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## **'Activating' the future: Danville Public Schools to launch new STEM-based academy with integrated learning**

**Charles Wilborn**

Apr 23, 2023

**I** magine a third grade student is about to learn about simple machines.

Instead of just one class spending an hour or so on the topic, the full day is devoted to integrated lessons.

For example, in science class they not only talk about the machines, but little ones get hands-on experience with them. Then in English, they read about the impacts of simple machines around the world. When it comes time for math, the problems will center on simple machines.

For history, the class will learn about things like aqueducts, again focused on the same theme.

Now the fun part. For elective STEM classes, students will get to build machines and prototypes.

Come August, this will be a reality for about 180 elementary students with the launch of a new program in the city.

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The Activ8 STEM Academy with Danville Public Schools will feature a solarium.

Danville Public Schools, contributed images

Known as the Activ8 STEM Academy — it's pronounced "activate" — the new initiative will roll out for Danville Public Schools. The program's name refers to the eight career pathway programs available to students.

“The whole day is integrated learning, so students see the real-world application in all that they do,” Olivia McCraw, the science curriculum coordinator for Danville Public Schools, said in a Friday interview with the Register & Bee. "From that, they’ll solve real-world problems using that knowledge.”

This all started in the fall of 2021 when Danville Public Schools Superintendent Angela Hairston came up with the idea.

McCraw said Hairston has been the "visionary" for the project.

“She kind of gave us the idea and let us roll with it,” McCraw explained, also noting the endeavor involved countless others. “I could talk about all the people who have helped us all day, but it’s been a huge effort.”

Daily learning will feature things like robotics, snap circuits and claymation.

“There are so many different technology pieces students will be able to explore with and learn in this program,” she said.



This rendering shows what the Activ8 STEM Academy's cafeteria will look like. The new school will open in August.

Danville Public Schools, contributed

## How it works

The new academy is designed for students in grades three through five to be immersed in the whole STEM experience.

That education buzzword — it stands for science, technology, engineering and mathematics — has been around for a while, and is "crucial for the development of modern society," McCraw said.

The program is open to a maximum of 180 students who had to apply to be a part of it. Only 10 students from each grade level of the city's elementary schools will be allowed to participate.

The application period is now closed, and McCraw said they are "very close" to the enrollment cap. Officials said students soon will learn if they've been accepted.

"The interest was very high to be a brand-new thing," she said.

"Activ8 is a program that will be in itself a school," she explained. "It is essentially a school."

It will be housed at the I.W. Taylor building, sharing space with the school system's virtual academy that launched after COVID-19. Federal coronavirus relief funding helped to renovate the facility that opened in 2021.

The students are still enrolled in their respective elementary schools, but they'll spend their days in the Activ8 Academy. That means when it comes to testing results, the scores will be counted for the individual elementary schools and not the academy.

"It's the opening — if you will — for elementary students to kind of explore all different career options," McCraw explained of the academy.

But it doesn't mean STEM education isn't a part of everyday learning for all Danville students

"Active8 is still a component of that," McCraw explained. "We're just adding to that experience."

The school system is still reaching every student with the pathways being pushed into each school and all students have access to STEM electives.

This program is for students who "want more access to all-day, integrated, hands-on learning."

When asked if the project was part of the corrective action plan from the state — initiated since only two Danville schools are fully accredited — McCraw said “Here in Danville, we’re always striving to do better and be better and have more for our students.”

The aim is to give students more access, and the pathways were selected because they meet the needs of the region. Examples of the pathways include manufacturing sciences and hospitality and tourism.

“We talked with all kinds of different community members, parents, stakeholders, our principals, our teachers — you name it — we talked to a lot of people and even districts around us to find out what the needs are.”



A media center will feature an innovate space for Danville Public School's new Activ8 STEM Academy.  
Danville Public School, contributed

## Larger project

This is all part of a larger project for Danville Public Schools designed to give children a competitive edge with the added "resources and opportunities" coming to the Dan River Region.

“We want our students to be exposed from a very early age to all of the opportunities that are there for them,” McCraw said. “And we want to provide them the learning and skills necessary to meet those needs for their own interest and their own lifelong learning.”

Activ8 will be the first step in that process.

When asked why these three particular grade levels were selected, McCraw said they felt it was just a good place to start.

