

Building a Construction Curriculum for Your School District

By Robert Ruder



Embracing the notion of going green, an affluent school district in Pennsylvania spent \$83 million as part of the high school's renovation and expansion project. The three-level addition is now equipped with self-dimming lights, energy-efficient windows, a rooftop solar water heater, and a geothermal cooling and heating system.

As a bonus for going green, the school district received a \$250,000 grant from the Pennsylvania Department of Environmental Protection. The district used that money to create an information center in the lobby of the building where a touch-screen computer provides students, staff, and visitors with data related to the operation of the school's

energy-efficient water and electrical systems. The system will graphically depict utility use over the course of a year.

The monitoring system and touch-screen computer can turn this school into a living lab, with science, math, and economics teachers using the data as teaching tools within classrooms. Teachers can also take advantage of the touch-screen computers to weave this technology into the content of their lessons.

The project manager explains that students will be able to use the data kiosk to analyze water and electricity use in specific rooms at specific times—for example, in the school's gymnasium during a basketball game—and to track the school's carbon footprint and compare energy

use of a green building with that of a traditional building.

Clearly, this school district should be praised for incorporating green into its renovation and new construction initiatives. As a retired middle school principal who believes in capitalizing on teachable moments, I applaud the project manager's vision to share data with students and to expect teachers to take advantage of a newfound source of information. However, my practical practitioner side has some reservations.

Including data generated by the green monitoring system into an existing course of study may not happen as easily as the project manager envisions. Teachers may be more intent on covering the year's curriculum, addressing standards, preparing

students for mandated assessments, and taking care of the myriad other unpredictable events that occur during the day, week, and year.

How does a progressive, environmentally friendly school district capitalize on the data derived from green technology and seamlessly infuse that information into a school district's curriculum? School districts may find answers to this question by simply donning virtual hard hats from the minute a building renovation, addition, or new construction is proposed and keeping them on until the project is completed.

Constructing Curriculum

By using a thematic unit approach to curriculum design, educators can create units that embrace a school district's construction initiatives while integrating the overarching theme of construction into every strand of a school's curriculum. This process will allow students to become part of the construction process from the moment ground is broken at the construction site until the cornerstone is placed or the building is dedicated.

Before a school district entertains the notion of a construction curriculum, it is important to ensure that the public will not perceive the venture as a waste of taxpayer dollars or a frivolous exercise. The district should follow policies related to developing a new curriculum or course; secure funding for curriculum development; and dedicate time to develop the courses of study.

Using a systems approach that replicates phases of construction may give greater credibility to the value of such a process. The following may help educators design a comprehensive construction curriculum.

Elementary school students are fascinated by construction equipment. The presence of dump trucks, bulldozers, and front-end loaders on a school's property can clearly detract from the education process.

Rather than compete with a construction project, educators can integrate pieces from the project into the curriculum and allow students to make connections between construction activities and what they are learning in the classroom. At all levels, the construction curriculum can weave elements of science, math, reading, and social studies into classroom activities.

As is the case with many innovative initiatives in school districts, funding may not be easily attainable. Meeting with the architects, engineers, excavators, and contractors to explain the scope of the curricular integration project may yield contributions to fund the curriculum-writing phase of the project.

But before moving forward, carefully review the school district's policy for accepting financial assistance from contractors.

Moving Forward

Once the construction curriculum has been established, the district should offer professional development opportunities that familiarize the staff with the new curriculum and help them develop strategies to integrate it into their lesson plans.

Administrators should then take the lead to ensure that the curriculum is implemented as designed. Periodic surveys of staff, students, and parents will provide data to inform possible adjustments to the curriculum.

Construction is more than dirt, dust, noise, and disruption. For perceptive, forward-thinking school administrators, it's an opportunity to hold and sustain the interest of the students. It is a chance to weave elements of school construction into an existing curriculum and, for some students, expose them to a possible future career.

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