Individual schools in a Virginia district are doing their part with various curriculum-based programs.

Like most school districts across the country, the Virginia Beach City Public Schools (VBCPS) leaves a large environmental footprint in our community. That’s why about eight years ago, the VBCPS began to look at how we could transition the district toward a more sustainable model. Our objective was simple: Be part of the solution, not part of the problem. We hoped to inspire the broader community to do the same along the way. Three goals are moving us toward that objective.

Building Construction

Our first goal is to build environmentally sustainable schools. Building construction, operation, and maintenance use 71 percent of the nation’s electricity output, use 12 percent of all water, and generate 65 percent of all of our waste, according to the U.S. Green Building Council. A LEED (Leadership in Energy and Environmental Design)-designed project can potentially use at least 30 percent to 50 percent less energy, 40 percent less water, and generate 70 percent less waste than a traditionally constructed building. When you realize that a typical high school in Virginia Beach can use between $500,000 and $600,000 worth of electricity per year, it makes good fiscal sense to design a more sustainable school.

In 2005, VBCPS opened Hermitage Elementary School, the first LEED-certified elementary school in Virginia. This first LEED attempt was simply an adaptation of a prototype elementary school that we had built numerous times over the previous years. Our energy and water savings were modest, but the absentee rates and respiratory-related incidents among students dropped dramatically due to the improved indoor air quality that is inherent in all LEED projects. The project was completed at the same time that two other prototypes were being completed, so we had a great model for measuring costs associated with the LEED process. The final outcome proved that, of the three schools, Hermitage was the largest in terms of building square footage and it was the least expensive to build.

Virginia Beach currently has eight LEED projects in various stages of completion, construction, or design. The Renaissance Academy, which opened for classes in January, will be...
the first of these new schools to use rainwater harvesting, solar hot water, photovoltaics, and geothermal heating and cooling systems, just to name a few of the building’s sustainable features.

**Integrate Sustainable Practices**

The second goal is to integrate environmentally sustainable practices throughout the school district. The goal of building sustainable schools has been the easiest to achieve. However, getting all VBCPS employees to integrate environmentally sustainable practices is an ongoing process, but we are getting there. Through the formation of the sustainable school committee, VBCPS monitors the sustainable practices of every department in the school district. The committee has instituted programs ranging from using only Green Seal-certified cleaning products in all schools to automated computer shutdowns at the end of each day. (The program that automatically shuts down all computers every evening saved the district $75,000 last year.)

Team cleaning is another practice that saves approximately $15,000 in energy savings each year. For example, in the past, the night custodians would turn on every light in the building while they worked in separate areas. Now, the night crew works as a team and they only use power in the classroom in which they are working. This not only saves money, it also increases productivity and improves safety. Other practices follow:

- **Our no-idle policy for buses has improved air quality for students and staff while reducing fuel costs by approximately $50,000 during the 2008-2009 school year.**
- **VBCPS recycles an average of 1,200 tons of material from classrooms each year.**
- **We recently eliminated paper menus for school lunches; all menus are now automated.**
- **By adjusting temperature ranges in classrooms, we reduced our energy consumption and saved $500,000 last year.**
- **By removing personal appliances such as space heaters, coffee makers, and microwaves from unauthorized spaces, we expect to reduce our energy consumption by approximately $110,000 for the 2009-2010 school year.**

**Increase Awareness**

The first two goals I’ve mentioned establish a platform that gets us closer to our ultimate goal, which is to educate the public about environmental sustainability. By asking...
principals to identify someone at their schools who is passionate about environmental issues, we have established a sustainable school liaison at each school. The liaison acts as a conduit between the sustainable school committee and the individual school. This allows the committee to track the various environmental programs throughout the division and offer suggestions in return.

Some of these suggestions range from cell phone recycling programs and outdoor teaching gardens to posting recycling numbers. For example, recycling data are sent to individual schools each month so they can track their recycling progress. The total weight diverted from the landfill is presented, as well as more tangible data that equate the savings to barrels of oil, gallons of water, trees preserved, and the number of homes that can be powered with the energy saved. Providing data like this, along with our quarterly Green News e-newsletter that is sent to all school employees, are small examples of how increasing awareness can be used to educate the public.

curriculum-based Activities
A school district can build more sustainable buildings and can integrate environmental practices throughout the various departments; however, for these programs to be successful in raising awareness and changing habits on a large scale, school principals are the key to success. Some principals embrace the issue of environmental sustainability and make it part of their school’s culture, while others take a hands-off approach. We all know that teachers and principals are asked every year to do more with less. If environmental initiatives are presented as additional work, then the task ahead will be a difficult one. In Virginia Beach, we are currently working with a behavioral scientist to develop curriculum-based environmental activities that can be incorporated into the classroom without creating additional work for staff.

