

2010

2009

2008

2007

How to Enter for 2011



# Intel's Schools of Distinction: Learning from the Star Innovators

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# Intel's Schools of Distinction: Learning from the Star Innovators

2010: Walter Payton College Preparatory High School

2009: The Illinois Math and Science Academy

2008: Sojourner School

2007: Bergen County Academies

How to Enter for 2011

Since 2004, Intel has been honoring exemplary math and science programs through its annual Schools of Distinction award – and selecting one outstanding school each year to receive top recognition as a Star Innovator. Winners receive cash grants as well as prizes and services from the companies that co-sponsor the award program.

In the pages that follow you will read about the Star Innovators from 2007-2010, complete with STEM program descriptions, post-award updates, and tips for success. Whether you're looking for ideas and validation for your own school programs or applying to be a future School of Distinction, we hope you will find these profiles helpful and thought-provoking.

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## Learning from the Stars

With the recent [Nation's Report Card](#) indicating that fewer than one third of U.S. students are proficient in science and math, and the [Program for International Student Assessment \(PISA\)](#) showing our students lagging behind numerous other countries in those same two, vital subject areas, we have reached what President Obama has called “a Sputnik moment.”

And yet, as can be seen from the Star Innovators featured in this eBook and the other winners of the [Intel Schools of Distinction](#) program, there are schools throughout this country that have already taken the lead when it comes to improving math and science instruction for their students. These award-winning schools vary in many ways but what they share with one another – and with the highest performing education systems highlighted in the [Organization for Economic Cooperation and Development](#) report on the PISA results – are innovative and effective approaches such as:

- ★ Curriculum built around ambitious, focused and coherent education standards;
- ★ Recruitment, preparation and support for high-quality teachers;
- ★ A focus on improved instructional practice, including active, inquiry-based learning on the part of students and a system that has teachers observing and learning from one another;
- ★ Workplace training – including internships and on-the-job support – to facilitate school-to-work transitions.

These and other successful approaches point the way to a future in which a growing number of U.S. students excel at science, math, technology, and engineering – a future that is possible if we aim high and learn from one another.



## 2010 Star Innovator: Walter Payton College Preparatory High School Chicago, Illinois

Walter Payton College Preparatory High School, 2010 winner of Intel's Schools of Distinction Star Innovator award, was founded in 2000 as a citywide magnet school with a focus on mathematics, science, and world languages. Named after legendary Chicago athlete Walter Payton, the school's four key values are described as "Character, Courage, Curiosity, and Compassion."

Payton College Prep is committed to both academic excellence and diversity. More than 60 percent of the students – all of whom take a citywide test to be admitted – are nonwhite and more than 30 percent are on free or reduced-price lunch. Students are assigned to math classes based on their performance on middle school exit exams and departmental placement exams. The goal is to place every student in a course that is both challenging and manageable. An innovative, co-curricular seminar program gives students and teachers opportunities to explore advanced or unusual topics in math and science without extensive prerequisites.

### Walter Payton College Prep at a glance:

- \* Winner of the Star Innovator Award in 2010 for mathematics excellence.
- \* Citywide magnet with a focus on math, science and world languages; students take an exam for admission.
- \* The school is committed to diversity; more than 60 percent of the students are nonwhite and more than 30 percent are on free or reduced-price lunch.
- \* URL: <http://www.wpcp.org/>



As described by Payton's mathematics department chair, Paul Karafiol:

Our department believes that students learn best when they are actively doing mathematics. Our courses take a problem-solving based approach, in which ideas arise in multiple representations (numeric, graphical, symbolic, and verbal/contextual). ... We value both pure mathematics and proof along with investigations, discovery, and applications. We take a varied approach to meet the learning needs of all of our students.

Math and science classes mix traditional 48-minute periods with 96-minute blocks that allow for exploration, discussion, and connections. Students generate, debate and test hypotheses, and are supported by ongoing access to technology tools such as handheld Computer Algebra Systems (CAS) with which they manipulate expressions, represent problems in different ways, and experiment with algebraic techniques. The school recently purchased Navigator systems that create a wireless network for the CAS calculators, making it possible for teachers to send out quizzes and polls, distribute files for students to use during in-class activities, and display real-time images of an individual student's screen so he or she can lead the class.