It’s where students can begin the exploratory-type learning and grow with programs in middle and high schools.

“It was a good way to begin the journey for students with these particular pathways and exposures to career opportunities and more technology and more hands-on learning,” she said.

In the coming years, the Langston campus will be home to what the system will call Innov8 and George Washington High School will house the Motiv8 program.

McCraw broke it down like this: elementary is about exploring, so students get a taste of what’s out there. In the middle school years, children get to investigate the options and by high school they go on a “deep dive” on what drives their passion.

“Some of this is new, some of this is stuff we’ve already had,” she said, “but the academies help to bring it all together.”

By the time students leave high school, they can have dual enrollment credits in college, certifications and even licenses for differing pathways.

“The sky is the limit,” she said.



A science classroom at the new Activ8 STEM Academy will offer collaborative space for students.  
Danville Public Schools, contributed

## Other reaction

Over at the Institute for Advanced Learning and Research, STEM education is a major part of the mission, according to Julie Brown, vice president of advanced learning.

"We are very excited to see the positive impact that the Danville Public Schools STEM Academy has on our region," Brown said in a statement to the Register & Bee.

The Institute has programs like Great Opportunities in Technology and Engineering Careers — known as GO TEC — summer STEM camps and Academy for Engineering & Technology to introduce students in grades K-12 to potential career paths in STEM.

"Through a strong network of partners across the commonwealth, we cultivate a pipeline of talent in high-demand STEM sectors like robotics and automation, precision machining, IT and cybersecurity, and welding," Brown explained. "This



regional emphasis on STEM career paths positively influences economic development, providing a strong talent pool for local employers and serving as a pull for new businesses."

Danville Community College President Jerry Wallace said STEM is linked to a lot of career and technical education programs in demand in the region.

"Exposing students to STEM opens doors to important learning concepts and even their imagination," he told the Register & Bee, noting students in Danville Public Schools will be "better prepared for higher education and the workforce" with this program.

"Attracting and retaining companies with these jobs ensures that local students, with all the needed certifications and education, can obtain high-quality STEM positions right here in Southern Virginia," Brown said.



The Activ8 STEM Academy will feature a design and build room for students.

Danville Public Schools, contributed

## Specifics about the academy

The system has selected Chuck Simmons to be the leader of the academy, officially known as the instructional supervisor, Lanie Davis, a spokesperson for Danville Public Schools, confirmed. Simmons currently serves as the assistant principal of Woodberry Hills Elementary School.

There will be teachers for each grade level for science, math, English and social studies. The academy also will have what's known as a media/innovation specialist; art, music and PE/health teachers; and a school counselor.

"We are reallocating some existing resources, such as transportation and teaching positions, so there will be no additional cost for those items," McCraw said when asked about the price for the new program. "However, the additional costs come in hiring an instructional supervisor, supplies and furnishings."

Overall, the price tag is about \$200,000 and is already included in the school budget for the next fiscal year.

Right now the classrooms are being updated to prepare for the new year in August.

It's more like sprucing up, painting and getting new furniture, McCraw said. Also, there will be a place for indoor gardening and a greenhouse that needs to be built.

"We do plan to be ready by the end of July for the start of school," she said.



The logo for Activ8 STEM Academy shows the school colors of blue and green  
Danville Public Schools, contributed

“It’s an elementary program, so we wanted it to be bright colors,” McCraw explained, noting the school colors are green in blue.

“We wanted it to be very adaptable, very accessible,” she said. “Here students can be up and moving around, collaborating and then have space for hands-on learning.”

Class sizes will be somewhat similar to other schools with a cap of 20 students.

There's even a new mascot, but Danville Public Schools is keeping specific details of that under wraps, at least for now.

### Pathways

- International business and Culture
- Building and industrial technology
- Health and human services
- Law and leadership
- Advanced technology
- Environmental science
- Hospitality and tourism
- Manufacturing sciences



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By Charles Wilborn



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## Students, teachers, classrooms 'glow' with excitement, energy at Kentuck Elementary

Charles Wilborn

Sep 29, 2023

**R**INGGOLD — The students at Kentuck Elementary School were glowing with excitement Friday.

Literally.

In fact, the entire school — hallways, classrooms and cafeteria — had much of the same glow.

