



White Paper
Education
Bergen County Academies
Hackensack, New Jersey

Sharing What Works

Effective Practices from
the Intel Schools of Distinction
Star Innovator 2007,
Bergen County Academies

Introduction: Honoring a Star Innovator



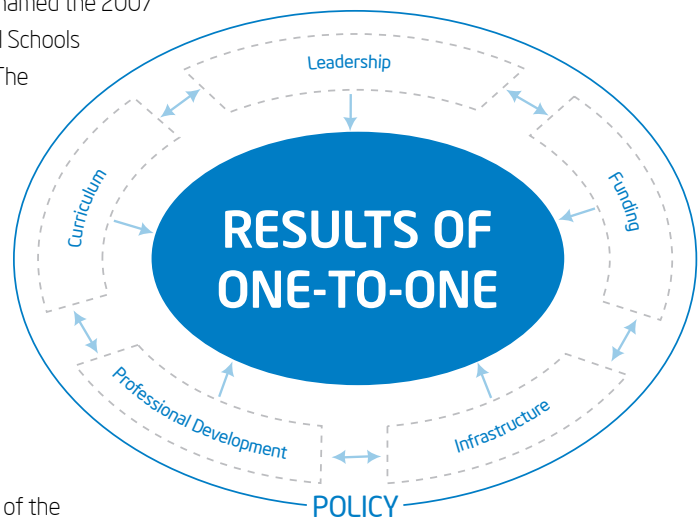
“We are fervently devoted to improvement. Anything less, and you’re cheating the kids.”

Daniel Jaye
Principal and Director
Bergen County Academies

If you want to see math and science education at its finest, there are few better places to look than Bergen County Academies (BCA), Hackensack, New Jersey. A county-wide public school whose students represent a range of abilities and talents, BCA combines inspired teachers, passionate leaders, and superb technology resources in an environment that fosters outstanding achievement. Rigorous coursework blends theoretical learning with hands-on experience. Internships, inquiry-driven research, interdisciplinary projects, and competitive teams are integrated into the mix. The four-year graduation rate is 100 percent, and all graduates go on to college, many at Ivy League schools and other prestigious universities.

Bergen County Academies was named the 2007 Star Innovator in the annual Intel Schools of Distinction Awards program. The Star Innovator is a school whose comprehensive program excels at incorporating innovative math and science programs, effective use of technology, parent and community engagement, professional development and teamwork, and dedication to academic excellence.

This paper offers a look at some of the practices and culture that underlie BCA's success, with an emphasis on math and science education. We follow the framework of *Blueprint Solutions for K-12 One-to-One Computing Initiatives*, focusing on leadership, policy, funding, infrastructure, curriculum, professional development, and results.¹ For a brochure highlighting the BCA experience, please see *Excellence in Science and Math Education for the 21st Century: Bergen County Academies*.²



1. The Blueprint is available at www.k12blueprint.com

2. www.video.intel.com (search Bergen)

Nuts and Bolts

Bergen County Academies is part of Bergen County Technical Schools (BCTS), a district founded in 1952 to provide vocational education to New Jersey's most populous county. Admission is free to students who live in the county, and districts that send students to BCA pay approximately \$6,600 in annual tuition for each one.

Students are admitted as freshmen to one of seven academies:

- Academy for the Advancement of Science and Technology
- Academy for Business and Finance
- Academy for Culinary Arts and Hotel Administration
- Academy for Engineering and Design Technology
- Academy for Medical Science Technology

- Academy for Telecommunications and Computer Science
- Academy for Visual and Performing Arts

The student body represents a wide range of skills and talents and comes from across the county. The admissions process considers grades, test scores, and teacher recommendations, and includes a written exam, essay, and interview. A student's interests and desire to attend BCA are prized.

BCA students are in school from 8 a.m. to 4:10 p.m., giving them significantly more instructional time than most American high schools offer. They take a full range of English, math, science, foreign language, humanities, and social studies courses in addition to deep-dive classes in their chosen focus area. A variety of advanced placement and international baccalaureate classes are offered.