The teachers use tablet PCs with large-screen projectors, switching seamlessly between problems and software such as *Geometer's Sketchpad* and *Fathom* to explore student ideas. *Mathematica* is used in several of the more advanced math classes. Teachers also provide handouts, copies of class notes, and forums for student discussion on course web pages.

## Working Together

According to Karafiol, Payton teachers “have three things in common: we love mathematics, we love working with young people, and we constantly seek to improve our practice.” Faculty members participate in a variety of professional development activities and aim for “cooperation, collaboration, and conformity.” Teachers of common courses share all plans and materials, so that on a given day, different sections of algebra or geometry are working on the same lesson, handing in the same homework problems, and taking the same quiz or test. As a result, students can access help from any teacher or any other student in the same course or transfer easily from one section to another should the need arise.

One might think that such standardization would lead to rigidity or a program that is slow to change but quite the opposite is true because of the school’s collaborative planning process and the ongoing conversations between teachers about how to improve their practice. When a teacher discovers a new use of technology or comes up with a new approach to teaching a particular topic, he or she shares it with colleagues who weigh in on its value, make improvements as needed, and determine whether/how to incorporate it into a standard lesson.

Payton's math department engages in Japanese-style lesson study in which a team of teachers collaborates on the meticulous design of a single lesson, focusing on how students think and

learn. The entire department then observes the lesson and debriefs. Math teachers pair up for monthly observations and discussions as well as engaging in individual professional development such as conferences and summer workshops.

The collaborative approach cuts across disciplines. In fact, one of the reasons for Payton’s selection as a Star Innovator is the innovative way in which math and science teachers work together. After one math teacher taught AP Physics, the departments agreed to repeat the exchange in order to give teachers new perspectives on curriculum and pedagogy while helping students see connections between the disciplines. More recently, a math and science teacher co-taught a free, one-week “Step-up to Geometry and Chemistry” summer course that introduced rising sophomores to basic concepts from science and geometry. Other examples in which math and science instruction are combined are genetics lessons that focus on probability, and improving the use of “literal” equations (formulas containing only variables) in chemistry class.

### Keys to Success

- \* A focus on active learning, problem-solving and rigorous math study.
- \* Collaboration between math and science teachers, as well as across other departments and with outside experts.
- \* Handheld Computer Algebra Systems are used extensively, along with other technology tools including Tablet PCs.
- \* Teachers plan the curriculum together, participating in lesson study that improves their teaching, and using common approaches to teaching math.

“Collaboration is huge priority for all our departments,” says assistant principal Naomi Nakayama. “Teachers understand how important it is to model that skill for the students.” Social studies and world languages teachers work closely together on global education and competencies, while science teachers collaborate with universities, teaching hospitals and a variety of other organizations to provide real-world opportunities for students.

### Pursuing Success

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Walter Payton students excel in math and science competitions, in AP courses, and in post-secondary performance. The school is taking extra steps to ensure that all students have access to enriching experiences during summers, after school, and in seminars and elective courses, and working to recruit and support minority students.

According to Nakayama, winning the Star Innovator award has had an energizing effect on the school’s faculty. “Meeting the other winning schools and learning from one another at the awards ceremony was exciting, in itself, and the award has pushed us to reflect on our own learning community – what we’re doing right, and what we can be doing even better.” She feels particularly gratified about the way in which the award has drawn attention to the benefits of lesson study.

Karafiol adds, “While we’re excited to have come so far, we’re even more excited to be bringing even more opportunities to our students.” In February the school will launch the Payton Citywide Math Circle, a Saturday afternoon math program for middle and high school students in the community who are excited about doing challenging mathematics. And in March Walter Payton



College Prep will be involved in a collaborative problem-solving day with another Schools of Distinction winner, the Illinois Math and Science Academy (IMSA), which will have Payton’s eleventh graders working with IMSA students on solving a real-world problem that cuts across multiple disciplines.