It was all part of the fifth annual Rock Your School movement. More than 100,000 teachers across the nation signed up to take part in the initiative to energize education.



Kentuck Elementary School staff members — decked out in glow attire — perform Friday for students as part of the Rock Your School Event. At Kentuck, the theme was Get Your Glow On.

Charles Wilborn, Register & Bee

At Kentuck Elementary, the theme was Get Your Glow On. Lights were out in the hallways and classrooms to spotlight glow-in-the-dark neon streamers, balloons and bouncy balls.

It all started with a pep rally Friday morning in the school's cafeteria put on by fourth grade teacher Ryne Gammon, who was decked out with glowing lights on his shoes, glasses and backward ball cap.

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“It’s going to impact so many students with a different type of learning experience that’s not your traditional sit in your desk and learn,” Gammon told the Register & Bee of the goal for Friday. “It’s engaging and fun for the students.”

The words on his shirt — let’s glow crazy — set the tone for the early morning assembly.

It started by office staff members dancing to songs like “YMCA” while donning glow sticks on black clothes. It gave the impression of a skeleton-like figure bopping to the tunes.

Amid a sea of waving glowsticks and music, a series of games — some with science themes — mixed a little bit of fun with learning, even if the children didn’t realize they were getting a lesson.

In one activity, teachers had to put a dab of Vaseline on their nose, pick up a cotton ball and place it in a cup.



Ryne Gammon explains a game to teachers Friday at Kentuck Elementary School during a pep rally for the Rock Your School movement.

Charles Wilborn, Register & Bee

Hands were forbidden.



Another one pitted students and teachers against each other to blow up a balloon and use the air from it to move three cups off a table.

“This has been hands-down the best one,” Principal Christie Dawson said of Friday’s event, now in its fifth year at the school. “We just try to make it as much of a fun thing for the kids as we can.”

Gammon is the driving spirit behind it all. The Averett University graduate has been at Kentuck for the last seven years. Originally on a theater track at Averett, he switched to elementary education.

The reason?

“Because I knew I wanted to make an impact on students in the area,” he said.

Never having thoughts to venture outside of the Dan River Region, his goal is to give back to the community, just like his teachers and others in the area have given to him.

Each year, Gammon attends the Get Your Teach On conference, a movement that encourages outside-the-box thinking for teaching. Get Your Teach On hosts the Rock Your School event each year.



Kentuck Elementary School fourth grade teacher Ryne Gammon checks in with his students during a reading lesson Friday. Gammon spearheaded the Get Your Glow On event at Kentuck Elementary, which was part of the national Rock Your School event.

Charles Wilborn, Register & Bee

Locally, faculty and staff members vote on the theme.

Tara Hawkins, a second grade teacher, spent two hours Thursday night prepping her classroom for the glow-themed day. On the front board was a colorful “Let’s Glow!” greeting for the students. Neon streamers filled the ceiling and glowing balloons were attached to every desk area.

In the back of the room, a disco-like ball provided a little extra sparkle.

Hawkins has been at Kentuck for all five of the Rock Your School extravaganzas.

“They have all been top-notch,” she said. “We go all out for all of them.”

Madison Lowe, another teacher, has been at Kentuck for two years. Calling the school a “positive environment,” she said her previous school never did anything along the lines as this.

“It’s always so fun when we do it,” she said. “And we all prepare for weeks before.”

Over in Gammon’s class, his students were reading a passage, “Glow Day Disaster,” about a student who is having a bad experience with her glow day.

The goal is reading comprehension.

“The students get excited about learning,” Gammon said explaining the over-the-top energy level at the morning pep rally.

“They are excited to be in school,” he said during the interview in his classroom. “They are excited when things are different.”

And it seems that excitement is paying off when it comes to attendance, another goal of the event.

On Friday, they had the highest percentage of students showing up compared to the previous three weeks.

It was all because they were doing something special, Gammon said.

“Something as simple as a black light and some glow sticks can really change a child’s perspective of learning,” he said. “These kids came in today more excited.”

The national component also is trying to lure more people into the teaching profession by making it a little less barrier-free and showcasing support for teachers in the classroom, Dawson said. It aims to make people realize schools are a welcoming and open place.

“There is a large teacher shortage that everyone knows about,” Gammon explained.