Policy: Flexibility to Meet Student Needs



"We hire people from the real world and provide the tools they need to succeed as teachers. We want the person whose attitude is, 'I love what I do and I'd like to teach it.' New Jersey's alternate route certification policy enables us to do that."

Raymond Bath, J.D.
Dean of Academics
Bergen County Academies

Use alternate route certification to align education with the job world

BCA employs highly credentialed individuals with strong subject matter expertise and experience. More than 20 percent of its teachers hold a doctoral degree, and many have decades of experience in academic, government, and private-sector positions. This experience enables teachers to talk with authority about the real-world relevance of science, mathematics, and technology. It also helps BCA align with trends in the workforce and professional research environment.

To bring highly experienced individuals into the classroom, BCA takes advantage of New Jersey's alternate route teacher certification program, which was the first in the nation when it was established in 1983. Designed for people who already have at least a bachelor's degree, the alternate route program enables individuals to teach while completing intensive on-the-job training, mentoring, and coursework for full certification. Over half of BCA teachers have alternate route certification.

Give kids nontraditional opportunities

New Jersey gives school districts considerable flexibility to meet graduation requirements in ways that go beyond traditional coursework. BCA uses this flexibility to offer senior internships, independent study, community service, and other structured learning experiences.

Match assessment to learning

BCA leaders say they support efforts to hold schools accountable, but are working to promote greater congruence between what's tested and what kids need to learn if they are to thrive in the 21st century. "If the important skills are creativity, open-ended problem solving, and oral and written communications, we need to get away from objective, fact-oriented bubble tests in our standardized assessments," says Rich Panicucci, supervisor of curriculum and instruction for Bergen County Technical Schools.

Invite parents to influence policy

When state and federal policy considerations or budgetary issues have a bearing on what's best for kids, BCA encourages parents to be part of the solution. Together, the school and the Parent Partnership Organization (PPO) alert parents through flyers, phone calls, or meetings; educate them about key issues; and provide information on how to reach decision makers.

Leadership: A Culture that Inspires Passion



"I love this school. I feel like I'm on an intellectual adventure. The whole environment is so dynamic and so supportive. If I'm stumped, someone will say, 'What if you did this?' or 'What if you tried that?' We challenge each other and support each other."

Nichole Roxas
Class of 2009
Bergen County Academies

Hire inspiring leaders

BCA is led by nationally renowned leaders. Principal and Director Daniel Jaye is a 34-year veteran of New York's prestigious Stuyvesant High, where he was vice principal and chaired the math department. Jaye was profiled in Alec Klein's book, *A Class Apart*, with Klein describing him as "a bolt of lightning, a whirling dervish, an anarchist, a rebel, a ringleader, and a gale force."³

District Superintendent Robert J. Aloia, quiet where Jaye is exuberant, brings equal intensity and a strong business background to the challenges of education. The two complement each other, collaborating to inspire, cajole, and persuade parents, teachers, government officials, legislators, potential partners, and anyone else in their pathway to do the right thing for the students under their care.

Promote risk taking

In a fast-changing world, staying within one's comfort zone is a recipe for falling behind. BCA's leaders work to make risk taking the norm. "Risk is a fabulous thing," says Jaye. "The best thing you can do for kids is to get out of your comfort zone. As a leader, I have to model that and prod people to embrace it. When you create an environment where students are engaged and everyone is learning and we're all out there at the edge of our comfort zone or beyond it—that's when great things happen, and you get this energetic and exhilarating environment."

Focus on learning

At BCA, any initiative or proposal gets filtered through the lens of how it affects students and impacts learning. Jaye's office displays a sign that reads, *Tell me why it's good for kids*. "The sign helps people focus their attention on the most important piece of any proposal they bring to the table," Jaye says. "We never want to be innovating for its own sake or losing sight of what students need."

Collaborate

In each area of the school and the district, leadership is a collaborative endeavor that involves all stakeholders. "Leadership is simple," says Aloia. "You bring the right people to the table and give them access to information. Problems rise to the top, and people start solving them. We're very collaborative."

Both the principal and superintendent meet frequently with students, parents, and teachers. All members of the BCA community are empowered to take ownership of issues and opportunities. Teachers collaborate to design curriculum and create interdisciplinary projects. Students team on projects that develop such 21st century skills as problem solving and communication.