“We nurture leaders,” is Payton’s motto. The school’s innovative approach allows it to stay true to its mission: to create an educational environment “that challenges, that fosters creativity and the literacy skills with which to understand and express that creativity, that encourages integrity and the appreciation of diversity and [that] uses the latest in educational technology.”

**2009 Star Innovator:  
The Illinois Mathematics and Science Academy  
Aurora, Illinois**

A state agency founded in 1985, the Illinois Mathematics and Science Academy (IMSA) offers a uniquely challenging public education for students in grades 10-12 who are highly talented in mathematics and science. The academy is residential and tuition-free, with an annual student fee (ranging from \$360 to \$2,860, depending on family income). Everything else, including books, room and board, is covered by the state. In addition to nurturing STEM (science, technology, engineering and mathematics) excellence within its walls, IMSA's goal is to serve as a catalyst and laboratory for the advancement of STEM teaching in school systems throughout Illinois and beyond.

IMSA's science program is characterized by: flexible scheduling, cutting-edge facilities, the seamless integration of technology, and highly qualified faculty

**At a glance:**

- \* Star Innovator Award in 2009 for science excellence.
- \* State-supported, tuition-free residential academy for talented math and science students in Illinois, grades 10-12.
- \* 650 students representing the geographic, ethnic, racial and socio-economic diversity of the state of Illinois.
- \* IMSA also delivers outreach programs to schools, teachers and students throughout Illinois and beyond.
- \* **URLs:** [www.imsa.edu](http://www.imsa.edu) and [coolhub.imsa.edu](http://coolhub.imsa.edu)

members, all of whom have advanced degrees and areas of specialization. A 21st century learning environment, including a one-to-one tablet program and wireless access throughout the campus, supports the program in multiple ways. Incoming students purchase their own tablet computers at special rates negotiated by the school and scholarships are available for those who need help with the purchase.

Out-of-classroom and real-world experiences are an integral part of the program. In the school's flagship SIR (Student Inquiry and Research) program, students are paired with distinguished scholars and researchers, enabling them to pursue compelling questions of interest, conduct research and present findings. Each Wednesday, hundreds of IMSA students board buses that take them to prominent laboratories, universities and museums to conduct investigations on diagnostics, nanotechnology, particle physics and much more. More than 88 percent of students from the class of 2010 pursued an SIR investigation at some time during their IMSA experience.

Student research contributions are regularly recognized through publications in professional journals and presentations at research conferences. The American Chemical Society, The American Society for Microbiology and The Society for Integrative and Comparative Biology are just some of the professional associations where IMSA students have presented research. They also have authored or coauthored articles that have been included in publications such as *Learning and Leading with Technology*, *Neuroscience Research Communications* and *Physics in Medicine and Biology*.

## A Star Innovator – and a Model for Others

IMSA won the Intel Schools of Distinction Star Innovator award – which included software, hardware and a cash grant – in 2009. The school used the funds to award “minigrants” to faculty and staff to spur innovation. For example, one team of faculty members used a minigrant to convert a sophomore physics class to a self-paced, proficiency-based course and retain an independent researcher to evaluate its impact on student learning and engagement. These faculty members are now able to deliver highly personalized instruction that honors what the students already know, giving them greater ownership of their learning. Preliminary results show high levels of learning and engagement across gender and racial/ethnic groups.

Another minigrant was used by IMSA staff members to create activities that encourage female students to enroll in IMSA’s Applied Engineering class and to become interested in engineering careers. Yet another IMSA science faculty member used a minigrant to help teachers in two local middle schools



incorporate more hands-on science learning experiences for the students. This promoted enhanced learning as the middle school students made connections between real-world activities and scientific concepts.