Doing this helps those wanting to go into the education field to realize that teaching can still be fun and engaging.

“I do believe, with everything within me, that we do have the best school,” Dawson said.

“It’s because of the teachers, all the faculty and staff and our students and parents,” she explained. “I am blessed with not good teachers, but great teachers, who don’t stop.”

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**Photos: Get Your Glow On at Kentuck Elementary School**



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EDITOR'S PICK

## **Charged up: Pittsylvania County Schools system now has four electric buses; so far 'it has been a positive experience'**

**Charles Wilborn**

Jul 22, 2023



**C**HATHAM — In Pittsylvania County, four school buses are green.

Well, from the outside they are still the bright yellow traditional color school children have known for years.

One has to look under the hood to see where the “green” shines: these buses are powered by electricity.



Kenyon Scott, assistant superintendent of operations for Pittsylvania County Schools, explains in the inner-workings of an electric school bus Wednesday.

Charles Wilborn, Register & Bee

“So as you can see, no motor,” Kenyon Scott, assistant superintendent of operations for Pittsylvania County Schools, explained Wednesday to the Register & Bee after lifting back to hood to show off one of the newest additions to the system’s fleet.

The so-called “Jouley” buses — by Thomas Built — is a play on the name of “jewel.”

“So far it has been a positive experience,” he said at the school’s transportation office on Tightsqueeze Road.

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The first two electric buses arrived in November 2020, making Pittsylvania County Schools one of only two systems in the commonwealth to try out the new technology at the time.

Of course, with the pandemic still in swing then, the buses didn’t get a real workout that season because of a hybrid school schedule.



Jim Jones, an employee with the Pittsylvania County Schools transportation department, drives an electric school bus Wednesday along U.S. 29

Charles Wilborn photos, Register & Bee

A grant from Dominion Energy made it all happen. The funds lowered the purchase price to a comparable diesel bus, Scott said.

A recent grant from the Virginia Department of Environmental Quality's Volkswagen Indemnification Fund paved the way to add two more electric units that will go into service when school kicks off again in August.

Now there are a total of four buses fully powered by electricity.

At \$331,155 for an electric multi-student-carrying vehicle, the cost is more than three times that of its diesel cousin which comes in at about \$100,000.

That's why the grants were instrumental in balancing money for the purchases.

With the Dominion buses, the school system pretty much owns the chassis, and the power operator covers the drivetrain.

A 15-year agreement came with those first two buses, meaning the batteries and such are under warranty.

As a pilot program, Dominion wanted to reach not only the urban settings, but remote regions also.(tncms-asset)9a99ee7a-2683-11ee-a43d-3f60e2846d23[1]  
(/tncms-asset)

When Scott saw the grant, he approached the school board to get the blessing to proceed with the application.

“It made it an attractive option for Dominion to see how buses do in a rural area,” Scott said of the allure of Pittsylvania County.

The first two buses used on service routes were in the Chatham area. Those will hold up to 77 passengers whereas the newest electric busses are the normal 65-passenger units, something that’s easier for the transportation facility to handle.



Kenyon Scott, assistant superintendent of operations for Pittsylvania County Schools, gets ready to board an electric school bus Wednesday.

Charles Wilborn, Register & Bee

In all, the school system had 176 buses in service for the previous school year, traversing Virginia's largest county when it comes to land mass.

There are about 30 other buses that are maintained to use as spares should mechanical failures pop up.

"The most immediately apparent advantage of the electric buses is the elimination of point-of-use emissions; however, there are also other advantages concomitant with their operation," Scott said.

Drivers and those who have to work on the buses generally give the experience a thumbs-up.

However, those who get behind the wheel have to go through specific training. Likewise, technicians and the electric bus dealer partner for safety and training sessions.

Two of Pittsylvania County Schools' technicians were among the first in the state to go through what's known as "Electric 3" training, a level require to "fully decommission, recommission and fully service these buses," Scott said.(tncms-asset)97062594-2683-11ee-a9e2-f7478bd402a9[2](/tncms-asset)

## Going for a spin

Jim Jones, with the county school system's transportation department, took the driver's seat Wednesday to give a Register & Bee reporter a ride in a new electric school bus.

There was virtually no noise when Jones started it. Actually, had the bus not been backing up — with the extremely loud reverse beeps for safety — it would have been impossible to know it was even running.



