intel innovation in education

The Intel Innovator

Tools and Resources for Educators Summer 2003

Elementary and Secondary Education

A Million Teachers, and Counting

Intel® Teach to the Future Program Thanks Participants for Reaching a Global Milestone

How long does it take to go from zero to one million? For Intel® Teach to the Future, a worldwide effort to help teachers integrate technology into the classroom, it's taken just three years to reach this major milestone.

The millionth-teacher marker, achieved in spring 2003, doesn't begin to measure the impact of this ambitious professional development program. By delivering hands-on training to a million teachers, Intel Teach to the Future has improved the classroom experiences of 50 million students.

Much of the credit goes to participants. In a thank-you message to educators worldwide, Intel CEO Craig Barrett says, "Training one million teachers is quite an accomplishment. But the real accomplishment is what you've carried out in the classroom. You've changed the way the educational process works." Teachers in 30 countries, on six continents, have gained new ideas to energize their classrooms and improve student learning by effectively integrating technology. From India to Ireland to Israel, the program "is changing the way teachers teach," says Barrett.

"You're One in a Million" is the theme for events planned to recognize teachers whose commitment has made this global milestone possible. Intel is extending thanks to educators around the world who have participated in Intel Teach to the Future training. Their dedication and willingness to embrace new teaching ideas are changing the classroom experience for their students.

For many teachers, participation in a training session is a springboard for future improvements in the classroom, reports Paige Kuni, worldwide K-12 education manager. "Teachers become more confident using project-based learning, creating assessment tools, and aligning lessons with learning goals and standards." And many teachers report feeling energized by the chance to learn alongside their colleagues.

Teachers Teaching Teachers

From its start in 2000, Intel Teach to the Future has succeeded by relying on teachers to lead their colleagues. Master teachers demonstrate when and where to incorporate technology tools and resources into lesson plans. Participating teachers focus on essential tasks, such as how to align lessons with learning goals and standards, and how to create effective assessments.

Back in their own classrooms, teachers are more confident about integrating technology. Their students benefit from increased opportunities to use technology in their everyday learning, whether by conducting research online or sharing their knowledge with the aid of multimedia tools.

For many teachers, greater technology use is just one benefit. A 10-year classroom veteran from Washington, D.C., for example, noticed that his teaching has become more student-focused as a result of the training. Instead of standing in front of the classroom delivering monologues, he has become a coach who roams the room asking "thinking questions." Other teachers report increased confidence using effective strategies such as project-based learning. Many teachers say they appreciate the connections they make with colleagues and the time to focus on planning a lesson in depth.

The program also has helped to equalize opportunities for student success in diverse communities. Miguel Tanos of the Ministry of Education in Argentina reports, "The Intel Teach to the Future program allowed us to better prepare for a world where knowledge ... reduces the breach between the poor countries and the developed ones."

Looking to the Future

In the weeks ahead, events and celebrations will be taking place around the world to thank the teachers who have contributed to the program's success. Meanwhile, both pre-service and in-service teachers can continue to take advantage of Intel Teach to the Future training. Information about training programs worldwide is available at Intel Teach to the Future.

Elementary and Secondary Education

How Educators Are Using Weblogs

Four teachers who are using a new Web publishing technology to motivate students, build online collaboration, and enhance learning opportunities share their stories in a special series scheduled to launch in late June on An Innovation Odyssey, a feature of the Intel® Innovation in Education Web site. Look for these stories in late June on "Day 300" through "Day 304."

Weblogs, an increasingly popular form of Web publishing also known as blogs or blogging, offer an exciting new forum for online communication. By allowing for instant publishing and creating a space for dialog between writer and audience, weblogs are generating interest in fields ranging from journalism and world affairs to health news and medical breakthroughs. But this is still new territory for most educators.

To discover how teachers are making use of this emerging technology, *An Innovation Odyssey* has interviewed four educators from different grade levels and geographic settings. As their stories reveal, weblogs offer a wide range of advantages in teaching and learning in the classroom.

In a San Francisco, California, middle school, teacher Helen Turnbull is finding that weblogs allow her to differentiate instruction. She can deliver the help that one student needs "without it being obvious to anyone else," she explains. What's more, she finds students are motivated to write higher quality work when they know it will be posted to a Web site accessible to their peers.

