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Autonomous Astronomical Observing As A Way To Involve Students In Research STACY HANCOCK, RICHARD GELDERMAN, Western Kentucky University, KEN COOK, Barren County High School, DEREK STICE, Edmonson County Hight School, PATRICK MILLER, Hardin-Simmons University – International Astronomical Search Collaboration, TOMAS VOROBJOV, International Astronomical Search Collaboration, MICHAEL CARINI, DAVID LANEY, CHARLES MCGRUDER, LOUIS-GREGORY STROLGER, Western Kentucky University — The 1.3-meter diameter Robotically Controlled Telescope (RCT) on Kitt Peak, Arizona is a robotically operated observatory available to students for use as classroom laboratory equipment. Using data from this research class instrument, students learn science by doing scientific investigations, via world-wide projects such as the Global Hands-On Universe (GHOU) and International Astronomical Search Collaboration (IASC). Through these research-based learning curricula, students learn science as they carry out their own investigations with the chance to discover something unexpected. With a greater degree of autonomy in deciding how they carry out their investigations, and are motivated by being allowed to take responsibility for their own learning. Built into research-based learning is a premium on teamwork as students work with their peers and professional astronomers. Unlike the case of textbook lessons, students have to make their own decisions and thus develop critical thinking skills. In this presentation describe the research results of students working on IASC and GHOU research projects.

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