Learning is really picking up STEAM at Cuba-Rushford

By Cynthia Dutton

CUBA-RUSHFORD—A recent visit to the Cuba-Rushford Middle/High School proved that building sure isn’t "your mother’s high school" anymore! Technology Integrator Jay Morris led an informative tour to demonstrate five areas of instructional emphasis at CRH, as represented as STEAM: Science, Technology, Engineering, Art and Mathematics.

First stop at the school was the library where there are, of course, lots of books, but also 40 PCs. When the school was built in 1999, the library/media center had a few PCs around the perimeter. Through the years as teaching modes have evolved, PCs were added in blocks of four to encourage collaboration. Not only is the library well equipped with desktop PCs, all Cuba Rushford students, grades Pre-K through 12, are given an iPad at the beginning of the school year. Many assignments and tests are done on the iPad on special class and grade specific applications (apps) that are downloaded. Each student is responsible for taking care of his iPad and, according to Morris, they do not disappoint. Morris explained that most student learning is no longer one student to one piece of technology, but rather three to one—the student is one part, and they often have their own device plus their district supplied iPad then desktop or laptop PC which is used for research and solution documentation. Having technology available instantly meets the fast paced needs of today’s learner. There was an app Notability that junior Elie Morris used that allowed trigonometry problems to be written and solved on the iPad. Students were using their free period to work in groups and collaborate on projects. This is what "study hall" looks like today!

On our way to the technology lab, we met Hailey Wall and Kenna Goetsa, studying collaboratively on the floor in the hallway. They are first year students who were using "mine-on-science," an app that helped them understand how to analyze a mechanical engineer. "In our mother’s day,” this class might have been the industrial arts class, but it is now a great deal more learning than just using drills and saws. Ian demonstrated the use of a 3D scanner captain on an iPad Air and produced a three-dimensional copy of an object. With astonishing speed and clarity, a complicated wooden figure was reproduced "3 dimensionally" on the iPad. The department is in the process of getting a 3D printer so that objects students create can be turned into a machine. Morris pointed out that the usefulness of this technology is huge, for instance, giving the ability to recreate/rebuild a broken/missing part while "on site" in the field. It offers great cost savings to be able to recreate a part "in the field." Also, 3D printing is an excellent means for rapid prototyping when designing an item needed to solve a particular problem.

Next we visited Pat Plowes lab, known "in our mother’s day" as the Agriculture Room, whose coursework currently has a little home economics and industrial arts thrown in. She still teaches agriculture in their own environment, but the curriculum continues the importance of raising livestock and crops and incorporates the science of raw products behind that. Animal Science is realized mostly with Food Science, which is the unit being completed this fall. One yesterday class made mozzarella cheese, learning about melting and curding. The correct moisture content allows for effective shredding and the cause and effect of moisture on that. There is a "food plot" outside where students plant a ton of scorn squash, learning good soil stewardship practices. We met Jacob Ingalls, a senior who completed a welding project. He showed off his welding table he made, and discussed the engineering for stability and weight. From his experience in welding at CRC and at BCCER, Career and Technical Center, he could get a job immediately with local industry, or he can continue his education at SUNY Alfred on the Wellsville campus. Plants showed off some "ball machines" that her 7th graders constructed out of wood. They incorporated STEAM learning in measurement, production and assembly of the approximately ten parts that made up the object. The "Arts" are fully represented in STEAM as evidenced by Allison Feenbaugh’s art room where seniors Brittany Fair and Mikayla Mosher showed pottery projects. Brittany incorporated science into the art of pottery by throwing three cylinders that fit together perfectly to stack into a large vessel, on which she placed sculpted leaves and faces. Mikayla showed a complicated bow with cute cats and a handle that was difficult to add. Students take an introductory class in Studio Arts first, and then can build on that to take advanced art form classes like pottery and drawing. Feenbaugh’s goal is to reach students individually to become better students and more creative problem solvers. Neither girls plan to major in art as a profession in college but wish their learning here as a lifestyle: pleasurable and useful activity. A friendly stroll through the halls of Cuba-Rushford Central School may lead to stumble upon Senior Tim Ellison’s Spanish classroom. Inside the door, you will find the students bringing the classroom walls to life. Each student selects or creates a special "trip idea image," and hangs it up in the classroom. The students then use one augmented reality app called Aruras to begin a magical journey. The images are coded to load a video that the students have recorded to correspond with their trigger image. Next, students use their iPads to scan their classroom’s trigger image, thus bringing their screens to life with videos that go further detail about these pictures or objects. This process is beneficial to the educational process, as student are teaching and learning Spanish naturally along the journey.

Morris, another "Allegany County by choice" resident, spends his days helping teachers and students integrate technology into their learning. He believes that students thrive using technology and that perhaps they come to a quicker understanding of their world and its components when they combine STEAM with History, English and their life experiences.

I would like to do school over again. What fun!

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Senior Jacob Ingalls shows off a welding table he made in Mr. Plowes Age Lab.

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