Elluminate licenses, awarded to IMSA as a Star Innovator, were also helpful in facilitating the development of collaborative projects such as the Illinois Innovation Talent Project, in which 30 teams of teachers from 27 schools across Illinois will receive mentoring and support from IMSA’s Problem-Based Learning facilitators as they implement their units on STEM challenges related to real-world problems. The project is funded by the Illinois Department of Commerce and Economic Opportunity with a number of industry partners. Teachers, students and industry partners will communicate and manage their projects through IMSA’s “CoolHub.IMSA,” a collaborative innovation network that provides interactive teleconference capabilities, a repository for sharing related research, and the ability to post lab notes and other relevant materials

“There were other benefits as well,” said IMSA President Dr. Glenn “Max” McGee, president of IMSA. “The prestigious honor of the Intel Schools of Distinction Star Innovator Award helped to strengthen relationships with our key stakeholders.” For example, IMSA received a U.S. House of Representative Resolution and two Illinois State House of Representative Resolutions in honor of the Intel Award achievement and the mayor of Aurora initiated the posting of permanent street signs announcing IMSA as the Intel Star Innovator. This sort of recognition and visibility has helped support IMSA in one of its key missions: to stimulate and serve as a resource to other schools and organizations committed to math, science and engineering excellence.

## Widening Circles

Through its Office of Professional Field Services, IMSA shares its innovative inquiry-based instructional programs with educators and students throughout Illinois and beyond. Last year, IMSA served more than 6,000 student and 500 educators through outreach programs.

Dr. McGee was invited to keynote at an education summit Beijing. Such connections have led to an innovative global partnership. Students from IMSA work with high school students in China and Virginia to convert miscanthus to butanol and to develop simulations of efficient wind turbines. Regular communication is being conducted through CoolHub.IMSA, with support from international experts on sustainable energy

IMSA has provided release time for lead science teachers to develop online modules from its Methods in Scientific Inquiry course. These modules will enable teachers throughout Illinois and, in the future, across the globe, to teach what the

### Keys to Success

- \* Highly qualified teachers who are experts in specialized fields of study.
- \* Out-of-classroom, real-world experiences with opportunities to work with outside experts, conduct research and publish results.
- \* Technology integration including a 1:1 tablet computing environment.
- \* Mini-grants for teachers to spur innovation.
- \* Online collaboration with teachers, students and schools from all over the state, country and world.

school refers to as “real science” as opposed to “school science.” In other words, teachers will have the resources and support to guide students through designing, conducting and communicating the results of scientific research.

IMSA’s Student Inquiry and Research Program serves as a model that is being replicated at other schools, and faculty members are highly involved in a variety of professional development activities – including presenting at and hosting the new STEM Student Research and Inquiry Forum and offering a regional professional development day on campus, with sessions on everything from “gene expression in E.coli” to “moving chemistry from cookbook to engagement.”



Finally, alumni serve as evidence of the school’s impact. Sixty percent of undergraduate degrees earned by IMSA alumni are in STEM areas, compared to the national average of 33 percent. IMSA alumni were on

the start-up teams of Netscape, PayPal, YouTube and Yelp.com and make strong contributions to many STEM fields. They are discovering new planets, making breakthroughs in cancer research, directing the national debut of electric cars, serving the military as doctors and pilots, and much more. They are truly fulfilling the academy’s mission to “ignite and nurture creative, ethical scientific minds that advance the human condition.”

## 2008 Star Innovator: Sojourner School Milwaukie, Oregon

Sojourner School, a public elementary magnet school in Milwaukie, Oregon, was chosen as the Star Innovator in 2008 for its excellence in mathematics education. Sojourner's math program is distinguished by its emphasis on critical thinking, problem solving, real-world applications and collaboration. Students work in small, heterogeneous and multi-aged groups. They regularly use protocols for discussing mathematical ideas and self-assessment tools to reflect on and evaluate their own work. Most Learners with special needs participate in regular classroom mathematics activities, supported by learning specialists and paraprofessionals who work closely with classroom teachers to scaffold their learning.

