

1116-97-551 **Thomas Garrity*** (tgarrity@williams.edu), Department of Mathematics and Statistics,
Williams, Williamstown, MA 01267. *Etudes of Questions: A New Approach for Writing
Mathematics.*

There is a joy in doing math, a joy not present in most texts. Even homework exercises, while needed for understanding, are still exercises. But people throughout the world spend their free time on puzzles. Can we recreate this type of pleasure for learning mathematics?

This past July, Aaron Bertram and I each gave three weeks of lectures for undergraduates at the IAS/Park City Mathematics Institute. While there, we experimented with having each attendee write what we called “études of questions.” Each étude was a series of enticing questions, leading to a clear punchline on some topic.

The idea of having people write out questions seemed to really enable students to take ownership of their topic in a way that we haven’t seen through standard assignments and presentations. Even better, working through these questions is now enjoyable for others, like a fun puzzle. Somehow the shifting of the expectation from the author trying to show their understanding to the author trying to create an aesthetic experience in potential readers changed the dynamics for writing mathematics.

We will discuss the nature of “études of questions”, look at some examples, and discuss how this idea can be used in classes and even in our research. (Received September 06, 2015)