Seek consensus, but...

If Jaye is convinced something is right for kids, he'll work to persuade skeptics—up to a point. “When you’re making bold moves, you will be criticized,” he says. “If you can’t get someone excited, don’t force them, but don’t give them veto power either. Bring in someone new who shares your vision. Some people love me and some people hate me, but we’re all moving forward, and that’s what’s important.”

Flatten the management hierarchy

A school of 1,100 students and 95 teachers, BCA has only three administrators: a principal, vice principal, and dean of academics. Two lead teachers handle quasi-administrative functions and act as faculty liaisons. The management structure of the district, Bergen County Technical Schools, is similarly lean. The small management team and flattened hierarchy give BCA greater agility than a larger and more bureaucratically encumbered environment would typically have.

Embrace parents as partners

BCA welcomes parents and leverages their energy. The school’s Parent Partnership Organization is an award-winning, dues-based nonprofit corporation through which parents provide active, hands-on support for school operations. Special-interest groups support the math team, athletic teams, arts programs, and others. The PPO fosters connections among parents through social events, school forums, newsletters, and a parent “buddy program” that matches parents of freshman and upper-class students.

Funding: The Art of Partnership



“We have to dream as if money is no object, the future is bright, and we can achieve anything we can imagine.”

Robert Pergolizzi, Ph.D.
Teacher and Scientist
Bergen County Academies

Obtain resources by partnering

As part of Bergen County Technical School District, BCA has a base budget funded by county property tax levies along with state and federal funds, including Perkins Funds for career and technical education. Sending school districts pay approximately \$6,600 for tuition and arrange transportation for their students, but the fees are not nearly enough to cover the cost of a student’s education.

BCA reaches out to the business and research communities to help make up the difference—and to support resources such as the stem cell and nanotechnology labs. Among BCA’s strategies for securing partnerships:

- **Network.** Explore all avenues to network and build relationships. Conferences, internships, parent connections—all can lead to partnership opportunities.
- **Build a track record.** Success breeds success. The more you can show potential partners you have a history of returning dividends for their investments, the more likely you are to be seen as a serious and worthy partner.
- **Spread the wealth.** Showing that resources obtained through collaboration are utilized broadly demonstrates effective use of taxpayer dollars and is another way to persuade businesses and others to invest in you. Enrichment classes for talented and gifted elementary and middle school students use BCA facilities for afternoon and weekend activities, and adult school classes use them in the evenings.

- **Differentiate.** Think of something new and different that a vendor can showcase. If you’re the first school in the state to use a particular technology, or if you can use it in a unique way, you have more freedom to negotiate for support, discounts, or additional units. BCA has been the first high school to establish a lab devoted to SAP, the business software application. The school also collaborated with Cisco to establish the first Voice over IP (VoIP) network in a New Jersey school.

- **Keep a high profile.** Many BCA programs conduct outreach activities into the community. In addition to being valuable in their own right, these activities increase awareness of BCA as a prestigious institution and can lead to further partnership opportunities. Among the most successful is the math club, which brings children as young as first grade to after-school or Saturday activities. The school is also a host school for competitions—a recent math competition drew 600 middle schoolers from throughout the region.

Make your budget transparent

A key part of budgeting is communicating with the public. BCTS publishes a detailed *Comprehensive Annual Financial Report* that is submitted annually to the New Jersey commissioner of education. In addition, an award-winning *Popular Annual Financial Report* provides a briefer and more accessible summary. The *Popular* report is distributed to students, parents, staff, and local officials, and is available in libraries and on the district’s Web site.

Infrastructure: State-of-the-Art Work Environments



"We want students to have access to the technologies they'll encounter in the workplace—not only when they graduate, but also 10 years from now. I am constantly out there trying to see what's next."

George Gonzales
Director of Technology
Bergen County
Technical Schools

Align technology with curriculum

BCA students and teachers use leading-edge technologies throughout the day and have access to unprecedented resources. A scanning electron microscope anchors a soon-to-open nanotechnology center that supports advanced coursework and research. A flow cytometer enables advanced biology students to manipulate stem cells. Computers are everywhere.