The following activities are being used at schools throughout Virginia Beach to raise awareness about environmental sustainability.

Cell phone recycling programs are a great way to raise awareness about environmental issues and they require minimal effort. According to the Environmental Protection Agency, only 10 percent of the 140 million cell phones that were discarded in 2007 were recycled. Unfortunately, all cell phones contain toxins that can leach into groundwater supplies if they end up in a landfill. You can sign up online with a company like GRC Wireless Recycling (www.grcrecycling.com) or ecophones (www.ecophones.com) as a means to divert these toxins from the waste stream, and there is no cost to participants. Principals can simply send a notice home with students, asking them to bring in any discarded cell phones. Place the phones in a box, affix the label provided by the company, and put the package in the mail. The company will assign a value to each phone and send the school a check in return. This service provides a little extra money for the schools or their favorite charities. It also provides an important environmental function while educating the public at the same time.

Environmental clubs are another easy one since every school has club activities. An environmental club can track recycling efforts, perform basic energy audits, monitor environmental practices within the school, or simply adopt a local spot within the com-
munity to keep clean. Weekly environmental announcements are another good club activity. Thirty-seven public schools in Virginia Beach currently have environmental clubs. Many of them, like the New Castle Ecology Club, participate in Clean the Bay Day each year and in oyster restoration projects.

Schools can partner with a local environmental organization. In Virginia Beach, organizations such as Lynnhaven River Now and the Elizabeth River Project have partnered with local schools to improve the quality of the Chesapeake Bay and the surrounding waterways. Partnerships with organizations like these are a great way to educate students about local environmental impacts. Last year, 23 schools received the Lynnhaven River Now Pearl School Award, which recognizes schools that help students understand watershed concepts and develop an ethic of environmental responsibility.

Outdoor teaching gardens can educate students about the value of locally grown produce and a healthful diet. Schools can also incorporate composting from the cafeteria. To take their gardens to the next level, schools can partner with a local farmer or become a member of the Farm to School Program (www.farmtoschool.org), which connects schools and local farms with the objectives of serving healthful meals in school cafeterias, improving student nutrition, providing agriculture, health and nutrition education opportunities, and supporting local and regional farmers.

Many schools such as Holland Elementary and John B. Dey Elementary have outdoor teaching gardens. These gardens provide tangible examples of how students can interact with the natural environment. They can also be used as a teaching platform to discuss the benefits of locally grown food and why food production methods matter.
WEB RESOURCES

Find more details about the Virginia Beach City Public Schools' green efforts at www.vbschools.com/greenschools.

Farm to School connects K-12 schools and local farms with the objectives of serving healthy meals in school cafeterias, improving student nutrition, providing agriculture, health and nutrition education opportunities, and supporting local and regional farmers. www.farmtoschool.org

The Green Schools Alliance offers a list of suggestions for incorporating green activities into classrooms. www.greenschoolsalliance.org/greentoolkit5.html

Common Denominator

These programs are just a sampling of what principals can do to help move their school division and community toward a sustainable future. In Virginia Beach, we subscribe to the idea that great teachers don’t just teach; they also provide an environment where learning can take place. Whether sitting in a classroom with clean indoor air quality and plenty of natural daylight or standing in an outdoor teaching garden discussing why a tomato that is grown locally rather than in another country might have an effect on our future—the common denominator that affects teaching and learning in both these examples is the environment.

The problem that we face today is similar to what happened after seatbelts became mandatory in automobiles in the late 1960s. It took approximately one generation before seatbelts became ingrained in social behavior. We are now in the process of educating the generation that will need to adopt environmentally sustainable behavior.

The United Nations estimates that in less than 25 years, if present water consumption trends continue, 5 billion people will be living in areas where it will be impossible or difficult to meet basic water needs. When you add in deforestation, desertification, damage to the oceans, and the decreases in fish populations (just to name a few), you begin to understand the scope of the problem.

Preservationist John Muir said it best: “When one tugs at a single thing in nature, he finds it attached to the rest of the world.”

Today’s K-12 students need to be made aware of the environmental issues that will ultimately have the most profound effect on them and their children. A principal’s efforts can raise this awareness and help move students to an environmentally sustainable future.

Tim Cole is the sustainable schools project manager and chairman of the sustainable schools committee for the Virginia Beach City Public Schools. His e-mail address is j.tim.cole@vbschools.com.
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