



Case Study

Australia/United States

Intel® Teach Program

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Dyane Smokorowski, Teacher,
Andale Elementary/Middle
School, Kansas, United States

Australian and American Students Collaborate on Environmental Research

Motivated by the Intel® Teach Program, educators from two small towns on opposite sides of the globe engaged their students in a cross-cultural, environmental research project employing Web 2.0 technologies. The result: students not only honed essential 21st century skills—including digital literacy, critical thinking, collaboration, and problem solving—they also acquired a more global perspective on environmental issues and were inspired to make positive changes in their communities.

Challenges

- To participate in the knowledge economy, youth must gain 21st century skills while using technology to think, create, communicate, and collaborate.
- Teachers need effective strategies to help their students acquire 21st century skills.

Approach

- Provide professional development to help teachers integrate technology effectively into instruction and teach students key 21st century skills.
- Employ student-centered practices to engage students in meaningful learning experiences, including projects addressing real issues where students investigate problems, propose solutions, and take action.

Benefits

- Educators effectively integrate technology into instruction to help students acquire skills necessary for success in the global economy.
- Students learn to examine real-world issues, collaborate on problem solving, and make a difference in their communities.

Intel® Teach Program: A Case Study

Despite being half a world away from each other, students in Wedderburn, Victoria, Australia, and Andale, Kansas, United States, had similar reactions when their teachers showed them the documentary, “An Inconvenient Truth.”

“They were visibly moved,” says Andale’s Dyane Smokorowski, who watched the video with both groups—in person in Kansas and via an Internet video link with the Aussies down under—“and really shocked.”

“But it got them talking,” adds Wedderburn’s Anne Baird. And that was the whole idea.

The video kicked off a cross-continental study of environmental issues through “It’s Not Easy Being Green,” a project developed by Smokorowski and Baird, both technology specialists for their respective school districts, with the aid of teachers Cindi May of Andale Elementary/Middle School in Kansas and Carolyn McHugh of Wedderburn P-12 College in Victoria. The idea: to expand students’



horizons by giving them a more global perspective on an issue, and to help them develop important 21st century skills in the process, employing a range of ICT and Web 2.0 applications.

Smokorowski and Baird—who were cyber-introduced through the Intel Teach Program, a professional development program designed to help teachers integrate technology effectively in the classroom and teach their students 21st century skills—had already collaborated on a primary school project. Now, the two—both Intel Teach Senior Trainers—wanted to develop a middle school project, designed around Intel’s thinking tools, online resources that spur students to think more critically.

McHugh suggested an environmental focus because she thought it would get her students thinking about the world beyond their small town. The team selected the documentary as an initial stimulus “because it was current, relevant, and gave us a great way to talk about perspective,” says Smokorowski.

After posting initial reactions to the film on a project wiki—an interactive, online site where students from both locales can post, collaborate, and share their work—the students used digital slideshow software to introduce themselves to their international peers, sharing some of their interests outside the classroom, as well as personal concerns about the environment.

The students also used the Intel® *Visual Ranking Tool* to identify what they saw as the most pressing environmental issues.

Thus came the students’ first “Aha” moment. Despite the facts that both Wedderburn and

Andale are rural farming communities with similar population bases—and that the youth in both communities share similar interests in music, movies, and sports—vast differences exist in their perspectives.

At the outset of the project, the Kansas teens hadn’t a clue that their Australian counterparts had been grappling with a decade-long drought. And the Wedderburn youth were baffled as to why U.S. teens might rank air pollution as more important than the scarcity of water.

“It was a challenge for our kids because they are used to their own perspective,” notes McHugh. “I try to help them understand that just because someone has a different viewpoint doesn’t make theirs any less valid than yours.”

Once students engaged in discussion, sharing background on their respective locales, the reasoning behind choices became clear. Working in cross-continental teams of five, the students debated the issues and worked toward consensus on topics for group research. Many shifted their original perspectives to include those of their long-distance teammates.

Discussion continued through the research phase of the project as students employed the Intel® *Showing Evidence Tool* to construct well-reasoned arguments regarding chosen issues, and to support those arguments with sound evidence.

Other elements of the project included charting the environmental impact of students’ families via “environmental footprints” and participating in a final presentation of learnings, connecting both sites using videoconferencing.



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Carolyn McHugh, Teacher,
Wedderburn P-12 College,
Victoria, Australia

All work was documented on the project wiki, which inspired improved effort, says Smokorowski.

“The kids know that other people are looking at it, and they’re taking it more seriously. The grammar is better. The basic writing concepts are better. They say, ‘This has to sound smart,’ because on any given day, people from around the world could be viewing their site.”