The driver's seat of an electric school bus contains many of the same features as its diesel cousin.

Charles Wilborn, Register & Bee

"Of course, like all other electric vehicles, it has instant torque," Scott explained.

That was apparent since Jones had no problems accelerating once on the highway.

"It's got good power," Jones said, navigating the bus along a busy U.S. 29.

"I think they are pretty neat," he said when asked, but quickly noted they were still learning about them as far as the maintenance.

Just as the outside appears as a traditional bus style, the inside equally holds the decades-old nostalgic vibe of a vehicle to shuttle students to and from school facilities.

Even the instrument panels are the same — nothing fancy — except when this particular needle points to "E," the "fill-up" process gets a bit more complicated.

It's not as simple as pulling up to a pump.[\(tncms-asset\)9cfdc04c-2683-11ee-8c7f-7783dae55dcb\[3\]\(/tncms-asset\)](#)

## Charging

Chargers are located at the transportation department's shop and allow a bus to be full powered in about three hours.

"They are plugged up between routes," Scott explained, and said the vehicles never get close to being out of power. The three-hour time frame would be to charge a completely drained battery.

The buses come with technology — known as vehicle-to-grid — that allows Dominion to pull power from the batteries during peak electrical demand.

Even with that happens, it won't let the batteries get below 80% of the total charge capacity, Scott explained.

By moving the power to the electric grid, it reduces the overall power consumption at the system's transportation shop facilities.

Scott said they are doing a cost analysis of diesel versus electricity to see if there are any savings there.

"We are in the process of looking at those figures now," he explained.



Kenyon Scott, assistant superintendent of operations for Pittsylvania County Schools, steps off an electric school bus Wednesday after going for a quick ride.

Charles Wilborn, Register & Bee

Fire and rescue crews in Pittsylvania County also have been trained how to safely respond should a crash occur.

"For example, you simply can't cut into a body anywhere, you have to make sure you don't cut through high voltage electric cables," Scott said.



The issues that have popped up are more in line with software snags than mechanical malfunctions.

But Scott credits nearby Sonny Merryman, the local Thomas Built bus dealer, with a working relationship to solve the problems as they arise.

“Electric buses are also considerably quieter than their diesel counterparts, an attribute that reduces driver distraction and enables drivers to more easily hear and communicate with the students that they transport,” Scott said.

Also, since there are fewer moving parts, less oil is needed.

“Additionally, because electric buses are equipped with regenerative braking, a feature that slows the vehicle by using the buses’ kinetic energy to generate electricity, the wear on brake pads and other components of the buses’ braking systems is reduced,” Scott said.  
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Fully charged, the electric buses can travel about 125 miles depending on the terrain and if things heaters are being used.

It’s not the answer for longer travels or times when athletic teams set out play in the far reaches of the competitive district. The diesel buses will be the ones for those trips.

## The future

So, what’s down the road in about 10 or 20 years?

“It’s hard to predict,” Scott said. “It really depends on what happens with technology.”

Even if charge times got down to just an hour, that’s still more involved than filling up with diesel.

“I think that’s a consideration, as well as, it remains to be seen exactly what the performance life of batteries will be on these buses.”

Regular buses usually last about 20 years.

“It’s hard to say what the field will look like down the road,” he said. “For the foreseeable future there will be diesel buses on the road.”

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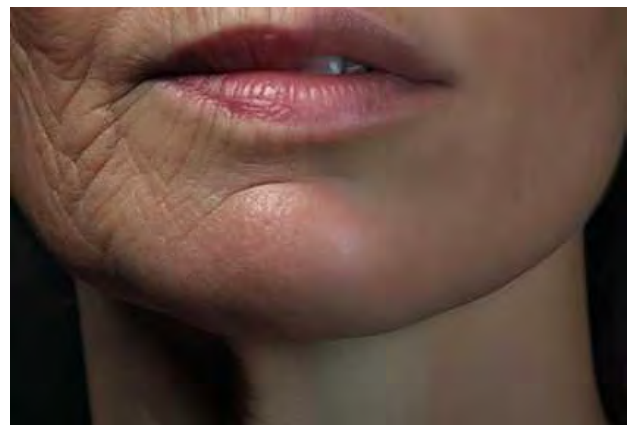
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