1. WHAT ARE THEY?

High-end radio-controlled and camera-equipped flying vehicles.

Drones integrate with mobile devices such as Android and iOS to allow users to view live video and information from the drone. Drones can also include GPS software to enable unmanned flying, track flight movements, and archive flight data online.

2. WHO’S USING THEM?

RIT is a leader in research and testing with drone technology (see RIT News August 5th, April 3rd & Human Typography, RIT Big Shot). RIT’s Teaching & Learning Services (TLS) department has been experimenting with the DJI Phantom 2 Vision+.

Examples of drone use at other higher education institutes include: University of Florida (surveying wildlife from the air), University of Colorado at Boulder (study of thunderstorms), University of Missouri and the University of Nebraska (the journalism and communications programs), Central Michigan University (study of wetlands), University of Illinois (precision agriculture).

3. HOW DO THEY WORK?

Most consumer-grade drones are easy to pilot. They can stay airborne for up to 30 minutes, can reach altitudes of 100 feet, and will return to their starting point automatically if a connection is lost. Flying a drone safely requires preparation and practice. Detailed video tutorials for the DJI Phantom 2 Vision can be found online. We suggest that you spend time learning how to fly a drone from an experienced pilot first. The Teaching & Learning Services department has pilots on staff ready to provide you a demonstration.

4. WHAT ARE THE IMPLICATIONS FOR TEACHING AND LEARNING?

The use of drones in education is evolving. Some well documented uses include: a tool for photography, media and journalism, law enforcement, agriculture, wildlife, engineering, archeology, geography, and sensor and aeronautic system development. Drones offer new career opportunities for students. They will lead to new business, and provide cost effective alternatives to other research methods.

5. WHERE ARE THEY HEADED?

Drone technology is poised to become pervasive in research and commercial use. While current Federal rules ban the use of unmanned aerial vehicles within the US for commercial and research purposes, efforts from universities are underway to challenge these rules. TLS will continue to monitor these developments and keep the RIT community informed of new regulations regarding the use of drones with the context of higher education.
## TLS DISCOVERY NOTES

### DRONE USE IN EDUCATION

**EMERGING THEMES (SEPTEMBER 2014)**

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**Uses**
- Other Uses
- Privacy Concerns

**Research Concerns**
- Pre-existing

**Public Safety**
- Spying
- Surveillance

**Cost Effective Career Skills New Business Engagement**

**Energy Usage Agriculture Weather**

**Journalism Photography Surveillance Public Safety**

**Spying Surveillance Pre-existing**

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- Hydeck 2014
- Miner 2013
- Sanctis 2014
- Daly 2013
- Sturgeon 2013
- Grasgreen 2013
- Rozenberg 2014
- Valasek 2014
DRONE USE IN EDUCATION
EMERGING THEMES (SEPTEMBER 2014)

SOURCES:


