A precise definition of mathematical maturity is elusive at best, and yet, as mathematics educators, a quality we all wish to inculcate in our students. While mathematical maturity is difficult to quantify and possibly impossible to teach, we can develop the habits of a mathematically mature mind by explicitly promoting metacognition. When presented with a novel problem, knowledge of the prerequisite skills is necessary but not sufficient for success. An individual must be able to orchestrate various cognitive components to be a successful problem solver. This talk examines an effort to promote healthy metacognition, bolster academic challenge, and increase time-on-task in an over-easy style Geometry classroom at a small liberal arts college. (Received September 20, 2016)