Several years ago, using NCTM's Focal Points as a guide, Sojourner's faculty decided to design a new and improved framework to determine which

mathematical content would be addressed at each level. With that framework in place, teachers use multiple tools to guide pedagogical decisions when implementing classroom lessons.

### At a glance:

- \* Winner of the Star Innovator Award in 2008 for math excellence.
- \* A magnet school serving students, grades K-6, in the North Clackamas School District in Milwaukie, Oregon
- \* URL: <http://www.nclack.k12.or.us/sojs>



The district and school board support Sojourner's innovative approach to education by allowing faculty the freedom to choose whether or not to use district-adopted curriculum materials as part of their scope and sequence.

At Sojourner, learning is a family affair. The school holds monthly math classes for adult caregivers, sends home math kits with relevant manipulatives to all families, and all teachers write monthly newsletters about the content being covered in class. Parents are highly supported and encouraged, as they, in turn, support their children's mathematical learning. In addition, families have access to the district website with resources for practice activities at a variety of levels. Volunteers are also part of Sojourner's learning community contributing close to 10,000 volunteer hours per year.

### Professional Learning

In-depth professional development and the use of data to drive improvement are both at the heart of Sojourner's success. The math teachers have all taken classes in mathematics education and are recognized as leaders in their field, with one of them

having received both the Presidential Award for Excellence in Mathematics and Science Teaching and the Milken Educator Award. Faculty members participate in weekly collaborative lesson planning as well as professional development sessions conducted by colleagues who have additional training in mathematics leadership.

These efforts have been supported by the Oregon Mathematics Leadership Institute (OMLI), a grant-funded project aimed at increasing student achievement and teacher leadership. During planning sessions, teachers work together on lessons that include solving the math task to be completed by students, predicting student responses, and planning ways to guide students through the task and extend the learning. Lessons are analyzed for cognitive demand and teachers discuss what scaffolds and challenges may be needed to reinforce the mathematical objective. Analytical sessions might include viewing classroom video to analyze student dialogue, reading a classroom case study, looking at student work and determining next steps, planning how to sequence student responses for maximum effectiveness during whole group instruction, or reading research relevant to school goals.

Data on student learning are frequently collected and analyzed collaboratively. In addition to Oregon state assessment data, teachers at Sojourner monitor student progress through individual student interviews, unit assessment tests, open-ended classroom work samples, and anecdotal records. These assessments are used by teachers to design interventions for students as well as to critically examine their own practice. Through student data, both formative and summative, faculty can determine weaknesses in their program and take steps to make changes.

## Not Just Math

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Sojourner's innovative approach goes far beyond mathematics excellence. With an overall emphasis on the school as a "learning community," Sojourner takes a broad approach to educating the whole child. "We promote problem solving, innovative thinking, student voice and choice in our multiple intelligences school," says director Tricia George. To aid in the development of the whole child, Sojourner utilizes several core elements based on Howard Gardner's concept of multiple intelligences. These include: violin study for every student using the Suzuki method; music education based on Carl Orff's experiential approach; a designated classroom based on Mihaly Csikszentmihalyi's theory of Creative Flow; elective units in which students are encouraged to explore topic areas of particular interest to them; foreign language instruction starting in the kindergarten; daily physical education involving kinesthetic exercises that stress physical fitness and leadership; and character education. When Sojourner students leave at the end of sixth grade, they take with them a DVD of the 14 recorded independent study projects that they have developed over their years at the school.

With all that is covered in a typical day, Sojourner students do not spend as much time in "math class" as students at other elementary schools and, yet, George reports that they outpace their peers in the middle and high school years. In general, Sojourner students are doing well across the board and continue to achieve at very high levels through middle and high school. There were no expulsions in the school in the past few years and attendance is high. All teachers meet the federal definition of Highly Qualified Teachers and almost half have graduate degrees. The Oregon Department of Education rates the school as outstanding.