"We try to provide the same technology you would find in a world-class engineering manufacturing firm or laboratory," says Dennis Montone, supervisor of mathematics and science for Bergen County Technical Schools. "If we're going to give kids an authentic experience, the school environment has to be as realistic as possible."

Technology at BCA is fully integrated into the curriculum, and is emphasized as a means of supporting educational objectives and providing authentic educational experiences rather than an end in itself. "We are totally focused on what kids are learning," Panicucci says. "It's not about the bells and whistles. It's about learning."

Director of Technology George Gonzales collaborates closely with teachers to make sure technology purchases further their curriculum goals. Teachers recommend technology purchases, and Gonzales attends industry and technology conferences to stay on the cusp of technology trends. Teacher training and support are integral to the school's technology planning.

Make technology access easy and ubiquitous

A school-wide wireless network and ubiquitous PCs put Internet resources and software tools within reach from anywhere on campus. More

than 1,000 PCs are wirelessly networked and available in classrooms and labs. Many students bring a laptop to school, and some academies issue students a personal laptop. Each classroom has a television monitor and an interactive whiteboard that teachers use in presenting whole-group lessons. Classrooms are also equipped for VoIP-based videoconferencing.

Essential Computing and Network Technologies at Bergen County Academies

- Gigabit network with two OC3 lines to the Internet
- Cisco Systems-based wireless networks and VoIP communications
- Unified communications supporting integrated phone and Internet communications
- Dell blade servers based on the Dual-Core Intel® Xeon® processor and Quad-Core Intel Xeon processor
- Dell and Apple PCs—30 percent laptops
- Facilities for 3-D scanning and 3-D printing, computer-assisted design and manufacturing, computer programming, networking, video production, digital animation, video on demand, and more
- Technology partners include Apple, Autodesk, Bridgeport, Cisco Systems, Dell, Intel, Microsoft, Oracle, SAP, Verizon, and Xerox



Computer technology helps BCA build community and provide schools-without-walls experiences. Students get an e-mail address at the start of their BCA career and use it to communicate with teachers and each other. They use videoconferencing to share their work and ideas with students in Buenos Aires, Jerusalem, and elsewhere around the world. In-hall video monitors with flat-panel displays highlight student work.

BCA also uses pervasive technology to foster creativity. "If kids have an idea, we want them to capture it, document it immediately, and start going further with it," explains Vice Principal Russell Davis.

Treat the school like a bank

Whether it's science equipment, PCs, or 3-D printers, when it comes to support, BCA's technology department acts as if the technology is mission critical—because it is. "We are just as serious as if we were running a bank, because the technology is just as important," says Gonzales. "If teachers are going to rely on technology as they deliver their lessons, the technology cannot be

down. It takes a lot of technical support, and we run a very professional organization." Support costs are identified and budgeted as technology is acquired.

Be proactive about training

BCA's technology department offers professional development activities for all newly acquired technologies, as well as refresher courses as needed. Training sessions are conducted live and via videoconference, and sessions are captured for subsequent viewing. There's also a focus on individual support, with technology mavens mentoring teachers who are less proficient.

Expand beyond the school

Leveraging its resources and expertise, BCA's technology department has expanded well beyond simply supporting the school and the district. The technology department is a Class B Internet service provider and consultant to over 120 schools and organizations throughout the county.

Curriculum: Deep, Rich and Teacher-Driven



“It’s hard to grow researchers in high school, but our teachers believe in us. They trust us and set high goals for us. Compared to my friends at other schools, we do more hands-on, discovery-based work. Our teachers aren’t so much teaching us the subject, but teaching us how to think. We have such freedom.”

Judy Savitskaya
Class of 2008
Bergen County Academies

Borrow from the university model

BCA’s academy structure offers students the intimacy of a small program plus the resources and variety of a larger school. Students are given college-style independence and responsibility, and are as likely to be found working in small groups in the hallway as seated in a classroom.

To allow time for in-depth work, classes are scheduled in terms of 19-minute-long blocks known as mods. Most classes consist of three mods, although some are two mods long and a few run for six. There are no bells, and classes may meet two, three, or four times each week.

