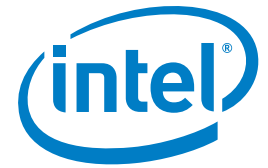


CASE STUDY

Dr. William W. Henderson Inclusion
Elementary School



1:1 eLearning at the Henderson: Delivering on the Promise of Full Inclusion

Teachers use greater technology access to increase student engagement and achievement and better meet each child's needs



Beyond Separate but Equal

Teachers everywhere wrestle with the challenges of presenting a common curriculum to students of diverse ability levels and backgrounds. Those challenges are heightened at the Dr. William W. Henderson Inclusion Elementary School, a Boston Public School (BPS) located in Dorchester and a full-inclusion school since 1989. While some school systems struggle to move beyond a “separate but equal” approach to students with special needs, the Henderson has earned national recognition for its stellar success in teaching some of the city’s most disabled children alongside their nondisabled and talented/gifted peers.

Now, the Henderson is innovating on another front, collaborating with Intel on a pilot of 1:1 mobile eLearning and following best practices for technology adoption laid out in the K-12 Computing Blueprint (see sidebar page 6). School leaders say the greater technology access and flexibility of 1:1 computing is helping them increase student engagement, improve reading and writing, make the curriculum accessible to a broader range of students, and ultimately meet each child’s needs more effectively.

Every Ability in Every Classroom

The Henderson is a vibrant neighborhood school that balances academic rigor with a joy in each individual’s strengths. Under BPS’s open-choice system, it is a highly chosen school, diverse in ethnic and linguistic backgrounds as well as ability levels. One-third of its 230 students have mild-to-severe disabilities, including Down syndrome, cerebral palsy, autism, impaired vision, learning disabilities, and developmental delays. Two-thirds are racial or ethnic minorities, and 65 percent qualify for free or reduced-price meals. Some are high achievers who qualify for Boston’s Advanced Work Class program.

At the Henderson, inclusion is a state of mind—a way of thinking that sees individuals first, not their disabilities. “All children have unique gifts and talents,” says Bill Henderson, the school’s former principal. Blind himself from retinitis pigmentosa, Dr. Henderson led the K0-5 school, then known as Patrick O’Hearn Elementary, for 20 years. When he retired in June 2009, the O’Hearn was renamed in his honor. “Our job is to challenge and support every child to do his or her best,” Dr. Henderson adds. “Our approach is not about including children with disabilities in every classroom. It’s about including every child of every ability level in every classroom.”



Liberating, Engaging, Stimulating

To create an environment in which each child thrives, the Henderson nurtures a collaborative culture that warmly embraces differences. Arts education is emphasized as an area where children can express diverse gifts and talents. Technology, too, is seen as critical.

“So many things that are necessary for students with disabilities are beneficial for all students,” says Tricia Lampron, who took the reins as principal when Henderson stepped down. “Technology is a perfect example. Technology is essential in enabling some children to access the curriculum, but it can be liberating, engaging, and stimulating for all children.”

Like many schools, the Henderson started with a PC lab but realized that technology delivers greater impact when it is integrated into the classroom rather than as a pull-out activity. In addition to appropriate assistive technologies, each classroom has four or five PCs for student use.

When Intel offered support in moving further toward a 1:1 eLearning environment, the Henderson was quick to accept, adding 30 child-friendly mobile PCs in the Fall of 2008. Approximately two-thirds are stored on a computers-on-wheels cart for easy transportation into the classroom, giving teachers more flexibility to integrate technology into project-based lessons and enabling students to experience 1:1 computing for part of each week. The remaining mobile PCs are assigned for full-time use to individual students who need help accessing the curriculum and/or are significantly below grade level in key subject areas. The Henderson’s teachers and administrators say both approaches demonstrate the power of 1:1 eLearning and help them give each child a personalized educational experience.



“The amount of time students spend on reading has increased, and technology is a big part of that. Students also produce more writing output in the same amount of time, and their work better represents their cognitive abilities.”

*Patricia Lampron
Principal
Dr. William Henderson Inclusion School*





“With the laptops and Achieve3000*, every student can read about the same topic at the same time but at their own [reading] level, and we can all talk about it afterwards. To be able to do whole-class instruction with that much differentiation is so powerful.”

*Amy Gailunas
Teacher and Technology Specialist
Dr. William Henderson Inclusion School*

Increasing Access, Promoting Achievement

At the Henderson, increased technology access enhances teachers’ ability to provide individualized instruction and increase achievement, starting with reading skills. “Although we have a variety of assistive technologies, the laptops are a powerful tool to help students read,” Lampron says. “Students with print disabilities can use text-to-speech software on the laptops to access the curriculum. Students who have autism or attention deficits, who may have trouble focusing on a book or holding a pencil, are better able to accomplish these tasks on the computer. They feel more empowered and motivated, spend more time on task, and are more likely to participate.”

