Educational Drones in the Classroom

In aviation and in space, a DRONE refers to an unpiloted aircraft or spacecraft. Another term for it is an "unmanned aerial vehicle," or UAV. On Earth, drones are often used for military purposes because they don't put a pilot's life at risk in combat zones. But in the 7th and 8th Grade Technology Classes throughout the Bayonne School District, Drones are being used as an educational tool. The device they are using is a "Tello Drone".

The program the students are working on integrates Coding with real life hardware applications. By bringing drones into coding, students are taking their coding experience to a new level. The unit begins with students familiarizing themselves with safety, rules and regulations. After extensive lessons in the areas mentioned, the students will start operating and testing the flight functions and parameters with simple flight missions. As the students progress through the unit, they are encouraged to creatively compute their missions and discuss their ideas with other students to enhance their experience. Students are collaborating to examine a malfunctioning system and identifying the step-by-step process used to troubleshoot. They are evaluating and testing options to repair the product, and finally presenting a better solution. The skills they are using are: brainstorming, design, engineering, collaboration, research, and discussion. For some activities, students will be working in groups to collaborate and create different objects pertaining to a Drone and test flying them. Students are introduced to the art of designing airplanes through paper airplane constructions. The goal is for students to learn important aircraft design considerations and how engineers must iterate their designs to achieve success. They learn about the basic parts that can be found on most airplanes, as well as their functions.

As one of the Unplugged Activities for the curriculum, students worked in groups to create their own Paper Airplanes. They researched on the Internet using their chromebooks, websites and videos on how to create paper airplanes. Shown in the pictures are students working in groups to create their paper airplanes. They then had to present to the rest of the class why they chose that particular model, they explained the parts and had a flight mission to see how far the plane flew in classroom. The teams competed against each other to see who created the paper airplane that flew the furthest. It was a fun, hands-on lesson, that took the kids always from a traditional lesson and brought new meaning to learning.

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Digital Music Composition Lesson Grades 4-6 at Washington Community School

Mr Davies presents the first of a series of lessons to grades 4-6 general music classes that focuses on music composition in which he utilize a variety of technology. The first segment of the lesson poses the question “what is music” that includes links to YouTube videos that contain various examples of out-of-the mainstream music. Students are asked to define what music is. Other music examples are played from a playlist that I created using the Spotify application on an iPhone. Later in the lesson, students are asked to experiment making various sounds at their seats in any way that they can. Then working in groups, they present a “soundscape” composition which is then record into the Garage Band application that is on the laptop. Each recording is then played back for the students to listen to and critique.