Emphasize hands-on, student-centered learning

In a world where facts are never more than a few clicks away, BCA teachers focus less on delivering information and more on teaching kids how to learn. Courses emphasize meaningful projects and inquiry-driven learning. “As a teacher, I’m the conductor and facilitator,” Jaye says. “I’m asking myself how I can orchestrate instruction to provide relevant learning, help students synthesize their knowledge into a cohesive whole, and use what they know to solve real-life problems.”

Hands-on activities are highly valued as a way to increase student engagement and learning. “Career and technical schools are ahead of the curve in figuring out that there’s nothing better than hands-on learning,” says Aloia. “Schools have to get away from chalk-and-talk. If I’m the student, don’t tell me something—let me do it and figure it out. If I experience it and see how it happens, I’ll understand and remember it and use it to go further.”

Go deep

BCA challenges all students to find their passion and go as far as they can, which makes it incumbent on the school to offer deep curriculum options and faculty expertise. In some academies, many students are into college-level math by their sophomore year, so math coursework extends to statistics, multivariable calculus, linear algebra, real analysis, complex analysis, and math topics—all taught on campus by BCA teachers.

Science offerings are equally rich, and students in the science academies typically take two or three science courses simultaneously. In the Academy of Medical Science Technology, for instance, students study four years of biology, two each of chemistry and physics, and a year of anatomy and physiology. A second year of anatomy and physiology is available as a senior elective. Students also perform medical diagnostic procedures, work on a patient simulator, and explore independent research as well as undertake meaningful internships at world-class pharmaceutical companies, medical centers, and research laboratories. Coursework in the Academy for the Advancement of Science and Technology encompasses three years each of chemistry, biology, and physics, along with numerous science and other electives.

Spark passion with research

At BCA, research is part of the commitment to inquiry-driven, hands-on learning. Students take an Introduction to Research class and work with teachers who inspire them to study their field of interest, generate unanswered questions, and turn them into research projects. Teachers then function as research coaches and mentors in a relationship that is powerful for teachers and students alike and can aid in retaining talented teacher/scientists.



“This place is teacher heaven. It is exhilarating to be among the country’s brightest young rising stars. The students motivate me as much as I would like to think I motivate them.”

Donna Leonardi
Biology Teacher
Bergen County Academies

Consider Donna Leonardi and Robert Pergolizzi. Leonardi is an experienced cellular biologist and 2008 recipient of the Governor’s Teacher Recognition Award from the New Jersey Department of Education. Leonardi says she loves mentoring students in their research and lives for the moment when they progress so far that they become the experts. Dr. Pergolizzi, a former associate professor of genetic medicine at the Weill Medical College of Cornell University, is a biology teacher. He has published papers, lab breakthroughs, and numerous patents to his credit, but says he was deeply touched when a BCA student identified him as her inspiration. “I love working with these kids,” he says. “As a classroom teacher and research mentor to high schoolers, I have a tremendous opportunity to influence them.”

Math is integrated throughout the curriculum, presented as an essential tool for understanding and improving the world we live in. Engineering students see math’s relevance as they compete in robotics or bridge-building contests or design assistive technologies for a sister school that accommodates special-needs students. Culinary students create spreadsheets mapping out business expenses for a hypothetical restaurant. Teachers who have used math in their professions share firsthand perspectives on the importance of mathematics in the work world.

Develop meaningful internships

The Senior Experience program is a year-long, off-campus structured learning experience in which seniors spend every Wednesday exploring an area of interest in a professional setting, under the guidance of an experienced mentor. As juniors, students take a one-semester, seminar-style class that prepares them for their internship. During the internship, students provide a weekly journal report, and the experience culminates with a presentation to the BCA community.

A full-time teacher manages the Senior Experience program, lining up internship opportunities and ensuring that student interns are safe and appropriately challenged. Internships begin in the fall, enabling students to incorporate them into the college application process.

Build connections

While seniors do their internships on Wednesdays, freshmen, sophomores, and juniors spend part of the day in interdisciplinary courses, independent projects, and more than 75 clubs. These activities, like many BCA courses, involve working in teams, generating student-initiated questions, conducting inquiry-based research, and presenting results.