In whole-class situations, the Henderson’s teachers say one high-impact scenario uses the laptops with software such as Achieve3000*, which provides differentiated informational text at over a dozen reading levels. “Whole-class teaching can be a challenge because our students’ reading levels are so different,” says Amy Gailunas, a special education teacher and technology specialist. “With the laptops and Achieve3000, every student can read about the same topic at the same time but at their own level, and we can all talk about it afterwards. To be able to do whole-class instruction with

that much differentiation is so powerful. With the take-home laptops, the students who need specialized software to read grade-level print can do that at home.”

One of Gailunas’ second-graders was assigned a laptop for full-time use. “It made a huge difference for him right away,” she says. “This child was at a very low reading level. He didn’t write much and didn’t talk much in class. The first weekend he had the laptop, I must have talked to him 10 times more on email than I had the whole year up until that time. His mother said he spent four hours that weekend reading on the laptop.”

Teachers say the increased computer access also makes technology assignments more manageable for them and more meaningful to their students. For example, Mark Johnson observes that the laptops have improved the pace of his science units, including one where he assigned students to complete a webquest for a research project. “When we just had four classroom computers and I made that assignment, it could take two months for each student to complete it,” he recalls. “With the 1:1 access, I ran through the same lesson plan in one week. All students had access to the Web and were able to work on their projects at a reasonable pace. It made their research more efficient and meaningful.”



Measurable Impact

With students more engaged and spending more time on task, Lampron reports signs that achievement is rising. "We're seeing data showing that the amount of time students spend on reading has increased, and technology is a big part of that," says Lampron. Students also produce more writing output in the same amount of time, and their work better represents their cognitive abilities." Spring 2009 results on the Massachusetts Comprehensive Assessment System (MCAS) show that the school made Adequate Yearly Progress on Language Arts, which it did not the previous year.

Lampron notes that students are engaged and excited by the use of technology, and parents are pleased. Teacher surveys reflect positive experiences. Among survey respondents, all teachers of grades 2 and higher "strongly agreed" that use of the mobile computers improved their students' research and informational text skills. Teachers unanimously "agreed" or "strongly agreed" that using the mobile computers:

- Improves the quality of instruction in class
- Improves student achievement in class
- Improves access to curriculum for students with moderate disabilities

Wave of the Future

As the pilot begins its second year, the Henderson is focused on expanding its 1:1 eLearning success. "Once you get started and begin to see the success, it becomes contagious," Lampron says. "There is so much more that we want to do. There are so many more opportunities we want to provide."

Lampron's ultimate goal is for each student to have a personal laptop to use it at school and at home, including throughout the summer. "The school day is just not long enough for 21st century standards," she says. "In addition, a significant number of our families don't have access to technology at home, and certainly not to the specialized software that many of our students need. Many of our technology goals and grant applications are aimed at moving us in this direction. This is the wave of the future for 21st century instruction."

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*Mark Johnson
Teacher*

Dr. William Henderson Inclusion School





BLUEPRINT FOR EFFECTIVE TECHNOLOGY ADOPTION

Effective technology adoption requires a systematic approach that looks well beyond simply acquiring technologies. To achieve the full educational value of its eLearning investments, the Henderson follows many best practices identified in the K-12 Computing Blueprint:

Leadership. The Henderson has developed a comprehensive framework that ties technology to school improvement goals. Leaders share a clear vision of technology's role in increasing achievement and expanding access to the curriculum. Teachers are heavily involved in technology planning and decision making.

Funding. The Henderson has received eLearning support through the Massachusetts Legislature. It supplements those funds through grants and partnerships with a range of public and private-sector organizations.

Infrastructure. Technologies are chosen for their relevance to pedagogical purposes. The Henderson uses lightweight Intel-powered classmate PCs designed for young children and offered as part of the Intel® Learning Series. Vendor support and commitment are recognized as valuable. "Our Intel rep has suggested resources for us and attended teacher meetings and school events—he's here as much as some of my parents," says Amy Gailunas.

Professional development. Teachers are encouraged to explore new ways to incorporate technology into their lessons. A teacher-coach position has been established, and teachers share best practices through presentations at the school and at Boston Public Schools' Leadership Conferences.

Digital content. Teachers are identifying and adopting a variety of curriculum resources that leverage the school's improved technology access. In addition to differentiated reading software, they have had immediate success with self-paced math programs such as GO Solve* to build individual skills and the Bookshare.org program to expand reading resources for students with print disabilities.

Results. Teams are continuously collecting data and conducting surveys to provide insights into eLearning adoption and results.



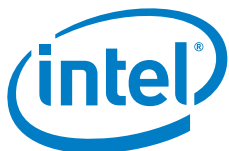


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Learn More

- Dr. William Henderson Inclusion School: <http://boston.k12.ma.us/Henderson/index.htm>
- Blueprint for successfully implementing 1:1 eLearning: www.k12blueprint.com
- Intel in Education: www.intel.com/education
- Intel Learning Series: <http://www.intel.com/intel/learningseries.htm>

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