An elementary teacher in rural Ohio taught herself to set up weblogs when she realized how the technology would improve management of projects and also open new channels of communication with parents. A reading intervention specialist, Pam Pritchard says a weblog "is like having a blackboard, a filing cabinet that never gets full, and a communication system at your fingertips, anytime and anywhere." She has seen struggling readers try harder when they know their audio recordings are headed for the weblog. These are "meaningful moments of self-learning," she says.

Finally, a high school journalism teacher in New Jersey and a technology specialist working with elementary students in Georgia explain how they have used weblogs to build an online community of learners. New Jersey teacher Will Richardson had his high school students act as writing coaches for fourth- and fifth-graders in Georgia, taught by Anne Davis. Richardson and Davis have found the experience to be powerful for students at both ends of the age spectrum.

The series on weblogs will launch in late June. The stories will show, by example, how teachers can set up weblogs that help meet learning goals. Each story also includes links to examples of student and teacher weblogs. In addition, in the coming months Intel Innovation in Education will be creating new online resources for teachers who want to learn more about using weblogs. Educators interested in this emerging technology can watch for resources that will address how to use weblogs effectively in the classroom, where to find free space for hosting a site, and how to gain access to other useful resources. Watch for details on the Web site (www.intel.com/education), or subscribe to *The Intel® Innovator* for free updates.

Elementary and Secondary Education

Teachers Share Pioneering Stories

Back on the Trail

Two hundred years ago, explorers Lewis and Clark set out with their Corps of Discovery to chart the unknown regions of North America. Today, teachers are using their story as the starting point for discovery learning. Many teachers are infusing the study of history with the tools of modern technology.

A special *Innovation Odyssey* series about technology-rich projects relating to Lewis and Clark begins in late May on "Day 288" through "Day 291." Many of the stories include links to online resources about Lewis and Clark.

An Innovation Odyssey shares stories of teachers from around the world who are using technology in innovative ways. Teachers interested in submitting a story idea to Odyssey can find all the details at An Innovation Odyssey. Teachers who submit a story idea to Odyssey receive a digital microscope or a new classroom calendar.

Schools or districts that want to provide teachers with a steady stream of new ideas for the classroom can syndicate *An Innovation Odyssey* to their local Web site. Similar to newspaper syndication, Web syndication delivers regularly updated content. The service is free to local schools or districts, and requires only a one-time addition of a few lines of code to an existing Web site. By syndicating *An Innovation Odyssey*, local schools receive regularly updated feeds that show teachers, parents, and community members how technology supports learning. To learn more, go to the Web Syndication page.

Elementary and Secondary Education

The Road to Intel ISEF

Students From Around the World Prepare for the Week of a Lifetime

As the clock ticked toward the opening ceremony for the Intel International Science and Engineering Fair (ISEF), held this May in Cleveland, more than 1,200 student researchers from around the world were making last-minute improvements to their projects and preparing to field whatever questions the judges might ask.

Hyeyoun Chung, who attends St. Paul's Girls School in London, was looking forward to the chance to explain her project. "Game Theory in Action" involves mathematics, computer programming, and a popular board game called Nim. She was just as eager "to see what everybody else has been working on. It's a great opportunity for people who like science and mathematics."

The chance to solve real-life problems is what keeps many students motivated while working for months on challenging projects. An Intel ISEF competitor from India,Maithili Prafulla Dalvi has investigated the success of using coconut extract to stop excessive hemorrhage in females, caused by abnormal production of hormones in the ovaries. The coconut flower extract has the potential to reduce the need for surgery in such patients. Also from India, students Rao Samhita Anand and Thatte Nikhil Mukund have teamed up to develop a biochemistry project that explores the properties of common food-producing plants in the aggregation of blood platelets. Platelets play a role in conditions including coronary heart disease, diabetes, and migraine headaches.

From Massachusetts, U.S. competitor Syam Mohan has used genetic engineering to produce a protein that may have applications as an inhibitor of the HIV-1 virus, which causes AIDS. As Mohan explained, "By preventing its enzymes from doing their crucial jobs for the HIV-1 virus, it should be possible to effectively inhibit the virus's lifecycle."

