Student Success with Drones

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Urban public schools face great diversities with issues ranging from low student achievement, discipline issues, high suspension rates, and low student motivation. Most students in urban schools come from low socioeconomic households and/or single households and have various academic strengths, weaknesses, maturity levels, and cognitive abilities. Students in urban school districts also face large student populations, which result in large class sizes. These classes can range from 30 to 35 students to one teacher per class.

As technology evolves at a rapid daily pace, as instructional leaders, we must assure that the instructional delivery of content is aligned to the way that students learn today. Students need to be motivated to want to learn. “The challenge with school today is not the content being taught but the manner in which it is being delivered” (Carnahan, Zieger, & Crowley, 2016, p. 6). Educators are facing challenges in the integration of educational technology to improve teaching and learning. The use of drones in educational settings is one of the latest technologies that is being integrated throughout classrooms across the country.

Drones can be an effective response to chronic absenteeism, constant discipline referrals, and low student motivation that urban schools face. The integration of drones in academic settings is seen as an instructional strategy to create a positive culture for learning. According to Schaffhauser (2018), whether the subject is math, science, English, history, art or PE, there are drone lessons that can help bring abstract concepts to life for students. Walsh (2017) identified the following seven learning activities that are effective for the integration of drones in the classroom:

• Hand-eye coordination

• Higher mathematics

• Electronics

• Debate

• Geography

• Deductive reasoning and logic

The effective use of drones throughout the content areas is a key component in active learning in the classroom. Felder & Brent (2009) define active learning as “anything course-related that all students in a class session are called upon to do other than simply watching, listening and taking notes”.

The integration of drones in education promotes student motivation and authentic engagement, which results in academic success by enhancing content areas lessons to improve teaching and learning. “Motivation is often construed to be the stimulus that incites students to complete a task-the reward, either intrinsic or extrinsic in nature. Motivations is generally considered to be that influence that inspires and encourages students to engage in and complete activities that result in meaningful learning” (Carnahan, Zieger, & Crowley, 2016, p. 9).

Although the use of drones in academic settings is producing effective results in promoting active learning, increase in student motivation, and increase in student achievement, there are challenges that educational institutions must be aware of before they plan to integrate drones in their schools. Federal laws and federal aviation administration guidelines dictate the user and type of use when operating a drone. Students learning while operating a drone falls under “hobby or recreational activity” in the FAA’s Small UAS Rule (Part 107) and therefore they do not need authorization. All teachers who operate a drone in schools must have the proper certifications as per the Federal Aviation Administration (FAA). To effectively implement a drones program in a school or in a course, instructional leaders must conduct research to assure that compliance is met with all local, state, and federal guidelines.

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