Recently Sojourner sent out surveys to their graduates to see how they are doing, and how Sojourner's program has influenced their student life in middle and high school. They learned that:



- ★ 63% of respondents have a GPA of 3.5 or higher; 86% have a GPA of 3.0 or higher;
- ★ 84% are planning to go to a four-year college;
- ★ 84% of respondents have taken a foreign language in high school;
- ★ 73% participate in school sports;
- ★ 44% of high school students are taking honors courses;
- ★ 89% find participating in public speaking easy;
- ★ 85% find it easy to do project work.

Never content to stop at “good enough,” Sojourner school has recently created a school improvement plan in the areas of writing, art, and mathematics, complete with interventions for students who are not meeting state achievement standards.

## Great Things Ahead

“Every aspect of our program has benefited from the technology that we received as part of the Intel award,” says Tricia George. In her opinion, the school has moved from having good technology integration to having *state-of-the-art* technology integration. The technology obtained as part of the award is used by every department, from mathematics to music. Science students have probes to use, music classes are making videos, students and teachers across grade levels are using interactive white boards, intermediate students are writing blogs, and the student-to-computer ratio is now 2:1.

The reputation of the school has spread and representatives from other districts drop by to visit and learn. This makes it easier for Sojourner's Board of Directors to recognize the worth and continue the school's work, even during financially difficult times. It also makes it easier for Sojourner to continue on its path to academic excellence and fulfill its mission to “honor the development of the whole child by creating an environment that touches the mind, heart, and body of each student.”

### Keys to Success

- \* In-depth professional development and collaborative lesson planning.
- \* Multi-age groupings with a mix of group and individual work.
- \* A constructivist, project-based approach with a focus on multiple intelligences.
- \* Parental and volunteer involvement in the school as a learning community.

## 2007 Star Innovator: Bergen County Academies Hackensack, New Jersey

The Bergen County Technical Schools (BCTS) district was founded in 1951 to provide vocational education to New Jersey's most populous county. In 1992 BCTS accepted the first class of students to the Bergen County Academies, which since then has grown to include seven public magnet schools housed on a single campus, providing modern vocational education for gifted and talented students in the following areas:

- ★ Science and Technology
- ★ Business and Finance
- ★ Culinary Arts and Hotel Administration
- ★ Engineering and Design Technology
- ★ Medical Science Technology
- ★ Telecommunications and Computer Science
- ★ Visual and Performing Arts

Based on the idea that students need strong academic and technical skills to meet the challenges of the future, the Bergen County Academies are known for: the infusion of technology in all areas of study, an exceptional and highly-credentialed faculty, and a very involved parent partnership organization. The pedagogical approach is cooperative and exploratory with a focus on hands-on experience, interdisciplinary projects and rigorous coursework.

As the school web site puts it:

The Academy mission is to serve as an educational model for innovation and reform in the 21st century. In summary, we are a learning community comprised of

individual career-focused academies that provide a dynamic, specialized, student centered environment that embraces the whole person. We encourage independent learning and creative problem solving at every level. Teachers serve as mentors in the learning process.

School runs from 8 a.m. to 4:10 pm – longer than a typical school day – and students take a multitude of AP (Advanced Placement) and IB (International Baccalaureate) classes. With nearly five times as many applicants as spaces in each year's incoming class, admission is determined by test results and recommendations. Admission is free to those Bergen County residents who are accepted and other districts pay tuition for any students they send to the school.

Bergen County Academies use a "university" model, placing students in small schools while giving them the choices and resources of the bigger institution. In addition to course work specific to their particular academy, students from all seven academies come together for electives, after-school activities and certain subjects – including the math program for which Bergen County won the Schools of Distinction award in 2007.

### At a glance:

- \* Winner of the Star Innovator Award in 2007 for math excellence.
- \* Seven public magnet schools serving approximately 1,200 students.
- \* Offers "modern vocational education" with an emphasis on 21<sup>st</sup> century skills.
- \* URL: <http://bcts.bergen.org>

## Applying Math Across the Board

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The math department prides itself on the way in which “the power and beauty of mathematics is woven into the fabric of educational programs.” Students are not taught math theory in a vacuum; instead they experience learning through inquiry-based, interdisciplinary projects that are designed to make learning relevant.