The trip to Cleveland was the first visit to the U.S. for many students, including two students from the Philippines. Roy Vincent Conseco developed a system to facilitate the secure transfer of information between a central computer server and a remote cellular phone user. "SMS Link-Interactive: Secured Data Transmission and Modification through SMS" would allow, for example, doctors to monitor or change patients' medical treatments or modify dosages from a remote location, using a cell phone. Eigen Israel M. Rara has researched the properties of a potentially life-saving plant extract. "Wonder Drug: A Broad Spectrum Bioactive Substance" analyzes the medicinal properties of the Sibukau tree, native to the Philippines.

Persistence is another quality found in abundance among the Intel ISEF competitors. Juan Manual Arechaga from Argentina has spent the past year modifying and redesigning a wire tension testing machine he has been developing since 2001. The model he entered in this year's competition has been through improvements to optimize the quality of mechanics, electronics, and programming. He tested his machine against internationally calibrated versions and concluded he had created a better-functioning machine for the same size and cost of those on the market.

By the time these young researchers reached the closing ceremonies of the Intel ISEF 2003, they discovered what competitors learn every year: Everybody wins at this international event. "It was the best week of my life," reminisced Ciaran McNamee, who represented Ireland in the competition last year.

For results from Intel ISEF 2003, and to read more about students and their projects, visit the Intel® Innovation in Education Web site, www.intel.com/education/isef.

Elementary and Secondary Education

Using Handhelds?

Watch Web Site for New Classroom Resources

Teachers looking for effective ways to use handheld computers in the classroom will soon be able to find resources on the Intel® Innovation in Education Web site.

"*Learning With Handhelds*," a new section of the Web site, is due to launch in late June at www.intel.com/education/handhelds. It will deliver resources and strategies for using handhelds in the classroom, including instructional examples appropriate for different grade levels and subject areas.

Intel Innovation in Education continues to expand with new tools and free resources for educators. To stay up to date on the latest offerings, subscribe to *The Intel® Innovator*.

Community Education

Harnessing Their Skills

Intel Computer Clubhouse Youth Share a Lifesaving Message

Young members from Tacoma, Washington's Intel Computer Clubhouse are harnessing their newly polished technology skills to help fight the spread of HIV/AIDS in the African nation of Ghana.

Plans for the international project are underway at the Clubhouse, where youth have access to cutting-edge technologies along with the support of mentors from nearby Evergreen State College Tacoma. The students plan to use the technology to produce a public service video to raise awareness about HIV/AIDS, which is reaching crisis proportions in parts of Africa.

"Our kids have the idea that if they create a video, young people in Africa might be more likely to listen to it. They hope to raise awareness because they know that, for now, education is the only cure," explains Luversa Sullivan, Clubhouse coordinator.

Since its opening three years ago, the Tacoma Intel Computer Clubhouse has become a place where young people who previously had limited access to technology come to use digital video equipment, animation software, studio-quality recording gear, and other multimedia equipment. For many, the Clubhouse has become a place to jump-start dreams. As one of the members was overheard saying, "I know how to use all this stuff. Now it's time to put it to use." The Tacoma Urban League hosts the Computer Clubhouse.

As part of their Clubhouse experience in Tacoma, members participate in learning activities involving math and science. Recent science studies have focused on HIV/AIDS awareness and prevention. Students have become motivated to share what they have learned with young people in Africa. Digital video offers an inviting way to get their message out.

"Technology is allowing these young people to let their voices be heard," Sullivan says.

At the Computer Clubhouse, the youth also learn to use personal digital assistants (PDAs), for instance, for field research. Sullivan explains, "The PDAs are programmed to upload text, data, or pictures from a remote site then link to a Web site." Youth learn how data gathered in the field can be reported on the spot, via the Web, for analysis.

Tacoma Clubhouse students are currently planning a summer trip to Africa, where they hope to have their public service video aired on television. They won't be traveling empty-handed. In Ghana, they plan to use their digital gear to make another video starring African youth.

The Intel Computer Clubhouse Network is an after-school community-based technology learning program. Intel Computer Clubhouses enable youth in underserved communities to acquire tools necessary for personal and professional success. For more information about learning activities happening at Intel Computer Clubhouse locations worldwide, see the Intel Computer Clubhouse Web pages.