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Richard J Brown* (brown@math.jhu.edu), Johns Hopkins University, 3400 North Charles Street, Baltimore, MD 21218. *A hybrid IBL-lecture design for a freshman honors single variable calculus course.* Preliminary report.

Inquiry-based learning, an active style of classroom learning where students develop classroom content in groups among themselves while guided by structured queries and mentored by a facilitator, has enjoyed success as an innovative model of mathematical study and classroom learning. However, in a freshman calculus class, we have found that the adaptation process needed to orient students to this new style of learning can take up to the first half of a semester course before real learning begins. During this phase, content progress slows to a crawl. And the lack of true exposure to a lecturer's mathematical thinking process can rob the students of a valuable role model for high-level and deep learning. At Hopkins, we have adapted the IBL model in an honors-level single variable calculus course to a hybrid lecture-IBL model, to help students not only develop the tools necessary to conduct meaningful mathematical inquiry among themselves, but also to have adequate exposure to a mentor's thinking processes through targeted lectures and lecture-based instruction. One side benefit of this hybrid approach is its appeal to a larger differentiated-learning audience. In this talk, we describe the structure of the course and our experiences in its design and implementation. (Received September 17, 2019)