work force participation and become life long learners.

All school students have access to information and communication technologies in either classrooms, computer labs or pods.

The New South Wales, Queensland and Victorian Departments of Education have incorporated the Intel Teach Program curriculum as part of their professional development initiatives for teachers.

## Intel Teach Program

Intel is committed to improving education to prepare students around the world to thrive in the global knowledge economy. One of Intel's most successful worldwide programs is the Intel Teach Program, a professional development program that helps teachers improve the effective use of technology in the classroom to promote 21st century learning. The Intel Teach Program was introduced into Australia in 2003.

The Intel Teach Program is adapted in each country to address specific needs and has been localised by Australian teachers. The portfolio offers a range of face-to-face and online offerings designed to enable teachers to introduce, expand and support 21st century learning in the classroom.

The Intel Teach Program is a joint initiative between Intel and participating Departments of Education. The program is also offered to pre-service teachers in selected universities.

The program has gained wide acceptance amongst the teaching community. A longitudinal evaluation, conducted by Deakin University, shows that as a result of the Intel Teach Essentials Course teachers

are increasingly using technology to plan and implement lessons that are inquiry driven and student centred. They are using technology and project based approaches more frequently to create a learning environment in which students develop 21st century skills such as collaboration, problem solving and critical thinking.

Evaluation results are indicating an increased impact on schools; following the course, 96% of teachers are seeing an increase in the integration of ICT across their school classrooms; 82% have developed new unit plans based on the Intel Teach framework, mostly in collegiate teams, and 83% are using technology in new ways.<sup>4</sup>

The strong alignment of the course to the states' curriculum and pedagogical initiatives has been very significant in influencing its impact at a classroom level and its capacity to support whole school change towards technology based learning.

To date, more than 14,000 Australian in-service and pre-service teachers have completed the Intel Teach Program, together with over 4 million teachers in more than 40 countries.

### Intel® Education Initiative

The Intel Education Initiative is Intel's sustained commitment to prepare all students, anywhere, with the skills required to thrive in the knowledge economy by improving teaching and learning through the effective use of technology and advancing maths, science, and engineering education and research. Through a sustained public private partnership with educators and governments in more than 50 countries, Intel works with international organizations and governments at an international, national, and local level and invests approximately USD 100 million per year in education programs adapted to address the needs of each country to advocate for 21st century educational excellence through policy work and awareness efforts.

For more information on the Intel Education Initiative and the Intel Teach Program, visit: [www.intel.com/education/au](http://www.intel.com/education/au)

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<sup>1</sup>Intel Teach Essentials Course Impact Evaluation, Deakin University, 2006 <sup>2</sup>The Adelaide Declaration (1999) on National Goals for Schooling in the Twenty-First Century <sup>3&4</sup>Intel Teach Essentials Course Impact Evaluation, Deakin University, 2006

Cover image: Jessica Wiltshire (left) and Juli Marshall (right) from Killarney Heights Public School.  
Page two: Russell Trimmer and Tracy Mackenzie from Tuggerah Lakes Secondary College.