The fact that the project is based in the real world makes the learning authentic, report the teachers. The work is meaningful, with real-world timelines and consequences.

With dire predictions for the future in much of the research, the teachers say it was imperative to instill within the students a sense of power and hope. “I don’t want kids to feel powerless as a result of this,” says McHugh. “I want them to feel that they can do something about it.”

Andale students now conserve water and participate in a recycling program. Wedderburn students—already water-conscious as a result of the drought—are learning about solar power and other green options.

“I think they have discovered that we are all connected,” says Smokorowski. “It’s not so different between here and Australia or China or India. We are all just people who want to make a difference on this planet.”

Adds May, “You can see that they feel they are part of something really big. They feel that they are contributing to the world in some way.”

The Intel Teach Program

Working with local education agencies, including governments, state or regional departments, districts, and schools, Intel Teach builds teachers’ and students’ 21st century skills through student-centered teaching and inquiry-based learning. The program is built on the belief that educators learn best from one another, fostering a community of practice that is invaluable in creating systemic change. Results of the program include increased technology integration and an energized curriculum, created by teachers, that is aligned to standards and speaks to today’s students.

Intel Teach, introduced in the United States in 2000, has trained more than 300,000 American teachers to date.

In Australia, the program has reached more than 14,000 teachers since 2003.

Evaluation Data on Intel Teach

Intel has dedicated sizeable resources to rigorous evaluation to ensure continuous, targeted improvement of the Intel Teach Program.¹

According to evaluation data collected over several years, across 20 countries, “the program provides teachers with very positive experiences, which in turn help them rethink their practice, take the first steps toward reforming their practice, and eventually integrate technology into their teaching.”² Key findings indicate that, globally, the course helps teachers use technology on their own and with students, and implement project-based approaches in instruction across all regions and levels of economic development.

The evaluation conducted by the Education Development Center’s Center for Children and Technology (EDC CCT) presents data suggesting that, although teachers in lower-income countries have less familiarity with project-based approaches to teaching and less access to computing resources, the program is helping teachers with differing levels of familiarity with these approaches experiment with the new teaching methods.

Specifically, the program has strong success rates across four indicators:

- Increased use of technology activities with students
- Increased use of technology in lesson planning and preparation
- Increased use of project-based approaches in teaching
- Use of lesson plans developed during the Intel Teach training

The teachers' ability to effectively use technology with their students is facilitated by easy access to computer resources in classrooms and labs. The most commonly reported obstacles to implementation are inadequate access to computing resources, necessary software, and the Internet.

In the United States, a cross-district study³ on the impact of the Intel® Teach Essentials Course on teachers' instructional practices and use of technology was conducted by EDC CCT. Data collected from over 1,000 respondents indicated that participants use technology in their teaching more than non-participants, and even more if a Master Teacher is on staff. In addition, teachers who hold student-centered or "constructivist" pedagogical beliefs tend to value technology integration more than those whose beliefs about teaching are more teacher-centered. However, the EDC report states, "While program participation seems to have an impact on teachers no matter what their beliefs, the Intel Teach Essentials course appears to facilitate greater changes among teachers with weak constructivist beliefs than on those with strong constructivist beliefs."

In Australia, evaluation results show comparable findings. According to a 2006 Impact Evaluation⁴ conducted by the Faculty of Education at Deakin University, the program has gained wide acceptance in the teaching community. In addition to the increase in student-centered teaching methods and project-based approaches, key findings indicate that 94 percent of Australian teachers responded that they have increasingly used technology to engage students in ICT/eLearning since completing the Intel training.

In short, the Australia study concluded that the program provides teachers with the understanding and impetus to change the way they teach. Further, student outcomes are positively affected by these changes in practice. Teachers indicated that changes in practice as a result of the Intel program led to increased student engagement and improved ability for students to demonstrate critical thinking and creativity, and to communicate their ideas with greater clarity and confidence.

The 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 math, 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. It 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, visit: www.intel.com/education.

For more information on the Intel Teach Program, visit:
www.intel.com/education/teach.

1. For more information about Intel evaluation approach and reports on Intel® Teach Program evaluation, see www.intel.com/education/evidenceofimpact.

2. *Training Teachers Across a Diversity of Contexts: An Analysis of International Evaluation Data on the Intel® Teach Essentials Course*, 2006. By Daniel Light, Roshni Menon, & Simon Shulman. EDC/Center for Children and Technology.

3. *Impact of Intel® Teach Essentials on Teachers' Instructional Practices and Uses of Technology*, January 2007. By Wendy Martin and Simon Shulman, EDC/Center for Children and Technology.

4. *Intel® Teach Program Essentials Course Impact Evaluation*, 2006. Faculty of Education, Deakin University.