Wednesday projects and interdisciplinary courses help students develop connections among different fields. They also provide opportunities to practice problem-solving and critical-thinking skills. And they serve the practical purpose of covering state-mandated content. BCA’s national award-winning BattleBots* IQ team grew out of a Wednesday project that combined physics and math with computer-aided design and manufacturing and business/fundraising skills.

Recent courses have included The Mathematics of Science, in which students choose a scientific topic and demonstrate its relation to math or to mathematical modeling; and an environmental science project that draws from scientific, political, ethical, and social perspectives to understand critical environmental issues and consider solutions to them. Activities such as the new nanotechnology center are also highly interdisciplinary, merging biology, physics, and chemistry.



Empower teachers

Teachers drive the curriculum, working within the boundaries of an overall curriculum framework. There's plenty of administrative oversight to ensure that state and federal guidelines are met, but teachers have extensive flexibility to develop curriculum.

Don't reinvent the wheel

BCA makes extensive use of external curriculum resources, including those from Project Lead The Way*. Curriculum resources are available through a teacher portal.

Partner to develop innovative curriculum

BCA partners with academic institutions to create and pilot innovative curriculum resources. Case in point: BCA biology teacher Dr. Ravi Bajwa teaches a bioethics course developed by the High School Bioethics Project at the University of Pennsylvania's Center for Bioethics and supported by a grant from pharmaceutical leader AstraZeneca. BCA teachers, including Dr. Bajwa, collaborated with Center for Bioethics staff in developing content for the course. Another

example: BCA's math department collaborated with the Center for Algorithmic and Interactive Scientific Software at the City University of New York (CUNY) to pilot and refine a state-of-the-art statistical software package, including its user interface.

Make the most of competitive activities

Competitive activities can be another way for students to excel and/or to find what excites them, so the school encourages broad participation. With over 150 members, the BCA math team is one of the nation's biggest and best. The team practices daily and wins competitions at the state, national, and international level. The breadth and depth of the school's engineering and design offerings mean that the competitive robotics team can handle all phases of robotics design, tooling, and machining in house. Administrators often attend competitions, demonstrating visible support for the activities.

Professional Development: Time, Tools, and Comfort



“When a teacher says, ‘I can’t do something,’ what they often mean is, ‘I’m not comfortable doing it.’ Once they find we’re going to help them do it and give them the tools and support they need, it becomes doable. And then we’re all on to the next opportunity.”

Russell Davis
Vice Principal
Bergen County Academies

Give the gift of time

BCA teachers have ample time available to them for planning and preparation activities, including time to collaborate with colleagues, develop curriculum, meet with students, and keep up with advances in their fields. “Teaching all day is a great way to burn someone out and cause them to lose touch with their subject matter,” says Davis. “It’s so important to give teachers the time they need to do all that we’re asking them to do.”

Provide the support needed for success

Administrators and lead teachers equip teachers with the tools and support to master new technologies, teaching methods, and subject-matter advances. Alternate route teachers get particular support, as mandated by New Jersey requirements that they complete the equivalent of 20 days of coursework, supervision, and mentoring in their first year of teaching. BCA provides extensive professional development to ensure these requirements are met and to assist alternate route teachers in transitioning to the classroom and the student lab.

Take a systematic approach

Administrators use teacher surveys, supervisory assessments, and other data to identify professional development needs. Then, they provide professional activities in a range of formats to address them. Particularly popular are After-School Institutes, which offer three-session mini-courses taught by BCA teachers and administrators. Recent courses have dealt with inquiry techniques, project-based learning, videoconferencing for world language classes, and using Adobe Photoshop*, among other topics.

The district’s Web site brings together a wealth of online materials and training, and courses are available through the Association for Supervision and Curriculum Design. Teachers also attend educational, technology, and subject-matter conferences. In-school and external videoconferencing supports team-teaching and allows less experienced teachers to observe Master Teachers in action.

Small-group, collaborative professional development activities are also proving effective at improving pedagogy and reducing the stress of teacher isolation. One such approach in use at BCA is Lesson Study, a Japanese-developed concept in which a small group of teachers discuss a methodology or area of content and develop a lesson applying what they’ve learned. One person then teaches the lesson and the others follow a structured method of observation and assessment. The team then reconvenes to share and evaluate the results. In addition to addressing the targeted lesson objective, this approach helps teachers build understanding and skills at observing and critiquing their pedagogy.