Starting in their first year, students are introduced to the idea of mathematics as “an essential tool that can and should be used to effectively understand and improve the world in which they live.” Every freshman in the school participates in an interdepartmental course called “Applying Mathematics to Physics,” which provides students an opportunity to experience the utility of the language of mathematics in describing and predicting the behavior of the physical systems in the world around them. A team of math and science teachers share responsibility for shaping the project, with students working in small groups on activities that cause them to connect math skills to physical behaviors.

Mathematics instruction is integrated with other core courses and activities as well. For instance, math skills are used by students to compete in intra-class bridge building contests, design energy-efficient houses, build robots to compete in robotics competitions, and construct musical instruments. Teachers in all disciplines are encouraged to challenge their students to apply math skills to what they are learning.

Each Bergen County Academies twelfth grader participates in an internship program, known as the Senior Experience, in which students increase their knowledge and abilities in a selected area of study under the guidance of a mentor. The internship may be in any discipline or involve any profession and takes place one day per week.

Another key feature of the Bergen County Academies model is technology integration across the curriculum. The multi-million dollar facility contains Windows, Unix, and Macintosh computer suites, outfitted with cutting edge hardware and software, and “teachers make extensive use of video conferencing technology to allow for cross-classroom presentations and communication,” according to principal Russell Davis. Student response systems, originally made available to the school as part of the Star Innovator award, are now incorporated into classrooms across the campus. “We find the systems extremely valuable in determining student comprehension and find it helps the teachers pace their lessons based on the feedback they receive,” explains Davis.

## Highly Qualified Faculty

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All departments at the school put considerable effort into recruitment and training of teachers. The majority of math instructors are “alternate route” teachers who have used mathematics professionally before entering the teaching field. A number of math faculty have PhD’s.

Staff development is an important part of the fabric of the Bergen County academies. Team teaching places experienced teachers in the role of mentors to less experienced ones and allows teachers to observe and learn from one another. Master teachers frequently teach classes via video conferencing, enabling other classes – and their teachers – to tune in on great lessons. “Lesson Study,” in which groups of teachers identify a common problem area in student achievement and craft a series of potential solutions, is another important part of the professional development program.



Finally, adds principal Davis, “We are extremely proud of our alumni who often come back to visit and share their successes. Many of our alumni have continued on to advanced degrees in their field and some have returned to the Academies to become part of our faculty” – in that way, building on the school’s tradition of excellence. As the district web site puts it, “In its short history, the Bergen County Academies has emerged as a powerful force and leader in school reform.” It will be interesting to see what lies ahead for this groundbreaking school and its hard-working students.

### Keys to Success

- \* Rigorous coursework that blends theoretical learning with hands-on experience, including internships, inquiry-based research, and academic competitions.
- \* Extended school day and extensive parental involvement.
- \* Infusion of state-of-the-art technology in all areas of study.
- \* Exceptional and highly-credentialed faculty.

## How to Enter the 2011 Schools of Distinction Program

The Intel Schools of Distinction program honors environments that promote 21st century learning skills in math and science and represent a benchmark for academic excellence in U.S. elementary, middle, and high schools. Finalists and winners are chosen who best meet or exceed metrics representing the intersection of national math and science content standards and math and science ICT literacy benchmarks laid out by the Partnership for 21st-century Skills.

Judges also consider the following factors:

- ★ Leadership model;
- ★ Level of community involvement;
- ★ Collaboration and teamwork;
- ★ Student achievement;
- ★ Use of rich digital content; and
- ★ Professional development programs.

Each winning school will receive a \$10,000 cash grant from the Intel Foundation, as well as more than \$150,000 in products and services from program sponsors. One of the final six winners will be identified as the Star Innovator for 2011 and will receive an additional \$15,000 cash grant from the Intel Foundation, as well as supplemental services and products from program sponsors.

For more information, visit [www.schoolsofdistinction.com](http://www.schoolsofdistinction.com) and [www.k12blueprint.com](http://www.k12blueprint.com).



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