

Learning how things work, in Aurora

By Jim Nowlan

I have long lamented that I don't know how things work—electricity, telephone, computers, Internet. Guess I was never stimulated into such discoveries by my science teacher, who himself probably didn't know how things worked.

This past week, however, I visited a path-breaking new public elementary school that is all about learning how things work. I had been told about the place by an impressed educator friend who said, "Nowlan, you gotta see this place."

The John Dunham STEM Partnership School is located on the campus of Aurora University, in the rustbelt city of same name on the western edge of Chicagoland. For 200 3rd to 8th graders from surrounding, often gritty public schools, the school is devoted full-time to exciting youngsters about science, technology, engineering and math.

The new school building is way out of the box. Its interior walls are glass, so students can see into and learn about the structure's innards—the power plant, the electrical wiring, even the pipes that carry waste water from the bathrooms.

Rather than rows of desks, students sit around tables for four in a laboratory setting. The teacher's "desk" is a demonstration platform on wheels.

The day I visited, summer school 5th graders had just returned from a Waste Management landfill tour, where they saw lots of garbage. So naturally, back at their collaboration tables the youngsters were learning about bacteria.

The students, mostly Hispanic, had their hands in the air constantly, anxious to respond to teacher's questions.

The traditional subjects of English, art, social studies revolve around "six spiraling topics": matter and energy; forces and motion; ecosystems; geology and space; organisms, and weather and climate.

There is a waiting list of 1,000 to get into the school, which spends less per pupil than any of the sending school districts.

The teachers are from the same public schools as the students. After several years at the school, they will take what they learned about STEM pedagogy back to their home districts.

The Dunham STEM Partnership is just that. The school has important corporate partners like Caterpillar, Exelon the power generator, and local microelectronics and orthotic device manufacturers. The partners helped design the curriculum and their technical employees are enthusiastic hands-on participants.

The brainchild has many parents, as collaboration is key to the passion generated by the school, yet former school superintendent Sherry Eagle, now head of the university's Institute for Collaboration, is the sparkplug.

Sherry has long been beating the drums for the school, which an earlier feasibility study said would never work.

Her efforts required state legislation to allow the school districts, university and community to collaborate, in addition to \$12 million from local philanthropists and corporate partners.

And there is a larger, surrounding story here about how a small urban university serves and nourishes its community, which reciprocates.

Sixteen years ago, historian Rebecca Sherrick took over at the struggling university. She built a business model based on the synergies that could happen between the school and the million people of the Fox River Valley, which has Aurora at its heart.

She created the Institute for Collaboration, which exists to work with the region to solve its problems, via a community committee of several dozen who meet monthly to, well, collaborate.

When, for example, they realized that there was an uptick in petty crime in late afternoon, the university established MyTime, which sends undergraduate students to after school programs that serve 1,000 middle schoolers. The college students receive federal work study pay and great resume credentials, while the youngsters are kept busy with enrichment activities.

Three-quarters of Aurora's 5,000 undergrad and graduate students are from the Fox River Valley, and 34 percent of the entering freshman class are Hispanic (Aurora, a city of 200,000, is 45 percent Latino).

The school keeps tuition way below what is typical for private schools by taking extensive advantage of talented part-time instructors from the region, who complement its core faculty. These adjuncts are in effect giving back to the university via their modest stipends.

[The university runs a budgetary surplus every year, which it plows back into the school.

[The U.S. is, I fear, falling behind its competitors in education. At Aurora University and its wider community, they are using collaboration, innovation and partnerships to turn things around.]

Not often do I drive away from a visit thinking, "That is a special place." But I did that day, and I think I learned how things worked.