Assess teachers’ use of technology

Classroom performance assessments include evaluation of the teacher’s skill at integrating available technology to maximize student learning, and improvement plans are developed as needed. The district’s assessment defines four phases of technology integration, including *Proficient*, in which integration is evident in student activities and in support of teacher-centered instruction; and *Accomplished*, in which the teacher marries multiple technologies with project-based activities.

Results: Phenomenal



“When you give kids opportunities, it’s phenomenal what they can do.”

Robert J. Aloia
Superintendent
Bergen County Technical
Schools

Bergen County Academies has created an exemplary educational environment by hiring outstanding teachers and leaders, providing extensive resources, and encouraging everyone in the BCA community to take academic risks. What does this translate to in terms of educational achievement?

By all measures, the results are stellar. BCA students excel on standardized tests, including various standardized career-oriented assessments that BCA students must take. A significant assessment challenge for BCA is that few such standardized tests go far enough to adequately assess its students. In many instances, the school develops its own such assessments.

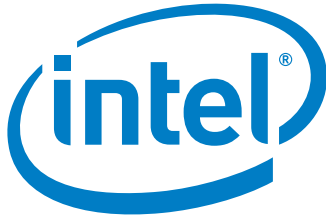
All BCA students go on to four-year colleges, and recent alumni surveys indicate BCA is doing a superb job of preparing them:

- On a scale of 1 to 5 with 5 being the best, 80 percent of alumni polled last year gave BCA a 4 or 5 on developing their critical-thinking skills.
- In this year’s alumni survey, the majority ranked critical-thinking and career skills as the most useful tools they acquired at BCA.
- Math has ranked highest for the past two years as the subject in which alumni felt they were best prepared for college.

Here’s a snapshot of other measures of BCA’s success:

- No Child Left Behind Blue Ribbon School from US Department of Education
- First New Jersey school to be admitted to the Coalition of Essential Schools

- Member of the National Consortium for Specialized Secondary Schools of Mathematics, Science, and Technology
- New Jersey State Department of Education Star School
- Recipient of five Best Practices Awards from the New Jersey State Department of Education
- 2007 seniors offered over \$18 million in scholarships unrelated to financial aid
- 91 percent of students in the 11th and 12th grade take AP or IB classes compared to the state average of 15 percent. Many students take multiple AP and IB courses simultaneously.
- 100 percent student graduation rate over four years
- 100 percent of graduates attend post-secondary school
- Recipient of Intel Star Innovator and School of Distinction Awards
- 100 percent proficiency rating on the High School Proficiency Assessment in Mathematics, with 97.9 percent of students earning advanced proficiency (the New Jersey average for advanced proficiency is 26.6 percent)
- National BattleBots IQ champions for 2006
- 100+ American Invitational Math Exam (AIME) qualifiers
- Winner of the New Jersey Mathlete Competition
- First- and second-place winners in the Regional and National Mandelbrot Competitions



To the limits—and beyond

With results like these, you might think BCA would be resting on its laurels. You'd be wrong. A new wing will open in spring 2008 and will house 14 classrooms, the nanotechnology center, and a virtual trading floor. Reflecting a global society, BCA is exploring the possibility of an international campus, possibly in Asia. Teachers are investigating ways to expand research opportunities. Administrators are brainstorming a performance tracker that would better identify what kids need to learn and how well they're learning it.

Daniel Jaye and Robert Aloia are in the center of it all, inspiring and goading everyone to go to the limit—then go further. As BCA sees it, there's no other choice. "We've got to prepare kids to succeed in the global economy and address global misunderstandings," Rich Panicucci says. "Even though No Child Left Behind makes it easier than ever to hunker down and focus on the basics, we have to innovate *and* cover the basics. If we don't, we're letting kids down, and that's just not acceptable."

Learn More

Explore Bergen County Academies. Visit <http://bcts.bergen.org>.

Learn more about the Intel Schools of Distinction Awards. See: www.intel.com/education/schoolsofdistinction/index.htm

